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Little Stories About Big Farmers.

How One Young Man Launched Into a Successful Truck Farming Business.

SHOULD you happen to be the owner of an old swamp pasture and notice a mysterious stranger driving cattle through your vicinity you may have cause to be alarmed. If he drives up to your farm and talks about renting your pasture a few days the chances are he intends to steal your land. One Orleans county New York farmer was the victim of a smooth, young drover who rented his pasture to allow his cattle to recuperate. When it was time to drive the cattle along he threw the owner of the land into the throes of surprise by offering him \$24 per acre for the swamp land. It required but little talking to close the deal.

Amazement became epidemic in the neighborhood when it was rumored that a young drover, by the name of Austin, had bought the old swamp and made plans to import 6,000,000 pollywogs as the foundation for a herd of French bull frogs, and the old swamp was to be a breeding farm. "Those young fellows will be importing a flock of Jersey skeeters next to furnish food for their pesky bull frogs and then we old residents will have to get out," remarked "Squire" Martin, as he witnessed to signing of the deeds which transferred the property to F. W. Austin.

This incident merely suggested that if you have a few acres of swamp land do not sell it until you know something concerning its value. Years ago farmers regarded low swamp land as practically worthless; merely a breeding place for mosquitoes and bull frogs. Today fortunes running into inestimable millions are being harvested from the bottom of these rich swamps. Instead of being looked upon as waste land, truck growers find it of the greatest value in growing highly organized vegetable crops. Commercially much of this swamp land is acquiring a standard value of from \$500 to \$1,000 per acre.

In about five years of agricultural work, visiting many successful farms, the one observation that impressed me the most was a visit to the truck farm operated by Mr. Austin. To become better acquainted with the farm and understand what the young man has done with it, one must know something of the man himself. When a boy he worked on farms and for produce dealers; then he became a cattle buyer. He made some money, but discovered that he was in a game where the expenses were eating up the profits. To compete with other buyers he had to be content with relatively small profits. But his bump of shrewdness was developed at a rate that put bigger ideas in his head. His days were spent searching for cattle and his nights driving them, figuring and planning. It was a mighty good school in studying human nature, meeting business problems and mastering them. But he was not content with a drover's life; he wished to get into something where the profits were larger and where he could be at home more of the time. Finally it dawned upon him that farming was the business in which these objections were fewest; he decided to become a farmer. One of his friends was making a great success on reclaimed marsh land. He searched widely to find some swamp land of a similar nature. Eventually he found the old swamp he had dreamed about. "Here," confesses Mr. Austin, "I had to use a little strategy in approaching the owner of the swamp regarding the purchase. Finally, we closed the deal at \$24 per acre. My shipment of pollywogs was

lost in transit so I decided to clear and drain the land and raise vegetables.

"The first problem was to secure the capital necessary to develop the property. I had undertaken a proposition too big to handle with my resources. I interested some of my friends; we organized the Medina Vegetable Company and began business. It cost us about \$150 per acre to clear and drain the land, but by getting some of it in shape to produce crops, we have been able to clear and drain other fields at times when our help and teams

land is cleared sheep are used to clean out the weeds and small sprouts. The close grazing puts the land in good shape to be plowed. Mr. Austin, who still has a fondness for stock, drove to the further end of the farm to show me his flock of weed exterminators and sprout killers. He said: "Four years ago I bought 300 sheep, nearly all with lamb, for \$3.50 per head, about 400 lambs have been sold at from \$3 to \$5 per head, about 200 old sheep at \$4.50 per head and 80 ewes are left. Pret-

ty good profits in view of the fact that I He uses a complete high grade fertilizer carrying four per cent nitrogen, eight per cent potash and seven per cent phosphoric acid which costs \$30 per ton in carload lots. By spending \$10 to \$15 more per acre for the high-grade fertilizer the crops start better, make better growth and mature earlier than is the case when only potash, or potash and phosphoric acid is applied. The cost of 1,600 to 2,000 lbs. of fertilizer being relatively a small item compared with the cost of preparing the ground, seeding, cultivating, harvesting and marketing the crops.

Mr. Austin has had many obstacles to overcome. It cost \$2,500 to build a stone road from the farm to the state road. The cold storage plant in Medina cost about \$30,000, but considerable of the space is rented to fruit growers and commission dealers who operate in that section. Mr. Austin figures that storage and shipping facilities should represent from 20 to 30 per cent of the investment. He said: "We couldn't run our business successfully without our storage house. Sometimes it is impossible to get cars when we want them, besides by holding the produce it is many times possible to get much better prices than would be the case if we had to put it on a glutted market. So many small truck growers have to move their produce as soon as it is harvested that it has a demoralizing effect upon the fall and early winter markets. I wouldn't invest ten dollars in a truck farm unless I had storage facilities for my produce."

Four acres of land is equipped with overhead irrigation and used chiefly to start young plants and test out the merits of close culture of celery. Next year the system is to be extended to an adjoining six acres which will be used for the close culture of the celery crop. Without the irrigation it would be very difficult to grow young plants. With plenty of water the cost of starting the celery plants does not exceed \$20 per hundred thousand. The water is pumped from springs on the farm by gasoline engines.

At the farm is a large shed where the vegetables are gathered, graded and packed. A machine cuts the tops off and runs the onions into crates, doing the work of about eight men. The illustration shows the Italians at work bagging carrots for market; each bag contains 100 pounds and has the firm's name attached. Mr. Austin recognizes the fact that when a crop is ready for market, the work of packing and grading is an important item; that produce of good quality, well grown, properly packed and graded, with the grower's name on the package strengthens the market and increases the demand for his particular product. In the large city markets quality and individuality usually commands a premium.

In discussing the various crops, yields and varieties, Mr. Austin said: "We find that the Yellow Globber Danver onion is the best adapted to our soil and climate. We buy our seed of a friend of mine who has spent several years in perfecting a high yielding strain of this variety of onions which will excel in yield, quality, size, color and general appearance. We have lost thousands of dollars experimenting with poor seed, and find that the only satisfactory way of getting good seed is to buy it from men who conduct a rigid selection of specimens from which they produce seed. Onions yield about 800 bushels to the acre on this farm and prices average about 60 cents per bushel.



A Big Field of Celery Growing on a Reclaimed Swamp Truck Farm.

were not busy with the crops. This plan of clearing and draining the land at times of the year when our help and teams were not busy has worked so nicely that we are trying to buy some of the adjoining land at \$250 per acre. I have put in about five years of strenuous work getting things organized, but we are getting in a position to make some money from the farm this year."

The drainage of this muck land is provided by open ditches that flow into a deep main ditch which has a fall of eight feet to the mile. The first year after the have used them to clean up the land and utilize waste feeds." All the land is plowed in the fall; the aeration of the soil and freezing and thawing during the winter and spring tends to dissolve the peat into muck more rapidly than when the land is plowed in the spring. In plowing muck land a steel mouldboard plow cleans better than the chilled iron. Potatoes are the first crop planted on the new land; the yield varies from 100 to 300 bushels per acre under the same soil, tillage and fertilizer conditions. Mr. Austin uses but little lime,



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We grow about 40 cars of Bigger Big Boston lettuce and find it one of the best market varieties for our conditions. The prices average about \$1 per box. The Golden Heart Self-blanching celery is the best variety of celery. This year's crop will be about 50 carloads of about 200 crates to the car. Most of our sales have been at \$2 per crate. Carrots are one of our best crops. This year's crop averaged 1,200 bushels per acre on 20 acres. The average prices are about \$10 per ton. All of our celery and carrot seed comes from France; we have tried the Danish seed but the results have been unsatisfactory. Next year we will have 80 acres of onions, celery, lettuce and carrots. This year we only had 65 acres under cultivation to these crops; the sales will amount to more than \$50,000. Most of the produce is shipped to New York, Philadelphia and Boston, although we have sold a number of cars of celery to Chicago and other western buyers.

All of the help employed on this farm are Italians. Mr. Austin said: "The Italians are the best laborers I can get for the trucking business. I have tried out all kinds of help, but I can take my gang of Italians and do more work in a season than I can with any other laborers. They are the best men I have ever had for grubbing, ditch digging and opening up a piece of land. I have worked with these men five years and in this way we have become quite familiar with their language, so I have obviated in a measure the trouble of having them do just the opposite of what I tell them to do. As a whole, my experience with Italian help has been very satisfactory indeed, and I would advise anyone who can get a good man from the north of Italy to get him, and I believe that when you can make him understand what you want, you will be satisfied with his labor. He is one of the most faithful, conscientious laborers we have; and, although he may be a little suspicious at first, as soon as you gain his confidence he will trust you implicitly. I think it is a wise thing to get more of the Italian labor out into the country. They will come if people will build them little houses, rent them two or three acres of land and give them employment."

It requires both practical and scientific knowledge to achieve success on a big truck farm. One must be practical, intelligent and ambitious, giving due importance to climate, location, soil, moisture, seed, fertilizer, cultivation and marketing problems. The tendency of the times is toward specialization, as vegetables can be produced at less cost per acre when grown in large quantities. Such a grower is recognized in the market, and his produce sought for by buyers. Furthermore, when grown in this way the crops reach a higher degree of perfection, due to a more thorough knowledge of their needs and careful attention to culture than is possible where a wide variety of crops, each needing special care, are grown. Celery, lettuce, onions, and carrots well packed and sold in carload lots will sell readily at good prices, while poor truck, improperly packed in small quantities, goes begging at prices which pay no profit to the growers. Mr. Austin has combined the practical with the scientific; he is a successful truck grower.

New York. W. MILTON KELLY.

DISKING INSTEAD OF FALL PLOWING.

For the past two years I have disked my corn ground for oats, instead of fall plowing, as has been my custom for a number of years. Last year my yield of oats was 53 bushels per acre. This year the yield was 40 bushels per acre, which was about as good as the average in this section, as this season was not as favorable for oats as it was last. While it is hard to tell whether the yield of oats would have been any better, if the land had been fall plowed, yet I believe there is an advantage in fall plowing on such soil as my farm is composed of, as the subsoil is clay, and by plowing quite deep in the fall, and mixing an inch or two of the clay subsoil with the top surface, it seems to have a beneficial effect on the wheat which is sown in the fall after the oats. And when plowing the oat stubble for wheat it is easier to plow to a fair depth when the same land had been fall plowed, than when the oats were sown when a disk was used. Another advantage in fall plowing, there is less weeds in the oats, and less corn stubble on the surface to bother the drill. So far as labor is concerned in fitting the seed bed, I cannot say that there is very much difference. This season I have gone back

to the practice of fall plowing for the spring oat crop.

Ottawa Co.

JOHN JACKSON.

FARM NOTES.

The King System of Ventilation.

I would like to ask a few questions regarding the King System of ventilation in barns. Should the air intakes be on the inside of the barn or on the outside? I am compelled to put the fresh air intakes on the west and east ends of my barn (36x70), for I have an 8-ft. concrete wall on the north side, and the south side is completely filled with windows and doors—no place for an intake. On the west end of the barn there is a 4-ft. concrete wall. What should I do here? Have the intake start near the ground on the outside, run it into the barn just above the wall and then extend it to the ceiling on the inside, or run the intake up on the outside of the barn and have it come in just below the ceiling? How many intakes do I need and how large, when the ventilator flues are 18 inches in diameter and nearly 50 feet high? There are two flues—one on each end of the barn. I have 19 head of cattle and six horses. Do you think these are sufficient?

Oakland Co.

H. R. J.

It makes no difference whether the air intake flues are located on the outside or the inside of the barn or in the wall itself, so long as the aperture into the stable is a sufficient amount higher than that on the outside of the stable to prevent the warmer air of the stable from passing down through it. In some cases where double windows are used in a basement stable the intake flues are made in the casing between the windows, and flues of this kind seem to answer every purpose. It is better, however, to have the intake flues on two or more sides of the stable, in order that those on the side from which a strong wind is blowing may be closed or partially closed during very cold weather, although this is not essential if they are properly constructed. This would be less essential if the intake flues extended nearly to the ground on the outside than if they opened on the outside above the four-foot wall and on inside of the stable at or near the ceiling, although this latter arrangement would be quite as efficient as where the intake flues are located in the window casings. The intakes should have an aggregate capacity equaling the capacity of the outtake flue, and the proper capacity of the outtake flue will depend upon its height as well as upon the number and kind of animals kept in the stable. Prof. King laid down the rule that where the outtake flue has a height of 30 feet, the aggregate capacity of outtake and intake flues should provide not less than 30 sq. inches per head for horses and cattle. Each 10 feet more or less in height, within reasonable limits, is estimated to make a difference of six square inches in needed capacity per head. Supposing the outtake flues to be 40 feet high, to measure up to Prof. King's standard, 24 square inches in cross section capacity would be required for each animal, or a total cross section area of 576 square inches for the 25 animals to be kept in this stable. Supposing the two outtake flues of 18 inches diameter are square, they would have a total cross section area of 324 square inches, or a little less than two-thirds the ideal for perfect ventilation as described by Prof. King. There is no doubt, however, that with ventilating flues of this capacity a stable would be ventilated much better than would be possible by means of any other system of ventilation without too great a lowering of the temperature of the stable. In case the two flues already in do not prove adequate, another can be added later.

Methods of Handling the Spraying Mixture for Potatoes.

While the matter is fresh in the minds of all, I shall be grateful for the experiences of others, who have actually used Bordeaux mixture on large areas of potatoes, regarding the easiest way of having handy in the field and of getting the Bordeaux into the 50-gallon horse sprayer. Where one is spraying 12 to 15 acres a day the having the spray handy in the field or of returning frequently to the house for it, is quite a problem. Would also like experiences relative to putting Bordeaux into horse sprayer most easily if hauled to field in tank.

Otsego Co.

R. D. B.

The writer has found it most convenient to prepare the Bordeaux from stock mixtures at each filling of the sprayer, adding water in the field to fill the sprayer. The stock mixture is made by dissolving the copper sulphate in water, making a saturated solution, which will be about three pounds of the copper sulphate to a gallon of water. The lime is slaked to the form of a thick paste. A cask of each ingredient is put upon a platform wagon, together with several barrels of water and driven to the field. In filling the

sprayer sufficient of the lime is diluted with about half enough water to fill the sprayer tank and the required amount of the copper sulphate solution is added by measure, then sufficient water is added to fill the sprayer. We have found this to be the most satisfactory method under our conditions, but as the inquirer states, this would be a good time for an exchange of experiences on this subject through the columns of The Farmer, to the end that we may get at the easiest method of accomplishing this task next season.

Eradicating Wireworms.

Will you advise me as to the best time to plow a 10-acre field which until last spring had been sod for 10 or 12 years? I raised a fair crop of beans and potatoes, also some garden truck on it this year, but had to harvest it early as the wireworms were beginning to destroy the crop. What would be the best crop for next season that the worms would be least apt to destroy? I would like to sow barley on it next season but was afraid the worms would destroy it. The soil is clay loam.

Sanilac Co.

E. E. S.

Late fall plowing will aid in eradicating wireworms, since the larvae are thus left more exposed to unfavorable soil and weather conditions and fewer of them survive the winter. As to crops which are best to grow on infested ground, those which are distasteful to the pest, such as buckwheat as a grain crop, or rape sown for pasture, will suffer less from their ravages. The land should be cropped at least three seasons to thoroughly eradicate this pest, as it requires that length of time for the insect to complete its life cycle. After the pest is once eradicated greater freedom from its ravages will be secured if the land is devoted to a comparatively short crop rotation.

Old vs. New Beans for Seed.

Would you please tell me if beans grown in 1912 would do to plant in 1914? Sanilac Co.

A. V.

There is no doubt that beans of good quality grown in 1912 would germinate and give reasonably strong plants if planted in 1914, provided they had been kept under favorable conditions. But good sound new seed of all kinds is to be preferred to that which has been kept over from one season to another, other conditions being equal.

MARKET REQUIREMENTS IN BALED HAY.

In your issue of August 16, on page 127, there is a letter from I. J. Mathews, of Ingham county, on baling and marketing hay. Although this answer is long delayed I wish to comment on some points of his letter which I consider exceedingly weak and not based on facts.

Mr. Mathews said the south used large bales and the east small. I have made a special study of this point and know that the reverse is true. He also said that hay put up in small bales with small feeds were more marketable than large ones. This statement to me is very much like saying that they don't know anything about their business when they offer from fifty cents to two dollars a ton more for the same grade of hay put up in large bales with large feeds.

My understanding of the matter is that the eastern dealer pays more for the large bales because he knows that they are ordinarily made in a box press that takes large feeds, and the hay is not so badly broken, as the larger the feed the less it is broken.

Another point in favor of the large bale is, that with the ordinary form of bale, the larger it is the less surface will be exposed to bleaching and discoloring, that is, in proportion to the amount of hay in the bale.

His talk about a press feed being just enough for a horse is a little flimsy when we know that one man will feed three times as large a feed as another.

In many parts of the country alfalfa is fast becoming the leading hay. It is a well known fact that the leaves and blossoms of this hay are the best part of the food, and that these shatter off extremely easy. To separate it into small feeds means in a greater degree the loss of the best parts of the food. Therefore, the man that wants to feed stock should certainly insist that the alfalfa he buys should be baled with large feeds.

Illinois.

J. A. SPENCER.

Essentials of Business Arithmetic. By George H. Van Huy, Teacher of Business Arithmetic, High School of Commerce, New York City; Author of Complete Business Arithmetic. The book is characterized by clear and full explanations, practical problems, short methods of solution, numerous exercises for drills and reviews, and an interesting and rational treatment. Cloth. 12mo. 272 pages. Price, 70 cents. American Book Co., Chicago.

SOIL AND FERTILIZER QUESTIONS.

Composting Manure and Weeds.

Manure drawn direct from the barn and spread on the field will cause more foul stuff to grow. Now, what I want to know is, whether there is enough difference in the two kinds of manure as a fertilizer to balance the cost of labor to destroy the weeds? It is an evident fact that something will have to be done to destroy the weeds, as I don't think a crop will grow in the weeds, as it has been demonstrated to me this summer.

L. T. V.

I certainly tried to make it plain in a former issue of the paper that I did not believe in composting manure. I certainly don't think it will pay any farmer to compost manure for an ordinary practice. The manure would have to be very carefully and thoroughly composted in order to destroy the weed seed, and I don't believe they would all be destroyed anyway. Again I don't think that L. T. V. need worry so much about weeds. There is no trouble in getting rid of weeds on a farm. You can destroy weeds just as well as you can grass. We plow down a meadow covered thick with grass and by cultivation kill all of it, and so we can plow down a crop of weeds and by cultivation kill them all. There is no use in worrying about weeds; there is nothing about them to worry about. Of course, they are a nuisance and many times we don't like to keep cutting them up. We like to have clean fields of intertillage crops and that sort of thing, but some weeds persist in growing. However, good thorough cultivation and a good rotation of crops will keep down any and all kinds of weeds so that they are no particular bother. Don't be afraid of weeds. Professor Beal used to tell us at the Agricultural College that weeds sometimes were good things; if it wasn't for the weeds people would not cultivate as often as they ought to get the best results. The weeds make them do this or they would destroy the crops, and I think he was right.

I should say, draw the manure out as fast as it is made and spread it on the land where you want it. Then you save the manure with as little loss as possible. As I explained before, sometimes it is absolutely impossible to draw this manure out and spread it on the land. The land is so soft that you can't get onto it, or the snow is too deep, or something of that sort. Sometimes in the summer time the summer accumulation of manure cannot be spread on the ground, because the ground is covered with crops. In such instances as these, then, a compost heap is admissible and the manure can be drawn out and put in a large pile in some convenient place out of the way and then just as soon as the opportunity comes so that one can do so, spread it on the land and get it where you want it.

Variation in Corn Plants.

Will you please tell me through your paper what causes large stalks and not so large ears accordingly and perhaps within four feet will be a small stalk with a large ear. Is it something the soil is lacking? Also, how would it be to plow ground and sow on phosphate in the fall for oats the following spring?

J. R. M.

All living things, both plants and animals, vary. There are no two living things exactly alike. In reproduction of living things, both plants and animals, there is none of the progeny exactly like the parents. There is always something just a little bit different. In fact, all the chance there is for improvement almost in breeding is this great law of variation. Plants vary. Animals vary. The skill of the breeder is manifest in selecting variations which are improvements on the parents and then propagating these superior individuals.

Besides the ordinary variation which we see on every hand, sometimes we have abrupt variations, which are called sports or mutants. Sometimes these mutants are a great improvement upon the individual and sometimes they are the reverse. Now it is up to the breeder to select when you have a mutant, which is a sudden or marked variation from the original, that is superior to the original, to try and perpetuate it. This is more easily done in plants than it is in animals.

Now to get down to the question, why one plant of corn grows large with a small ear and only a few feet from that another plant smaller has a larger ear, nobody can tell the reason. That is beyond human knowledge. The probability is that it is not in the soil. The probability is that the soil was practically the same and contains the same plant food. This variation comes from the inherited peculiarities of the plant. Mr. Burbank I think would tell us that where some stalks of corn grew large with small ears it would show that in the previous history

of this corn it had grown under certain conditions which favored the growth of stalk rather than the growth of ears. Since then it perhaps has been grown under different conditions, conditions which favored the growth of ears and not so much stalk, and this cropping out of this tendency is this inherited characteristic. If you select your seed from these kind of stalks you might improve the variety of corn for ensilage, but you would not for yield of ears, and the reverse if you select the other kind.

Applying Fertilizer in the Fall.

I don't think it would pay to apply fertilizer in the fall. Fertilizer is concentrated soluble plant food and I wouldn't apply it until I was ready to sow the crop or nearly ready. It is all right to apply it a week before.

COLON C. LILLIE.

DRAINAGE PROBLEMS.

Tile Draining a Swamp.

As I intend to do some tile draining next spring, I would like to ask a few questions. In draining a swamp how close should the tile drain be laid to the higher ground? Also are cement tile lasting? I have a cement tile machine and intend to make them myself. Is four to one about right? Any other suggestions you can give me in making and laying them will be greatly appreciated.

Tuscola Co.

SUBSCRIBER.

Subscriber should lay out his under-drain about three rods from outside of his swamp. This should catch water coming from upland after hard "scuds." Even if a swamp be well drained the danger of damage to a crop is greater on the outside, because at times, the water rushes down pell mell into the swamp. Generally speaking, muck will absorb nearly its bulk of water. Water will run through muck quickly. We think an underdrain laid out three feet deep around the swamp and one through the center would be satisfactory, if it contained from four to six acres; perhaps lateral drains for certain low places would be necessary.

Subscriber has an experimental task, should he try tile making. Cement made four to one would generally do; however, it is a cut and try task. Cement tile has to be cured as well as made. His tile should be at least five inches, and six inches would do better work. Muck land is generally flat and larger tile should be used to make up the loss of proper fall.

Laying Tile in Quicksand.

I would like to know if quicksand or white sand subsoil can be tile drained without filling up the tile. I have about five acres of low land that has about a foot of black top soil and below that it is quicksand or white sand. I was thinking of laying two four-inch tile and want to know if that would drain it without filling up. Could you give me the average cost of four-inch tile?

Ottawa Co.

SUBSCRIBER.

Tile laying in quicksand is the most difficult kind of under draining. Chose a dry time for the work. Water in sand is the chief source of trouble. Undoubtedly there will be caving conditions, and tile will have to be laid up grade. Have the county surveyor, or someone doing such work, lay out the drain. Then when it caves in you will know the proper grade by using targets.

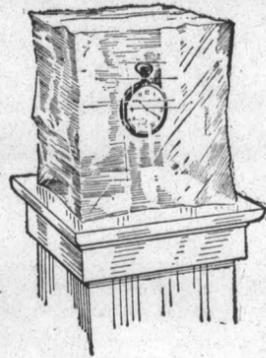
It would seem better to have a six-inch tile for the outlet, running same into low ground about four rods, then keeping this distance in with four-inch tile each way around. This, however, depends on the form of land to be drained. A drain through the center of a round piece, with laterals, would not be as effective for the reason that the overflow would seep in quicker if drained around.

Drain tile vary in price. Six-inch tile from 60 to 70 cents; four-inch from 30 to 40 cents a rod.

Lapeer Co.

DITCHER.

"If some of these foreigners would get out on farms they would do better, and the cities would be a lot better off," R. E. Culver, a farmer of Missouri, remarked as he stood in a railway station in Chicago a few days ago, as he watched a group of Italian immigrants. "It does not take a big farm to make money. All one has to do is to use whatever land he can get. The thing to do is to build it up by putting all the waste back on the land." Then Mr. Culver told how he has made a run-down farm of only 100 acres pay for itself in five years, besides supporting his family and adding improvements that have doubled the value of the farm. "I have 14 pure-bred Jersey cows that bring me in \$15 a week. I feed them all the grain and hay they will eat, and bed them in fresh straw every night. All the feed is grown on the farm. I keep hogs also. These, with mules and chickens, eat all the feed grown. I never put corn on a field but one year. I follow it with small grain. I bought the land for \$50 an acre, and recently refused \$90 an acre for it."



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town. He'll explain to you why the South Bend Watch will stand such extreme tests as being frozen in ice or baked in an oven, why it is inspected 411 times in the making. Ask him especially to show you the "double-roller" South Bend—a master-achievement in fine watch-making.

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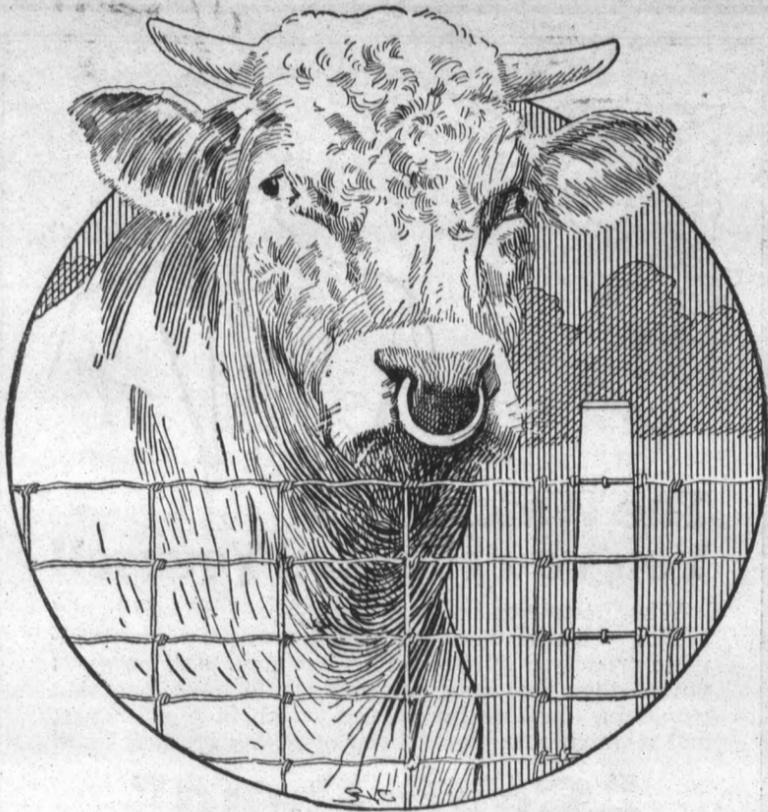
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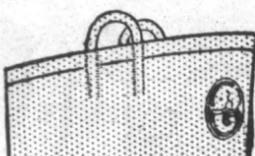
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Practical Science.

MANURES AND FERTILIZERS.

BY FLOYD W. ROBISON.
 The Compost Heap.

In discussing the various methods of the disposal of farm manures and the utilization of waste products, we have mentioned, somewhat briefly it is true, the compost heap as one very desirable means of conserving the fertility on the farm. There are very few farmers who have a sufficient realization of the merits of the compost heap. They have heard it mentioned in farmers' institute lectures and have perhaps read some particulars relating to the compost heap but aside from market gardeners and more particularly proprietors of greenhouses, there is not a very extensive acquaintance with this method of handling the farm manures.

There are many decided advantages in the employment of the composting of manures and there are likewise many excellent possibilities connected with this manner of manure disposal.

Certain Advantages of the Compost Heap.

Our attention was first called to the possibilities of the compost heap, perhaps from the writer's contact in boyhood days with a man who had made quite a success in market gardening. We had been taught to believe that such stuff as weeds and other foul stuff on the farm were of absolutely no consequence and were to be burned and destroyed as soon as possible. Our first lesson in the composting of manures came from this old market gardener who had practiced for some time the working into the compost heap of all, or practically all, of the weeds and foul stuff grown upon his place.

If the compost heap is properly prepared there need be no concern that the mixing of weeds and grasses and other foul stuff will result in an increased weed production the following year, for the disintegration of these organic products is usually quite thoroughly accomplished in the well prepared compost heap.

Compost and the Sandy Soils.

The compost heap is perhaps most advantageously related to a sandy soil. Most farmers are familiar with the fact that it is difficult to secure an economic addition of fresh barnyard manure to certain types of sandy soil. The result of the addition of fresh manures to such soils has been that the soils in question have a strong tendency to speedily burn out, as it were, when fresh manures are used. On such soils the experiment of the use of the compost heap has been employed with very decided success. Of course, when the soil is very light and sandy there can be no great effect produced from the employment of fresh manures because they so speedily dry out that before decomposition can set in in the soil the manure has been dehydrated, or deprived of its water, and there remains in the soil in a state of quite perfect preservation, in which condition the manure can be of no service whatever to the soil. Composted manure being so thoroughly disintegrated and much more thoroughly decomposed becomes of very great importance in such a case.

How to Prepare the Compost Heap.

To prepare the compost heap it is well to figure on some convenient spot and turn the soil up for a depth of perhaps one-half foot, leaving a trench around the outside to prevent the accumulation of water. Then spread over the surface soil thus thrown up a layer of three or four inches of coarse manure or straw. This layer of coarse material is for the purpose of absorbing any final seepage from the heap above should there be an excessive amount of rain after the preparation of the compost heap. The barnyard manure may then be spread over the top as in the preparation of a stack of hay except that it should be quite firmly trodden down all over. It is well to then throw a layer of soil of perhaps one inch in thickness over the top of this to be followed again by another layer of manure gently spread over the whole top of the heap. This may go on then until the compost heap is of the desired size and then it should be rounded smoothly like a stack on the top. Cover over entirely with two or three inches of soil so that the sealing of the manures, etc., inside is perfect.

The change which takes place in the interior of the compost heap is of a chemical nature and decomposition and fer-

mentation very quickly proceed, with the result that most of the organic matter present is reduced to a much more available condition and eventually the same becomes thoroughly rotted out. Of course, this process is accompanied by a gradual settling of the pile and care should be taken that no cracks in the surface of the soil thrown up over the outside appear. If cracks appear they should be filled with dirt to prevent loss of nitrogen during the process of fermentation.

Composting Manures Hastens Decomposition.

By the composting of manures it is found that the substance therein which ultimately becomes converted into the humus in the soil seems to take up this change ever so much more rapidly than is the case when they are placed on the soil in their fresh condition. This, as we have stated before, is especially to be desired when the problem is the fertility of sandy soils. At the same time, one of the advantages is that the coarse particles which invariably find their way into the manure heap are disintegrated and made of more use. There is a reduction in the bulk of the material making it ever so much easier to spread on the farm with the manure spreader than ordinary manure.

During the process of decomposition the organic nitrogen products become broken up and thereby these nitrogen constituents of the protein compounds are rendered more completely soluble.

Disposal of Weeds and Leaves.

One very decided advantage of the compost heap is the advantage which it offers for the utilization of the weeds and foul grasses and other stuffs which accumulate in quantities on all farms. We think it would be a decided advantage to get these products together in different parts of the field or in different fields, where they may be used in the preparation of a compost heap for that particular field. In this way all of the rank weeds which now are a source of annoyance on the farm can be worked into the compost heap whereby, due to the fermentation and decomposition processes going on, their vitality is destroyed and they may thus return their basic fertility to the soil. Leaves, of which there is such an accumulation on most farms, may be employed in the compost heap to a decided advantage, and while it is the custom in most places to either allow these to be blown about by the winter winds or to gather them together and burn them, either practice is too wasteful to think of its being followed out on any of our well regulated farms. It seems to be true, and we think that the prevention of the waste of farm manures and the utilization of the waste products on the farm go, as it were, hand in hand with the most approved form of sanitation upon the farm and it is with both points in view that we urge a better acquaintance among farmers with the advantages of the compost heap. There is a certain amount of refuse on the farm which we are somewhat in doubt as to the advisability of its employment in the compost heap. In material that is affected with scab and other diseases, such as the scab of potatoes, etc., we do not feel sure about their use in the compost heap. The eradication of the diseases is, we think, of greater importance than is the utilization of the waste, and therefore in such cases we would suggest the careful gathering together of such material and burning it.

The compost heap presents the following points of vantage:

1. It is a desirable way to prepare barnyard manure for light soils.
2. It is a good way to prepare the manure for any soil.
3. It is an excellent pan for reducing bulky, coarse manure.
4. Leaves and weeds may be utilized in the compost heap to advantage.
5. It prevents waste of manures.
6. It is a valuable adjunct to farm sanitation.

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At once, a few men who are hustlers, for soliciting. No experience necessary. The work is dignified, healthful and instructive. In writing give references and also state whether you have a horse and buggy of your own. Address Box J. F., care Michigan Farmer, Detroit, Mich.

Live Stock.

MARKETING THE LAMBS.

Differences of opinion prevail among flock owners relative to the best time to market the lamb crop to insure the greatest profit at the lowest cost of production. All flock owners are not situated alike in regard to the solution of this vital problem. Some farmers engaged in sheep growing are in position to withhold their crop until late and market during the early winter months, while others less favorably situated must sell off pasture in the fall. Early and late marketing of the lambs both have their advantages and it is largely a matter of how the flock is managed which results most profitably.

The flock owner who is in position to hold his lamb crop until late in the fall or into early winter has the advantage of disposing of a quantity of grain and roughage at a slight profit over its market value, and also the manure gained is of great value in maintaining soil fertility and increasing crop production. This advantage to the flock owner who is in position to gain its benefit is highly worthy of consideration as it utilizes the flock to assist in increasing the production of both grain and roughage on the farm which ultimately results in lower cost of mutton and wool production.

The flock owner who is not in position to hold his lamb crop and must dispose of it off pasture some time during the fall months has the advantage of selling his season's crop at a time when the cost of production is at the minimum, as greater gain at lower cost can be secured from pasture than any other source. Early fall marketing also has the advantage of improving the pasture condition for the breeding flock preparatory for the mating season. Where conditions are such that pasture and supplementary feed are short it is not only prudent but advisable to market the lamb crop during the early fall. I have practiced both methods of marketing lambs and found that both under proper management have their advantages.

Marketing the lambs early in the fall off pasture necessitates special attention to feeding early in the season to put the crop in marketable condition. As a rule fall pastures begin to decline rapidly after the month of September and unless special thought is directed to supplying some additional feed the lambs will not gain as rapidly as they ought to command the top market price. Where attention has been already paid to growing supplemental forage for late fall pasture, the problem is practically solved insofar as pasture is concerned. However, the flock owner who has neglected this necessary preparation must direct his attention to feeding dry roughage.

On the average farm where sheep are maintained there is generally some way of furnishing new pasture by either changing the sheep to another pasture or else renting some pasture of a neighbor.

Where fields are well fenced stubble lands and new seedings will furnish a limited amount of pasture without injury to the latter. Some farmers think it materially injures new seeding to pasture it, but if done judiciously no great harm can result. The harm comes, however, when the sheep are allowed to remain too long on the seeding and crop it too closely. Moderate pasturing of new seeding does no injury providing the seeding has secured a thrifty start.

It is not certain when the market will be the highest, early in the fall or during the early winter months. I have sold lambs for a cent more a pound the first of October than the last of December, but of course, no two seasons are alike. As a general thing I think that one is safe to rely upon as good a market after the holiday season is over as any time until toward spring, when there is invariably a strong demand for well finished mutton. If the flock owner is in position to winter his stock and fatten for the spring market he can generally depend upon a little better price than in the fall. However, I have found that from 80 to 100 days of dry feeding is about as long as it pays to feed lambs and with ordinary well grown lambs this ought to be long enough to put them in first-class condition.

Whether or not the lambs are marketed early in the fall or held into the winter months supplemental feed should be supplied during the fall to assist pasture

and encourage rapid bone and flesh formation. Unless the pasture is unusually good the lamb crop will be apt to decline rather than improve. A ration of half corn (old) and half oats makes a very palatable and nutritive grain ration for growing lambs in the fall. This ration can be fed in troughs in the pasture twice daily with very profitable results.

Shlawassee Co. LEO C. REYNOLDS.

A SUBSTITUTE HAY CROP FOR HORSES.

We lost our seeding this year, and our hay this year was so thin it would not pay to leave it another year. Is there anything we could raise next year that would make fair feed for horses?

Kent Co. C. J. S.

C. J. S. will find that if he sows a field of oats rather thickly and then cuts them when they are in the milk and makes them into hay like timothy or clover, he will have a good substitute for hay for his horses. Horses will do well on oat hay. If you will mix some Canada field peas with the oats you will get a better quality of hay, and horses love it dearly. You can also raise Hungarian grass or millet, and if it is cut before the seed gets ripe when it ought to be, it makes a splendid hay for horses. Soy beans and cowpeas also make good substitutes for hay. The trouble of it is when a man sows oats, or oats and peas, he is liable to let them get too ripe and harvest them and thresh the grain. When you do that the food nutrients of the plant go into the seed and the straw is comparatively a poor feed. If the crop, however, is cut when the grain is in the milk before the nutriment has gone into the berry, then you will have a hay that is quite as valuable as timothy. Barley or wheat or rye can be cut for hay in this way before the grain matures, and, properly cured, it makes a good substitute. If one hasn't land that will produce a good crop of oats and has good corn land, by sowing corn very thick in rows and cultivating it, get it thick enough so that it doesn't form scarcely any ears, and if this is cut up at the proper time and well cured it makes good hay for horses in the winter time, or any other time, for that matter. It might look wrong for one to cut down a good piece of wheat when it is in the milk and make hay, and yet it would make splendid hay if harvested at this time, and in some countries wheat hay is quite popular and quite common.

COLON C. LILLIE.

LIVE STOCK NEWS.

Removal of the tariff on cattle has resulted in bringing in large supplies of stockers from Ontario, and during the month of September about 20,000 entered this country by the door of Buffalo, and a large part went to Pennsylvania feeding districts. There is a big demand in markets of the United States for stockers for roughing through the winter and placing on grass during the following summer months.

The Illinois Experiment Station of Champaign, where there is under way a 210-day cattle feeding demonstration, has again proved the economic value of silage in fattening beef cattle. H. P. Rusk, professor in charge of the experiment, says that the cheapest gains by the herd were made by heaves that were fed shelled corn, cottonseed meal and silage. He says the most rapid gains were made by the lots that received alfalfa in addition to this ration. Illinois Experiment Station, as well as Indiana, Missouri, Iowa and other western stations, have all demonstrated in recent years that silage as a supplemental feed reduces the cost of beef gains. The work of the experiment stations along this line has resulted in a great increase in the use of silage in beef production.

The cattle trade of Chicago is especially animated in the fat little yearling class of both steers and heifers, these having been sold recently at the highest prices of all the offerings. It does not require nearly as many cattle to fill the wants of the trade as in former years, when cattle and beef sold at much lower prices, and whenever fairly large numbers of cattle are shipped in, lower prices are pretty sure to follow. There is a moderate call for choice heavy heaves for supplying the beef requirements of the hotel and restaurant trade, but as a rule heavy steers are the first to sell off sharply, while fat yearlings are the first to advance and the last to sell off. The commoner and medium lots of steers, cows, heifers and bulls move up and down in accordance with the offerings, but they are all the time bringing much higher prices than a year ago. An exception to this is found in prime beef steers, which were abnormally scarce a year ago, and sold at \$10.50@11.



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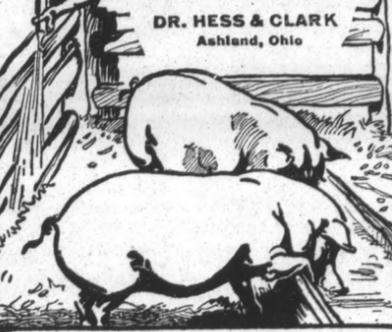
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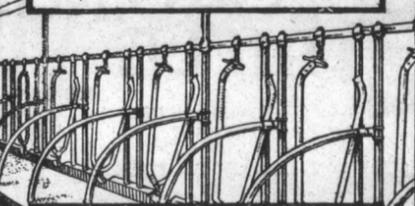
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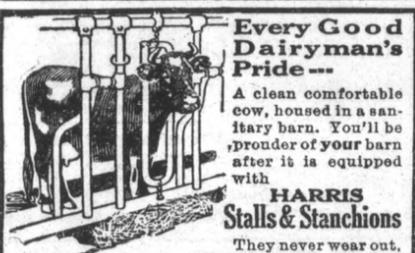
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GRAINS TO FEED TO SUPPLEMENT SHORT PASTURE.

As the pasture is growing short now, I would like to know what grains to give my milch cows to get the most butter-fat. As winter comes on I will give them cornstalks for rough feed.

Van Buren Co. **SUBSCRIBER.**
Most any grain fits in nicely with short pasture. I don't think there is anything better than corn and oat chop, that is, corn and oats mixed together and ground into meal. If you haven't got these you can buy them. They make an economical feed in connection with pasture. On the other hand, wheat bran or middlings are good also.

You don't need food quite so rich in protein on pasture as you do on dry feed because the pasture grass is richer in protein than the dried hay, but cottonseed meal, gluten feed and dried brewers' grains—any of these products rich in protein—are good to feed on pasture. They are pretty concentrated, however, and ought to be mixed with some other feed to reduce the cost. For instance, if you can buy cottonseed meal and mix this with corn meal and ground oats it makes a splendid ration.

As winter comes on your cows ought to have something for roughage besides cornstalks, not that cornstalks are not good, but there isn't variety enough. They ought to have corn silage, a succulent food in the ration to take the place of the succulent grass. They ought to have clover, or alfalfa hay, because these foods are richer in protein than cornstalks. If, however, you haven't anything but the cornstalks for roughage then, to get the best results, you must feed a liberal grain ration rich in protein. Here is where oil meal, cottonseed meal and gluten feed come in to balance up a ration. If you could mix cottonseed meal, or oil meal, with wheat bran and a little ground oats or corn the combination would make an excellent thing to balance up so deficient a ration in roughage as cornstalks.

WHAT FEEDS TO BUY.

Will you kindly advise in regard to feed or my Holstein cows? I will have plenty of whole corn ensilage and oat and wheat straw. The most of the clover hay will have to be bought. I can buy feeds as follows: Corn meal, \$27 per ton; corn and cob meal, \$24 per ton; bran, \$24 per ton; middlings, \$27 per ton; patent dairy feed, \$26; distillers' dried grains, \$32; cottonseed meal, \$32; alfalfa hay, \$32; clover hay, \$11; cornstalks, 4@5c per bundle.

SUBSCRIBER.
With clover hay at \$11 per ton, taking into consideration the price of other feed, I think you can afford to buy enough clover hay so that you can feed your cows one feed a day in connection with your corn silage and your oat straw. My experience is that you won't be able to get very much good out of the wheat straw. It makes good bedding and can be utilized that way and it may be well enough to pass it through the manger, but cows that are fed for good production will not eat very much of it. Oat straw, however, where the oats were cut before they get dead ripe, will answer for one feed a day. Now with silage twice a day all they will eat up clean, clover hay once a day and oat straw once a day, you have a very good ration so far as the roughage is concerned. It is somewhat deficient in protein and this should be kept in mind when you are making purchases for your grain ration.

Undoubtedly for the prices named you can get a pound of digestible protein cheaper in cottonseed meal than in any other product, and I would suggest that you buy cottonseed meal, wheat bran, and corn meal as your grain ration. Feed the cows two pounds a day of cottonseed meal equal parts by weight. Now, of course, the best way is to carefully increase the cow's grain ration after she freshens until you get up to her limit. When you find out that an increase of grain does not bring an increased production of milk, stop increasing the grain. Not only that, but cut down the grain ration a little bit below her maximum or you will be wasting money. If you want to feed by rule, if you can't do the feeding yourself, and try to get some rule whereby a hired man can feed the cows and do it fairly satisfactory, the old Danish rule of a pound of grain per day for

every pound of butter-fat produced in a week is a very good one, especially for Holstein cows. Or you can feed them a pound of grain for every four pound of milk which they produce in a day. That is another rule. But unless you have well-bred dairy cows I doubt if you can use as much grain as this with the greatest profit.

CULL BEAN MEAL VS. COOKED BEANS FOR COWS.

Will you advise me through your valuable paper, if ground cull beans are as good as cooked ones for milch cows? I also would like to get advice about making a balanced ration for milch cows; have plenty of corn silage, (corn would have husked two crates per 64 hill shock), some clover straw, clover hay, cornstalks, cull beans and ground rye. Would it be advisable to buy some other grain or feed to make a good ration? Should the cows be fed twice or three times a day?

F. D. Manistee Co.
If the cows will eat the bean meal it is just as good for them as the cooked beans. Cooking will not add any to the food value of beans. Cows don't have to have their grain cooked in order to digest it. Some people claim that the cows eat the beans better after they are cooked, but my notion is that you have to educate the cows to eat cooked beans at all. I never tried to feed any cooked beans to cows, but I have fed some bean meal, and this, mixed with other grains, is readily eaten by the cows. With this limited experience I should say that the best way to feed cull beans to cows is to grind the beans and feed the same as any grain. It is barely possible that after you have educated the cows to eat the cooked beans that they would be more appetizing and they would eat more of them. I know this is so with hogs. Hogs won't eat raw bean meal, they will almost starve first, but you cook these beans and they eat them quite readily, but you don't have to cook them to get cows to eat them nor do you need to for sheep. They will eat them raw.

I should feed all the corn silage the cows will eat up clean night and morning, one feed of clover hay a day and one feed of cornstalks, or straw, or bean pods. Then for a grain ration I would use cull beans, a little of the rye, and I would prefer some ground oats or corn meal, this to give a little better variety and to make it more appetizing. If I had plenty of cull beans I would make that one of the principal ingredients of the grain ration because they are cheaper than other grains. To get a good grain ration mix oats and rye and corn together equal parts and grind it and then mix as much of the ground bean meal with this as you can get the cows to eat readily. I would not object to having half of the ration bean meal if you can get the cows to like it.

WHAT KIND OF CORN FOR ENSILAGE?

What kind of corn would your experience recommend for ensilage corn for this latitude? Wishing bulk, a sufficient amount of grain, something that will mature sufficiently. How about Red Cob ensilage, Holden Mammoth, Yellow White Cap?

IONIA CO. N. T.
I don't think that red cob ensilage corn or Eureka ensilage corn, or any other corn that is grown too far south, is the best kind of corn for ensilage for Michigan. Where corn is so late that it does not properly mature, it does not contain the food nutrients that it should. It is deficient in total dry matter. There is no use in putting a whole lot of bulk into a silo if it doesn't contain the food. That is what we are after—the largest number of pounds of dry matter per acre. You take corn where the seed is grown in Virginia or the Carolinas or way down in the southern states, and bring it up in Michigan and plant it, and it usually is just silking out before frost comes. This corn has been in the habit of growing where it has all the time necessary and it doesn't hustle enough in Michigan to mature. You take this corn and gradually bring it north and it will adapt itself to the climate and finally you can, by selection, get this same corn so that it will properly mature and ripen in Michigan.

On the other hand, if we get seed corn north of us for this climate it has the habit of growing thickly and maturing quickly, but it doesn't grow large. Now there are the two extremes, avoid both of them. I would say that the latest corn that will properly develop is the best kind of ensilage corn for any given locality. It is not necessary for ensilage corn to get dead ripe. You don't want it dead ripe

for ensilage, but you want the majority of it glazed and starting to dent. The earliest of it is probably ripe enough so that you could save seed, but the majority of it is just nicely glazed and dented. Put it into the silo then. Then the whole plant contains the largest per cent of digestible nutrients, and that is what you want. Therefore I would recommend that you get your seed corn south of you but do not go too far.

Now there is not so very much difference in the variety of corn. If you get seed corn from extreme southern Michigan or northern Indiana or Ohio, or go as far south as southern Indiana or southern Ohio and get your seed corn for ensilage you will do well. We know from experience that this kind of corn will rarely ripen the first year sufficiently so that it pays to crib. To be sure, many of these ears will get ripe but the majority of them are not safe to crib, there will be lots of soft corn. But it grows wonderfully large and produces a large amount of roughage. If you get your seed from Indiana, or Ohio, and plant it next year and then select out the earliest ears, those that get ripe enough so that they will produce seed, use this next year and perhaps the following year, and so on until it gets too early for silage, when you will need to make another importation of seed. It becomes a little bit dwarfed, so to speak, in its growth. One can then go two or three hundred miles south of him and get seed corn again. That, I believe, to be the best variety of corn for ensilage. That, I believe, will produce the largest amount of food nutrients per acre.

Now again, any good corn grown in Michigan, corn that has grown here for years and years, and ripened here, makes splendid ensilage corn. It makes ensilage of the highest quality. You can't probably get quite so much to the acre but what it lacks in quantity it makes up in quality, and I should say select the largest, thrickest growing variety of corn that you know of in your neighborhood and plant it for ensilage.

I am positive that people don't, as a rule, plant their ensilage corn thick enough to get the best results. Did you ever stop to think that if a stalk of corn hasn't any ear on it or a very small ear that there are more food nutrients in that stalk than there is in another stalk where there has been a big ear developed. The nutriment of the plant goes into the ear. If you plant this corn so thick that only small ears develop you do not decrease the total of food nutrients. You are short of ears but you have got the food nutrients in the stalk, and by growing them thick in this way you can get more tons to the acre than you can where planted thin. At one time I advocated eight quarts of seed corn to the acre for ensilage, but now my belief is that we had better plant twelve or fourteen quarts of seed corn to the acre. Sometimes in an extremely dry year this may be so thick that it will dwarf the corn, you can't get moisture enough, but this is exceptional. Ordinarily it will grow tall and big and you will get more tons to the acre. You won't get so many ears but you will get the food nutrients in the stalk if you don't get them in the ear.

JONES DISEASE.

This summer we had three cows attacked by what is known by veterinarians as Jones disease. It is a sort of dysentery, and yet a different kind of a dysentery than I ever saw before. Nothing seems to check it, only temporarily. They say it is due to a germ. The disease is so named because a veterinarian by the name of Jones discovered the germ. It is something absolutely new, at least in this section. Someone just recently, however, has found a means of vaccination or inoculation against this, but the most up-to-date veterinarians didn't get onto the practice until my three cows died. These were good cows. Was this an accident? I can think of nothing else. No one knows any way of preventing it and until just recently no one knew anything about curing it. We never had anything like it before nor since. None of the other cows show any symptoms of it at all. Of course, if we ever have another case, which I hope we shall not, we will try the new remedy.

COST OF PRODUCING A QUART OF MILK.

What is the cost of producing a quart of milk?

Jackson Co. C. R.

The cost of producing a quart of milk will vary with different herds of cows.

One herd may produce milk on the average of two cents a quart and another one might produce it for five or even six cents a quart. It is all a question of the cow and the dairyman. The dairy authorities of Ohio took considerable pains to look this matter up by getting an average as near as they could for the whole state, for all the cows, under all conditions, and it seemed to cost a little better than four cents a quart on an average to produce milk in Ohio. This is simply the feed and care cost and does not take into consideration the cost of marketing.

THE MODEL COW STALL.

Have recently moved and constructed a basement under barn and should very much like to so arrange it that I could keep from six to ten Jersey cows. I would prefer to tie animals if it could be done in such a manner that they would not get littered up while lying down. The floor will be cement. Should there be a gutter at rear of cows? Give length and width of stalls, height of manger from floor, etc.

Tuscola Co. D. C.
In building model stall how wide should it be? What width of manger? How far from floor should we commence rack? How wide should rack be at bottom?
Sanilac Co. J. R. McK.

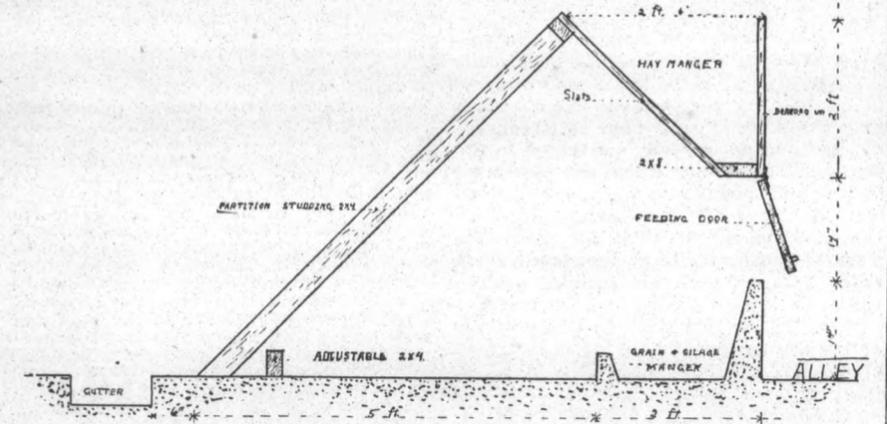
Briefly stated, the model cow stall consists of a cement manger four inches deep on the side towards the cow, and two feet wide. Then the farther side of

doesn't matter much where you tie her. After she is once broken to her stall no matter how you tie her or where you tie her she will step up and lie on this bed, otherwise she has got to lie across the edge of this 2x4. Some cows at first don't know any better than to lie right across this 2x4 but after a while they get onto it so that they lie on the bed and they are kept comfortable and clean. Now a manure gutter is not a part of the model stall. In fact, it has nothing to do with it but it is convenient to have a gutter in which to scrape the manure to get it out of the way.

DAIRY NOTES.

Accidents.

The old saying is that accidents will happen in the best regulated families, and I think this old adage will prove true when applied to dairying. Accidents will happen in the best managed dairies, at least, accidents keep happening in my dairy, not every day, but occasionally. Not more than two months ago a cow came up at night from the pasture with her hip capped; that is, the cap at the end of the hip bone was knocked off. Of course, cows recover from this after awhile, but she was lame for two or three weeks so we couldn't let her run with the herd. She finally got better and now limps but little. But it damaged her. We had her in the test for the register of merit and this



Plan of Model Cow Stall, showing position of gutter, adjustable 2x4, and alley, also arrangement of mangers, and dimensions of parts. One partition studding is shown to aid in an understanding of the general plan.

the manger from the cow next to the feed alley is built up four feet, and 28 inches from this cement feed floor we start the bottom of the hay manger. The bottom of the manger is narrow, being only eight inches wide. It is made of a 2x8 piece. Then the hay rack is made by nailing slats to this 2x8 and having them slant back towards the cow at an angle of 45 degrees and long enough so that the top of the manger is about 2 1/2 feet wide on top. Below the hay manger on the alley side is an opening to put in the corn silage and the grain. Some have a loose box manger which pulls out, and in which the ensilage and the grain are deposited and then the box is shoved back in again, but in our stable we do not have this box, simply leave a space about six inches wide. Then we can put the ensilage in with an ensilage fork and grain in with a scoop shovel very handily and it makes less work than it does to have the box to pull out and put back again.

Partitions are made between the stalls by having a scantling run from the top of the hay manger back to the floor. These scantling reach the floor about seven feet from the edge of the feed alley. Of course, there is nothing very particular about this but this is about right. Each cow stands in a stall by herself. This prevents cows stepping on the udders of their neighbors and injuring their teats.

Now the philosophy of the model stall is simply this. When the cow is eating out of the lower manger notice where she stands with her hind feet. Then put a 2x4 edgewise just in front of her hind feet across the stall. Now this space between this 2x4 and the ensilage manger should be filled up with bedding. If you can't get the bedding to stay in there any other way wet it thoroughly or mix clay with it. fill it up. Then the cow has a bed to lie upon. Now the idea of having the hay manger slant back over the cow is to cause her, when she is eating hay from the manger to back away from her bed and her droppings don't soil the bed. When she lies down she must step up and lie on this bed which keeps her clean. You can tie the cow with a halter to the bottom of the hay manger. You can tie her with a chain around her neck and stapled into the side of the manger. It

accident caused her to shrink so in milk that she is entirely out of it for this period of lactation. There is no particular place to lay the blame, it was simply an unavoidable accident, and we will have to suffer the consequences.

Another good cow got her teat injured. It looks as if she stepped on it in getting up, but how she did it is more than I can see. On one side of the teat the hide is all scraped off and it extends over the end of the teat so that the scab practically closes up the opening. It is a very sore thing. You have to take that scrap off from the end of the teat every time you milk, and the cow resents it. You can't blame her. She doesn't know any better. It is getting better now, but a cow in this condition will not give a normal flow of milk. She is a fresh cow and may practically recover from it, and yet I doubt it. Any little thing like this in the beginning of the period of lactation simply gets the cow out of sorts and she doesn't do as well as she would if the accident had not happened. I wish I knew how to prevent all of these accidents, but I haven't learned yet, and I doubt if I ever will, or anybody else.

Price of Dairy Products Affected by the Drought.

There is no doubt but what the drought this summer over a large part of the country has made short forage crops. Hay is abnormally high at the present time in most sections of the country. The corn crop is short, at least so far as forage is concerned, and it is so with other crops. This certainly has an effect upon the price of dairy products. At Grand Rapids the milkmen have raised the price of milk to eight cents. Really this ought to have been done before, because eight cents a quart is not too much for good clean, marketable milk. I don't know where the consumer could get more for his money than good wholesome milk at eight cents per quart. Everybody is expecting high prices for butter and high prices for cheese this winter, and I think that their expectations will be realized because there is an actual scarcity. Dairy men are hedging. They are getting rid of their poorest cows. Feed is worth as much, and more, to sell, than it is to feed.



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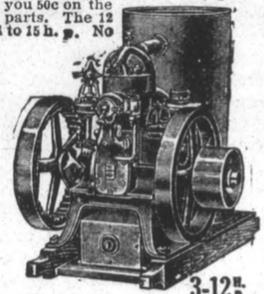
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DETROIT, NOV. 8, 1913.

CURRENT COMMENT.

A communication from
our Washington corres-
pondent quoting from
recent utterances of Dr.

A. D. Melvin, Chief of the Bureau of Animal Industry of the Department of Agriculture, affords some interesting sidelights on the development of the live stock industry in that part of the world. It will be remembered by readers who have followed the editorial comments of this paper, that Dr. Melvin has been on a tour of investigation in South America, in which the live stock industry of South American countries was made the object of special inquiry.

One surprising bit of information gleaned from this report of Dr. Melvin's statements since his return to the United States is that cattle slaughtered for export in Argentina are raised and fattened entirely on alfalfa pastures. These pastures support the cattle the year around without any supplementary feeding, except in occasional times of drouth or invasions of locusts. In this connection Dr. Melvin is credited with the statement that alfalfa is not being grown nearly as extensively as it could be, and that the extension of the area devoted to this forage plant will depend very largely upon the prices received for the cattle grown upon these pastures. Because of recent satisfactory prices, the present tendency is to convert a portion of the area now devoted to grain into alfalfa pastures, since cattle raising is considered much more certain and suitable than grain production when the prices for cattle are remunerative. Regarding the prices received for cattle Dr. Melvin stated that at the time of his visit, cattle dressing 820 pounds sold for \$74.80, gold. This grade of beef he states to be of high quality, and is at the present time selling in England at from eight to nine cents per pound wholesale. The Argentine cattle are stated to be of very much better quality than those from any of the other South American countries, the Brazilian cattle plainly showing strains of East Indian origin. It would thus appear that the business of beef production in Argentina is capable of considerable increase under favorable prices, although the slaughtering of cattle is sufficient at present to prevent a rapid increase in production, being fully up to the limit of the available cattle. But from the fact that alfalfa has been substituted for old range pastures in the greatest cattle raising country in South America, and that the slaughtering of the stock is carried on under rigid inspection, as stated by Dr. Melvin, it will be necessary for the cattle breeders and feeders of this country to follow up to date and improved methods in the production of beef in order to maintain the supremacy of the home market in future years. However, as previously pointed out, the immediate future seems to be bright for our cattle feeders, and it

does not seem likely that the opening of our markets to South American beef will do more than check further advances in the price of this necessity to the consumer. What the future holds, it is, of course, impossible to tell, but it will certainly take some time to accumulate a world surplus of beef cattle through the growth of the industry in South America, and as for our country, statistics for recent years point to progress in the other direction.

How to Help a Thinking People Generally Agree Regarding the Things Most to be Desired for the Betterment of Society, but they often differ very radically as to the best means of furthering the desired end. The question of morality is one of these "rocks" upon which the current of wholesome public opinion is too often split into small divisions which work at cross purposes. Today the popular thing among a large class of speakers and writers on this and related subjects is to advocate the dissemination of knowledge, both in the home and in the school, which will tend to enlighten the youth of the land on subjects related to personal and public morality and the future well being of the race, but in a manner directly opposed to the "old school" ideas. In this idea as usually advanced there is so much of sordid suggestion that old-fashioned people are repelled by the idea. There is, however, a common ground on which all should be able to meet, which is so well defined in a proclamation recently issued by Governor Ferris, in which he calls the attention of Michigan people to "Purity Sunday," as designated by the International Purity Congress, that we take pleasure in reproducing it. The Governor's proclamation follows:

The Seventh International Purity Congress will convene in Minneapolis, Minn., November 7 to 12, 1913. Sunday, November 9, has been designated "Purity Sunday," the purpose being to create and crystallize intelligent sentiment against the greatest evils of our time, and to direct this stirred conscience into safe and sane action for the annihilation of commercialized vice and the promotion of social and personal morality. Every state in the Union is expending vast sums of money for the purpose of caring for its imbeciles, epileptics, lunatics, paupers and criminals. This is a commendable characteristic of modern civilization. In recent years the pertinent question has been asked: "Why not give careful attention to the source of these unfortunates?" Every child has the divine right to be decently born. Social and individual purity together with physical and mental vigor constitutes a secure means of making this divine right possible. The people of our great state must be awakened. They must come to an appreciation of the full meaning and importance of a single standard of virtue, if they are ever to banish white slavery and kindred crimes from society. On Purity Sunday let all the clergymen of all of the churches appeal to all of the people in behalf of that purity which Christ taught. Emphasize the positive side of personal righteousness. Much that is printed in books and proclaimed from the platform, in relation to sex problems, is true, yet positively pernicious. Knowledge in itself does not always make for virtue—it may make for vicious conduct. Therefore, awaken and arouse a love for purity. It is the sunlight of righteousness that the youth of our land must have if they are to grow into the fullness of noble manhood and womanhood. This is indeed common ground on which all should be able to agree and a common cause in which all should be able to work. Let us also teach, by personal example as well as by word of mouth, that it pays to live clean, wholesome, useful, noble lives from an immediate and practical standpoint, as reflected in the satisfaction derived from living, as well as from the more spiritual or altruistic standpoint.

Just the other day a successful professional man was heard to remark that when he was choosing a career, he would far rather have chosen the profession of agriculture than any other, in fact, he prepared himself for that calling by taking an agricultural course upon the prospect that his father would be in a position to provide him with a farm after his education was completed. His plans were changed, however, because of the fact that his father met with financial reverses and was unable to provide him with the farm after his agricultural education was completed, for which reason he earned the money to take a supplementary college course, and prepared himself for another profession in which he has been eminently successful. He had, however, apparently never quite recovered from the regret that it seemed necessary for him to change his plans. It meant a long uphill struggle to attain

success in the profession which he entered, and the rewards have been well earned by him.

Believing that not a few country young men, as well as young men who have not been reared upon the farm, hold similar ideas with regard to the opportunities open to them along agricultural lines, we have planned to publish in the Michigan Farmer a series of articles relating to the success of young men who have chosen agriculture as their calling, but who, like the successful professional man above mentioned, had no prospect of securing a farm in any other way than through their own efforts. True, this has taken close application and hard work on their part, but not more so, we believe, than was the case with the professional man above mentioned or a host of others of which his case is typical. The thing which it is desired to impress upon the young men on the farms of Michigan by this means, is the fact that there are opportunities just as attractive for the successful pursuit of agriculture as for success along any other line, whether it be business or professional in character.

Having come to an appreciation of that fact, any young man is far better prepared to make a proper choice of his life work than if he fell into the common error in thinking that success in life depends upon the business or profession which he chooses, rather than upon the personal qualifications and characteristics which he either possesses or acquires.

Reference has frequently been made in these columns to the boys' corn clubs and the girls' canning clubs which have been so largely organized and successfully conducted in the southern states and which are becoming increasingly popular in the north, including Michigan. So successful has been the development of this idea, that the work is apparently to be broadened along other lines. As an evidence of such a tendency, comes the news of the organization of boys' pig clubs in two or three of the southern states. This is really an offshoot of the boys' corn club idea. In this work the Animal Husbandry Division of the Department of Agriculture is co-operating with the Farmers' Demonstration Office in the Bureau of Plant Industry. The aim of the organization is to not only encourage an increased production of swine in the states where the organization has been started, but to also encourage the keeping of better bred pigs than are being raised at present in these localities. Indirectly, of course, this work is a means to the end of reducing the high cost of living, which is everywhere the slogan of the economist these days.

There is no doubt that any educational movement which will direct the attention of farm boys and girls to the possibilities of the industry with which they are so familiar, will prove beneficial. Competitive work along any line will also inspire the young people with a desirable degree of zeal in their efforts. As has been pointed out, however, the factor of economic production should never be lost sight of in this educational movement, and for best results, economy in production should properly be given a high value in the score card by which the results secured by the youthful competitors are finally scored.

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Once in a while one of our subscription men meets a farmer who admits he takes the paper not only for the reading matter, but for the advertising as well. We view that as a compliment. The publisher, the reader and the advertiser all constitute a trinity of interest in a farm paper, and the interest of one cannot suffer without all suffering. We are proud of the fact that the Michigan Farmer attracts a high class of advertising patronage, and that these advertisers find it profitable to be represented in the paper.

Considerable interest is being aroused over the bill passed by the United States Senate and now before the House, which provides that all passenger boats be provided with sufficient life boats and other life saving equipment to accommodate all passengers. The Dominion of Canada will in all probability adopt rules similar to those contained in the bill now before the United States Congress. The owners of passenger boats on the great lakes are protesting vigorously on the grounds that the requirements of the bill are such as

would apply to ocean traffic where routes are long and it is difficult to reach harbors in case of accident; but on the great lakes this condition does not prevail, and the boat owners believe they are warranted in opposing the measure. They feel that it is particularly restrictive with regard to the excursion traffic and ferry service.

The United States Good Road Association will hold a convention and exposition at St. Louis, Mo., November 10-15. The income tax, which constitutes one of the unusual methods of raising money instituted by the American government, became effective last Saturday, and it is expected that from this source millions of dollars will be brought into the public treasury.

The federal grand jury sitting in Toledo returned indictments against 20 persons last Thursday afternoon; 12 were charged with breaking into railroad cars, five with white slavery, one with embezzlement two with bootlegging, and one with breaking into a postoffice.

A shake-up has occurred in the post office at Detroit, and many of the old employees have been lowered in rank and have had their salaries reduced. As we go to press, the great political fight in New York state is being settled by the voters. The campaign has been a bitter one, with the Tammany forces arrayed on one side and a fusion ticket on the other. Both sides predict success. The falling of a brick warehouse at Hartford, Conn., is believed to have killed seven persons, while four others, fatally injured, have been taken to hospitals. The building toppled onto the roofs of adjoining wooden tenement houses, and the victims were in the latter buildings.

A street car strike is on at Indianapolis, the men walking out last Friday. On Sunday when an attempt was made to move the cars by strike breakers, rioting ensued, and many shots were fired by strikers and policemen. Elections are held Tuesday in the states of New York, Maryland, Virginia, and in all municipalities of Ohio and Indiana. The circuit court of Wayne county will begin its third week of work in an endeavor to select a jury for the trial of Alderman Glinnan, of Detroit. The effort to secure jurymen was advanced very little during the past week. Because of an apparent desire on the part of the strikers in the copper district of upper Michigan to conduct the strike peacefully, General Abbey and Gov. Ferris are contemplating the withdrawal of state troops and leaving the responsibility of preserving order in the hands of local authorities. There was a large parade of strikers at Calumet, Sunday, but no violence was reported.

Chas. G. Gates, son of the great financier, died at Cody, Wyoming, last week and was buried in New York Sunday. The local option situation in Clare county will be investigated by the state department, charges having been filed to the effect that the law is not being enforced by the sheriff and prosecutor. A preliminary conference of persons interested in the production of alfalfa will be held at the Sherman House, Chicago, December 2, for the purpose of effecting a permanent organization for a national alfalfa congress in connection with the Panama-Pacific Exposition at San Francisco in 1915.

Complaints have been filed with the governor of the state against Prosecutor Shepherd, of Wayne county, in which it is asked that the latter official be removed. In an unofficial statement, the prosecutor declares that the complaints are the product of efforts on the part of agents of Alderman Glinnan, now on trial in the Wayne County Circuit Court, charged with misconduct in office. A barn containing 32 horses burned last Friday night here in the city. Only five of the animals were rescued, the remaining 27 being destroyed in the flames.

The Department of Agriculture has just issued a statement, showing highly satisfactory results from the workings of the 28-hour law designed to prevent cruelty to animals in transit for markets, numerous transportation companies having established additional unloading and feeding stations. It is also stated that while the federal meat inspection law has no authority to prescribe how to slaughter animals, the government co-operates with others working to prevent abuses. Stunning before bleeding is especially recommended, as stunning causes concussion of the brain and instant destruction of consciousness. Stunning previous to bleeding meets the demands of humanitarian sentiment and of hygienic requirements. In arranging to make a valuation of the railroads of the country, the interstate commerce commission has divided the country into five districts, each one containing approximately 50,000 miles of railway lines.

Foreign. The administration remains silent on the Mexican situation, which is apparently as muddled as it has been during the past many months. The election seems to have been a farce, at least no tangible results have been reported. It is expected, however, that developments of some definite nature will be forthcoming in a week or so. There will be an election soon for filling five seats in the British House of Commons. Owing to the strained relations between the different parties, and the small working margin of the liberals the elections will be fought earnestly by both sides. A competition for endurance flying which extended over a period of six months was recently closed by awarding the cup to Marcel G. Bindeljonc, a Frenchman, who flew from Paris to Warsaw by way of Berlin, a distance of 933 miles in 13 hours. Three representatives of the Chinese government have arrived in this country for an inspection of United States mints.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND **LIVE STOCK**
PUBLISHED WEEKLY
JOURNAL
ESTABLISHED 1843.

The **FARM BOY**
and **GIRL**
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

NORTH AMERICA has several varieties of the birch tree. These trees are valuable for their beautiful, close-grained wood, which, being susceptible of high polish, is a prime favorite with furniture makers and cabinet workers. The one best known in the northern part of the United States is *Betula papyifera*, sometimes called white birch but better known as the paper or canoe birch. There is another variety which also claims the name of white birch, and the two are much alike.

The paper birch sometimes attains a height of 70 feet. The bark is light in color, a silvery gray or white, curiously marked with spots and lines. This bark can be removed in paper-like layers, hence the tree's familiar name.

The birch branches are very slender, "so slender that they scarcely cast a shadow," some writer has said. Tapering to a point the leaves are notched, finely-cut, and flutter in the faintest breeze. About the tree there is a marked grace, a sense of aloofness from the work-a-day world. To the poet Lowell this was timidity, for he said, "The birch, most shy and ladylike of trees."

Longfellow's "The Song of Hiawatha" has familiarized American school children with the tree. It is in that upper lake region, where the mythical "Deliverer of the Nations" came to his own, that the

The Birch Tree.

By HOPE DARING.

tree is seen at its best. To some of us it is associated with the restful summer days when, with the birch tree overhead, and the blue of the lake stretching away to a misty horizon line before us, we have dreamed our dreams. Longfellow says:

"From the overhanging branches,
From the tassels of the birch-trees,
Soft the Spirit of Sleep descended."

but to us the gift of the tree is peace, rather than sleep.

It was to the birch tree that Hiawatha turned first when he went about the building of his canoe which was, in the Ojibway tongue, a "Cheemaun." His plea was:

"Give me of your bark, O Birch-Tree!
Of your yellow bark, O Birch-Tree!
Growing by the rushing river,
Tall and stately in the valley."

The young warrior had to repeat his request, and he reinforced it by the reminder, because that was "the Moon of Leaves" (May).

"Lay aside your white-skin wrapper,
For the summer time is coming,
And the sun is warm in heaven,
And you need no white-skin wrapper!"

The tree, in the words of the poet, "Rustled in the breeze of morning" and bade Hiawatha take what he desired. At last, with the aid of other trees, the canoe was finished.

"And the forest's life was in it,
All its mystery and its magic,
All the lightness of the birch-tree."

It was on "the smooth bark of a birch-tree" that Hiawatha taught his people the art of "picture writing," enabling them to record the deeds of their warriors and to write:

"Songs of war and songs of hunting,
Songs of medicine and of magic."

Among the legends the Ojibway mothers used to tell their children was one concerning this tree. It has already been stated that the beautiful bark of the birch was curiously marked with spots. The little Ojibways were told that once this bark was smooth and unmarked. Nanahboozhoo—the same mythical personage whom Longfellow called Hiawatha—was cooking his solitary dinner in the forest. He had shot a big bear and was very proud and satisfied. As he turned the slices of meat roasting over the coals he thought how, when he reached the village, he would send some of the braves back to where he had left the carcass of the bear, that they might carry it home. Such work was not for him—the great Nanahboozhoo. Just then a scowl disfigured his face, and he looked upward to see what caused the noise that so annoyed him. At last he discovered that the tops of the two birch trees between which he had built his fire came together. The noise he heard was one rubbing against the other.

"Stop that, you birches!" the Indian commanded with another and a more ferocious scowl.

The noise was continued. Nanahboozhoo hastily clambered up one of the trees and tried to pull the tops apart. In his efforts his hand was caught between the two tops. The pain brought a cry from the warrior's lips, but he quickly hushed it, fearing lest the trees might tell of his lack of fortitude. At last, after he had suffered greatly, he succeeded in freeing his hand and scrambled down to the ground. Then he cried out with rage;

two wolves were slinking away through the forest, already gone too far for an arrow to reach them, and off with them they had carried the meat roasting over the coals.

Nanahboozhoo trembled with anger. "It is all your fault, you crying birch trees!" and with a stout stick he beat the trees until the bark was bruised and scarred. Until this day the bark is marked from the beating given.

The moral? If the Ojibway mother drew one, it was doubtless that the determination to have one's own way often brings pain and trouble. Today, as one dreams under the birches, the fluttering



Splendid Specimens of the White Birch
Seen Near Bay View, Mich.

leaves whisper the message that pain and suffering may "work their perfect work" and add to a life's grace and beauty.

"Out of the woods my Master went,
And He was well content.
Out of the woods my Master came,
Content with death and shame."



Slender Young Birches Growing Near the Water's Edge on Beaver Island.

PLATINUM is a new metal compared with gold and silver, both of which have come down to us from remote antiquity. Savage tribes, even, are found possessing articles roughly made of gold. Platinum, being much rarer and more difficult to separate from impurities, has not been known or used to any considerable extent until comparatively recent times.

In the year 1735 a Spaniard named La Torre, a member of a French scientific expedition, reported its discovery in Peru. It was not considered of any particular value, however, until about the year 1820, when it was found in the gold washings of the mines in the Ural mountains. The Russian government, recognizing its qualities, coined three-ruble pieces of the metal, which immediately opened the eyes of the scientific world to its value. It is interesting to note that the metal used would today be worth six times the face of the coins.

The name platinum is a modification of the Spanish word "plata," meaning silver. Thus the name by which we know it today has been handed down from the original discoverer. Peruvians called it "platina del pinton," while the Malays of Borneo have a name for it which, translated into English, means literally "frog gold." The significance of this name is not obvious. An Englishman tried to name it "polyxene," a Greek word mean-

The Story of Platinum.

By CHARLES H. CHESLEY.

ing "guest of many," indicating its characteristic of being found in company with other metals, such as gold, iridium, osmium, ruthenium, rhodium, palladium, etc. This name, however, did not supersede the older platinum. Miners in California and Australia call it "white gold."

Less than 5,000,000 ounces of pure platinum have been mined since its discovery, while more than 100 times as much gold has come to light in the same time. Of this amount about 90 per cent has been found in the districts of Nizhne-Tagilsk and Goroblagodatsk in the Ural mountains of Russia. South America has produced perhaps 250,000 ounces, while smaller quantities have been found in Australia, Borneo and Canada. Our own country at the present time produces perhaps 400 ounces yearly, and this is obtained as a by-product of the gold washings of California, Nevada and Colorado.

Platinum usually occurs in small flakes or nuggets in sandy drift and along river bottoms, and is always obtained by the placer miner. In Russia the land of production is owned by the nobility and

farmed out to peasants who are allowed to mine a stated amount per year. Much sand and several metals are found with the crude platinum. The best quality, as it comes from the pans of the placer miner, is 75 to 85 per cent pure. This crude platinum is treated by chemical processes to separate it from the impurities, after which it is melted in a furnace capable of generating a temperature of at least 3,600 degrees, Fahrenheit. After melting, it is poured into ingots, which are subjected to great pressure, while still at white heat, to solidify the particles. It is then rolled into plate or drawn into wire as desired.

The character of platinum is such that in several particulars it stands in a class by itself as compared with other metals. It has a greater specific gravity than any other known substance, excepting iridium and osmium, its two native brothers; its melting point is so high that most metals volatilize at a point where it starts to melt; its co-efficient of expansion is remarkably low; no acid but aqua regia can attack it; it is impervious to the corro-

sive action of oxygen and other gases; it is untarnishable; combined with iridium, its hardness is almost absolute, and it almost completely defies the elements. All these qualities, combined with its capacity for taking a brilliant finish, make it the ideal metal for jewelry.

Pure platinum is too soft for certain uses, but, properly alloyed, it becomes one of the hardest of substances. Iridium, which is always found with platinum, is the natural metal for this purpose. Though much rarer and of greater value, yet it is the only appropriate alloy. The addition of 10 per cent iridium makes a metal harder than 14-carat gold, while 20 per cent makes a subject that will practically wear forever. Iridio-platinum is the alloy used for jewelry, and at present prices is worth something like \$50 per ounce. This is about eight times the price of the same metal twenty-five years ago. As additional uses for it have been discovered the price has steadily advanced, and, unless larger deposits are found, the value will increase with each year. It is only just beginning to be recognized as a medium for the maker of art jewelry to express his ideas. Of late, however, it is being used more and more for this purpose. Certain it is that an object made of iridio-platinum is as nearly indestructible as anything made of metal can be.

The cost of a piece of jewelry made of platinum will be considerably more than

for one made of gold, not only because of the higher price of the metal but because of the increased cost of working it. For obvious reasons it is much harder to work than gold or silver.

Platinum is worth at the present time more than four times as much as gold. It is also more than twice the weight of 14-carat gold, so that a jewel of platinum weighs half as much again as one the same size made of the yellow metal. This feature also adds to the value of the jewel, so even though the value of the

metals, pennyweight for pennyweight, is in the ratio of about one to four, the value of the material in the finished product is nearer one to six.

Perhaps the greatest evidence of the worth of platinum may be found in the fact that the nations of the civilized world have adopted it to make the standards for weights and measures. It was considered the most durable metal and the one available material that would remain unchangeable through the ages of the future.

Unto Thyself Be True

By CHARLOTTE BIRD.

ROGER PERRY cast a curious glance over the crowd. His artistic instinct had led him to this village horse sale. With eager eye he took in the young six-foot auctioneer on a dry-goods box—his cowboy hat, his enthusiastic face and eloquent gestures.

The visiting artist quietly drew a pencil and notebook from his pocket and set to work. A quick, clever stroke here, a telling one there, and the details of the scene had been transferred to the page before him. So absorbed was he that he did not notice the attention which his rare employment was attracting. Then a jovial bass voice over his shoulder remarked: "He has got Silas all right, ha! ha! ha!"

"Well, by gosh!" exclaimed another, pressing forward. "Wouldn't that git you!" and he, too, laughed aloud.

The thickening crowd around Roger detracted attention from even the shouting auctioneer; clearly his privacy was at an end. Besides, this publicity was not to his liking; the unflattering liberty which he had taken, might be resented. He closed the notebook and put his sketching outfit back into his pocket. His interruption, though, would make no vital difference, because he had his salient points already and the rest he could safely trust to his memory. He turned and his clear, honest gray eyes looked into those about him—laughing eyes, awed a little in the presence of such amazing ability in any mere human being.

As the embarrassed Roger withdrew, he heard some one inquire: "Who is the guy? Where does he hail from?"

"He's Lucy Butler's fellow from down east somewhere," came the answer as readily as if it had been learned from some book.

"Ah, that is the lay of the land! Some swell, eh?"

"That's about the size of it, I guess." After this the most egotistic curiosity could not have tempted Roger to remain. He had a good sketch in his pocket, though, and he was thankful.

Yet Roger was in no hurry to develop his sketch. Since the failure of his picture in New York a month before a mental and spiritual paralysis had held him down by its dead weight and every impulse of creation came to his brain still-born. He had spent almost a year lovingly painting his "Dawn," confident always that it must convey to others the beauty so clear to his own soul. Yet the picture had failed. Then for him also, somehow it had become cheap and shallow—the grave of his highest hopes. On a less scale this had been his experience with former pictures. Perhaps it would always be so; perhaps his coy muse did not intend that he should ever wear the laurel. Ten whole years out of his best manhood had been sacrificed to this vain pursuit. The thought sickened him, gave him an impulse to break something.

With a profound self-pity he reviewed these years of sacrifices and privations. This result after the glorious vision of success with which he had started—this tantalizing, maddening pursuit of a mere elusive shadow! As reasonably seek the fabled pot of gold at the foot of the rainbow!

As a plain business man, by now he might have had a fat income, with a beautiful home and an automobile. Other men less gifted and ambitious had all these things and more, and were harassed by no vain ideals. "Yes, better a prosperous grocer than an unsuccessful artist!" he decided with conviction. "I have won Lucy from her other suitors and now, by Jove, I'll support her."

This reflection brought Roger to Lucy's home. He turned up the clean cement walk which, straight as an arrow's flight,

cut the velvet lawn in two. His fastidious eye took in the conspicuous tower at one corner of the ambitious brick house. This, with the many useless gables betrayed the vulgar aim to lead the fashion rather than interpret lines of beauty. All was startlingly new and orderly and commonplace; no vines, no trees, no moss-grown shingles. Mr. Butler had money and he was Lucy's father, but these did not lift his architectural taste above criticism. Roger wondered why money and artistic taste were so seldom united in the same person.

It was a prematurely warm day in April, dreamy, hazy and with vague intimations of an impending thunder storm. In the porch parlor Roger's pleased eyes discovered Lucy herself with a bit of fancy work. As he mounted the steps, their eyes met in a smiling, trustful glance. She waved him to a big arm chair near the stand which held the magazines and a fern in a pink and green jardiniere.

"Never mind, this will do," and Roger sank down on the edge of the porch facing Lucy. The faint pink mounted to her cheeks.

"You have had a nice walk?" she asked rather solicitously.

"Very nice. And I got a good sketch. Do you know this fellow?" Thus speaking, Roger produced his notebook and tossed it into her lap.

"Know him, of course," she laughed.

"You have got Silas Graham to the finish, even to the wrinkles where the leather band puckers in the crown of his hat. And you have caught the spirit of the scene." She gazed at him in admiring silence while he indifferently flicked his shoe with a twig he had picked up.

With something approaching proprietorship the artist's betrothed leafed through the book and looked at the other sketches.

Meanwhile, he sat absently noting the rounding chin, the shell-like ear and the strongly marked nose, and approving of the peculiar blue of her dimity frock against her clear pink and white skin.

"It is wonderful, such a gift," and her soft brown eyes were lifted to the level of his face. "It has something holy."

"Oh, I don't know," he sighed deprecatingly. With Lucy he never shared his discouragements. Presently he said: "Lucy, dear, I am going to speak to your father this evening."

She visibly started and the pink of her cheeks deepened into a blush. "It may be as well," she spoke in a low voice.

"But father is a plain business man, you know; he understands very little of art."

"Perhaps I can lead him to understand it better," at which suggestion from her lover the girl's eyes took on a lovely sheen.

That evening, accordingly, the trim, alert young artist tremblingly but unflinchingly followed the neat, smooth-faced, prosperous-looking middle-aged business man to the porch. He noted that Mr. Butler's clothes were of the same shade of gray as his whitening hair. He could not look at Lucy's father just now but he leaped into the subject with a direct question.

Mr. Butler sank into an easy chair; he looked flushed and worried. His fluency with a vital question might argue shallowness of affection, a deficient estimate of life's deeper meanings. "Ahem!" and the father used an impressively long time in drawing out his snowy handkerchief and wiping the moisture from his brow. "You—you have talked with my daughter?"

"Yes, sir; we are both of the same mind."

"Just so. Ahem! What, may I ask, have you to—offer my daughter as your wife? Can you support her—give her a good home?"

Roger winced. These questions betrayed the cold-blooded financier, the Philistin, and involuntarily a slight contempt arose in his heart. "I hope—I expect—to give her one of the best of homes—in time," he stammered.

"Ah, in time! Now, Mr. Perry, you must see for yourself that that is not very definite," and Mr. Butler's white, stubby fingers drummed the arms of his chair. "The question is, what can you do for a wife now?"

Again Roger blushed. "My material means, Mr. Butler, I confess, are mainly prospective. But I have a reasonable hope that—"

"That is, your assets hardly justify you at present in assuming the responsibility of married life. Your business, Mr. Perry, I understand, is to paint pictures. Do you expect by that means alone ever to gain a competency?"

The sensitive young man's ears caught Mr. Butler's disapproval. He saw in the man before him one whose only gauge of success was the amount of visible hoard one had collected. "I may never win what one would call riches," he honestly admitted. "But in time comfort will come. Success, Mr. Butler, is no affair of mere dollars and cents." In the younger man's tone also was something which the less acute ears of his hearer could afford to ignore.

"Money is the visible sign of inner qualities," emphasized Mr. Butler aloud. "Why don't you adopt some business by which you may be sure of a compensation for your time and labor?" The practical father's question was definite and clear-cut, like that of a man who carefully stakes out his course beforehand and then steers accordingly.

"Why not?" the discouraged Roger silently pondered. "God knows, I am heartily sick of this pinching poverty and this mocking chase after a will of the wisp."

Mr. Butler resumed: "If you and Lucy are bound to have each other, I might make a place for you in our banking business. I like you—personally. I have no son of my own and, if you are faithful, with your natural quickness you should some day be able to step into my shoes. You and Lucy could prosper then. Now this painting business—I frankly own, I do not like it. Pictures are very nice and all that—in their places. But they can never take the place of bread. I am a plain, practical man myself and I prefer a son-in-law capable of doing a man's work in the world."

Roger was thinking intensely. Here was an escape from his difficulties. "Mr. Butler," he answered presently, "I'll—I'll take you up on your proposition." No, his grudging muse should not hinder. "I feel the need of some remunerative employment—on Lucy's account, especially, I need a home."

"Now I hear the voice of a man; begin tomorrow, if you like."

The two parted with mutual good will. Going into business, Roger threw aside his sketch of the horse sale, soon to be forgotten except by those who recalled his extraordinary cleverness.

Time passed. Each moment in the procession of official hours found Roger at his desk, quick, cheerful and eager to conquer the difficulties of his new work. With pleasure Mr. Butler silently noted the young man's faithfulness and spared himself no pains in teaching. Roger was certainly succeeding.

Presently, if Roger found his duties a bit prosy, he hinted no complaint and the time passed with surprising rapidity. And he was relieved of all money anxieties. In the evening he was always at the Butler home, frequently in time for dinner. Lucy appeared radiantly happy. Roger was gay and, naturally, their mood was reflected upon the spirits of the sobered parents. The happy family spent many hours together. Roger looked upon himself as already established in the household. He was suffused with the atmosphere of Mr. Butler's fatherly pride and the love of the domestic Mrs. Butler, content to take her opinions secondhand from her husband.

By the end of one blissful month Roger began to find the rigid bank routine with its regularity of hours and long rows of figures a bit depressing. What was more disturbing, though, was the stirring of life where he had imagined all dead or at least quiescent to the point of easy mastery. But he would not be buffeted by every whim; there could be no turning back now. Then was not Lucy worth any sacrifice?

Late May found the trees in their new leaves, the air sweet and exhilarating. Each day, as Roger walked out into the

glory of early morning, he opened his arms and expanded his chest that he might more deeply inhale all this rare beauty. He longed for an enlarged capacity to take beauty in. Then, when he must shut himself inside the bank and, instead of dreaming of bird songs, green grass, blue sky, grind away at dry accounts—then for him life paused and would not go on again till he found himself once more free to wander in God's own world. All the lovely time between his intervals of freedom was wasted, thrown away!

Still all this was rank sentiment; he was now indentured to a practical, common sense life. He would yet strangle these visionary longings and come to something in the world. Thus he returned to his distasteful tasks.

So matters stood on that day when Roger was thrown from his bicycle and had his arm broken. The sympathetic Butlers at once invited him to their home, till he should recover. He steadfastly refused to make them so much trouble, though in a day or two his evening visits he resumed. In short, he had found it imperative to be alone that he might dream, commune with his soul, mature the persistent images which hovered in his mind. So urgent had the creative impulse grown that more than once his injury came to him in the nature of a masked blessing. He escaped to the woods and spent blissful hours upon his back under the trees reveling in his complete surrender to the magic of nature. In the open country his soul expanded under the wide reach of unobstructed sky, till it came into vital touch with the infinite. After such a day he returned to Lucy absent-minded and incomprehensible. Yet he was more tender than ever; his soul was warmed and thrilled with the love of the universal which attends every act of artistic creation. And Lucy was a part of the universal life.

Roger's impulse to paint had ripened into a passion. That his musings might take definite form one day he leafed through his sketch-book and came upon his picture of the horse sale. With frantic haste he sought out his colors and brushes, his palette and mahlstick and with all the old relish set to work. How lucky that it was his left arm which had been broken! Once again he could really live—till his healed arm should force him to resume his bread and butter struggle in prison.

Never before had Roger Perry painted with such facility as in this race with his healing arm. Every victory, wrung in his tedious struggle with technique, every fine suggestion from the work of the masters, favored him and the rapidity with which he matured his conceptions, made him anxious as to their artistic value. His rest from art work also had given him strength and freshness. All day he worked and grugged the loss of a moment. Only when relaxation became imperative did he hasten to Lucy. In unrestrained freedom his spirit soared in its own element. Lucy may have wondered at his buoyant air, for not even she shared his secret. In it her father would have discerned a deplorable weakness while Lucy would have discovered no new virtues. With a definite result a plenty of time would remain for announcements and applause.

At length, Roger could no longer pretend inability to resume his bank duties. Perhaps Mr. Butler already suspected him of an unmanly indulgence of a physical ill. But every day the idea of returning to the bank grew more hateful. There was some alleviation, though, for his horse sale, now finished, had been sent to New York in search of a buyer. One more throw of the dice could do no harm.

On the morning set Roger returned to his commercial work. His appetite for painting had only been whetted; give up his pictures now he really could not. So he would get up every morning and enjoy a few precious hours with his art before the prostituting of his manhood to mere money-getting.

Thus daily at nine o'clock, when a minute or two late he stepped into the scene of his daily toil, his brain still remained in the grasp of the tyrant idea with whose expression he had just before been struggling. This swam so insistently before his eyes that he hardly saw the papers before him. Thus he never caught Mr. Butler's gaze turned questioning upon him nor imagined the older man's growing doubt.

With time, however, it sifted into Roger's self-centered mood, that Mr. Butler was not wholly pleased. One day things suddenly came to a head. Mr. Butler per-

(Continued on page 425).

THE FIRST SNOWFLAKES.

BY FANNIE HOSNER.

The first flakes of November's snow
Fell from a low gray sky.
They slowly fell, as loath to leave
Their cloudland home on high.

The first white flakes, they ventured down
Like aviators bold.
The grass was green in sheltered nooks,
The trees were red and gold.

Adown beside the garden fence
A sweet wild aster grew.
And shivered as it felt the snow
Caress its petals blue.

Those fairy flakes; they kiss your cheek
And leave a parting tear,
But seem to breathe, "My child, be good,"
Before they disappear.

The children clap their hands in glee.
They love the fleecy snow.
They wonder when the ice will hold
And when their sleds will go.

I view the crystal flakes of white
With something of a sigh.
It brings to me a vivid thought—
How quickly months slip by.

It seems but yesterday I heard
The first sweet robin sing,
And found, close by a woodland brook,
The first wild flower of spring.

But spring has passed, and summer, too,
And autumn's at its noon;
And yet it seems as though the snow
Had almost come too soon.

TRAPPING THE UNSUSPICIOUS MUSKRAT.

BY GEO. J. THIESSEN.

The muskrat is trapped early in the season, as a rule, yet its fur is not prime until in spring. By prime, I mean of first quality. And it is a fact that a large percentage of all the pelts are taken by beginners each year, simply because the animals are easy to trap.

If one will walk along the edges of a creek, river, or pond, in all probability he will see some large flat tracks in the mud and occasionally a mark which re-

beaver, otter, muskrat, etc., will dive for deep water when caught; if the chain of the trap is so fixed that it will not only permit them to reach deep water but will guide them to it, the weight of the trap, in the case of the smaller fur bearers, will drown them. Hence, the sliding-wire device is nothing more nor less than a wire or pole having one end staked on the bank and the other in deep water, so that the ring on the trap chain will slide freely upon it.

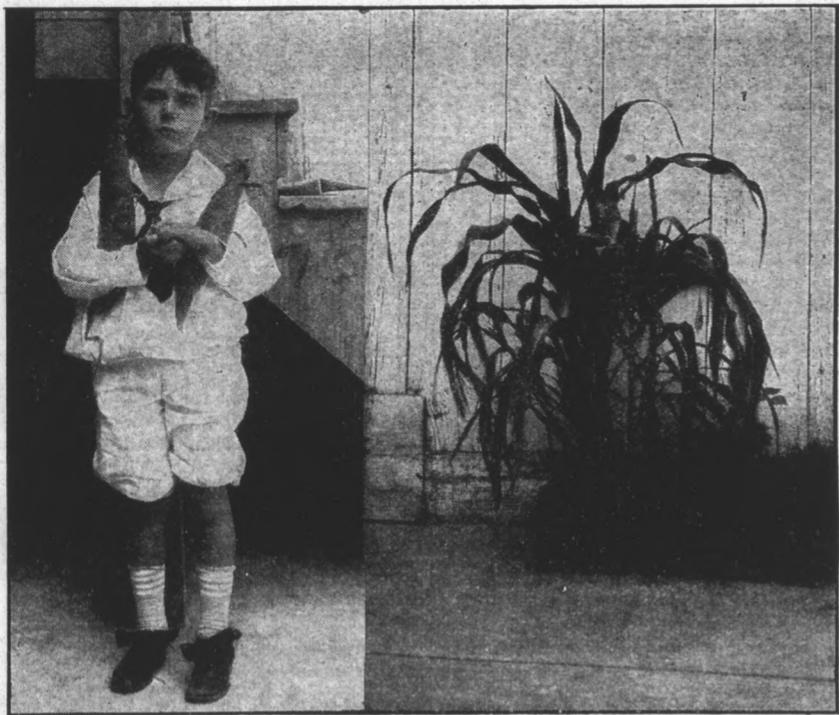
Find a muskrat slide. At the foot of it place a trap in about three inches of water. In case a sliding-wire device is not used, stake the set where it is deep. By deep, I mean at least a foot or two—just enough to drown the animal. This is one of the simplest methods of trapping the muskrat and, by the way, one of the most successful also.

I prefer three inches of water to cover my traps, for in most cases the animals are caught by the hind legs when the water is of this depth. This reduces the chances of escape. If the water is too deep, build up with stones and mud until it is just right. Another simple set is made by placing traps at the entrances to dens or houses.

Early fall is the time when it is easiest to catch the muskrat. It is very busy at this time of the year, laying in food, etc., for winter. During cold weather these fur bearers are extremely difficult to take, owing to the fact that they do not go about much.

The musquash—the Indian name for muskrat—may be attracted by bait, such as apples, corn, carrots, beets, parsnips, etc. In fact I consider parsnips best, because of the pungent odor which these vegetables have. They will draw the animals a long distance. A good method of taking them with bait is to place the decoy on a stick about ten inches above the water, where it is shallow. A trap placed near by completes the set.

Strange as it may seem, these small fur bearers are very curious regarding white



A Bright City Lad and his Miniature Corn Field.

Life in the heart of a great city imposes a heavy handicap upon the youngster who has a natural liking for the soil and for growing things. The above picture tells the story of a six-year-old Baltimore lad, Leonard K. Hirschberg, Jr., by name, whose desire for a corn field was not to be thwarted. Although every bit of yard space had been paved with cement, it was his own idea that a box of soil would suit his purpose and he accordingly procured a 2x4-ft. soap box in which when properly filled with earth, he planted several hills of sugar corn. The planting was done in May, and so careful and constant were the attentions of this young corn grower that fully developed ears were taken from his field in September.

sembles a half of the letter "S." Further search will reveal the fact that paths, more commonly known as slides, are to be found along the banks. If in a pond or lake, mud houses can be discerned rising from the shallow water; if in a stream dens can be located along the banks. These are invariably signs of the presence of the muskrat.

Small traps should be used for taking these little animals. I prefer the No. 0 although many use a No. 1. The smaller traps will not break a leg bone so easily as a larger one, and the fact of the matter is, the users of large traps are the ones who usually find feet in their sets instead of pelts. There is a way, however, to secure every muskrat caught, and that is by using the sliding-wire device. This device is merely a method of fastening which is used not only for taking the muskrat, but for all other aquatic animals. Water animals, such as the mink,

paper and cloth. If a bit of it is placed near a trap, often several fur bearers are taken with this simple set.

Very often a pumpkin placed in shallow water and surrounded by several traps will prove an ideal method of taking the muskrat, especially if the stakes may be driven in deep water. I have caught as many as three animals in a night with a pumpkin as a decoy.

I would not advise the amateur to try taking the muskrat with a land set, for he will not have great success at it. Very frequently paths to corn fields may be found, places which seem to be ideal for sets. And yet a few experiments will convince the beginner that he will do better by placing all his traps under water.

Common sense should be used in choosing a bait. If corn fields are near, try apples, etc. Do not select any vegetable that is handiest, for if you do the chances

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are you will have but a small catch at the end of the season.

Very frequently small, shallow ponds may be found along rivers, streams, etc. These will usually be connected by narrow passages, made by muskrats. As a rule, places may be found that are deep enough for traps; if not, it is very easy to scoop out excavations. Sets placed along these paths always give good results.

When an animal is caught, remove its pelt just as soon as possible. Aside from the fact that the skinning is easier, it pays in dollars and cents. Many furs, which otherwise would be prime, grade as "trash" because they have been left on the animal for days. The majority of hair-slipped skins, in my opinion, are the result of this negligence. By "hair-slipped," I mean those pelts from which the fur may be easily pulled out in bunches.

Dry the pelts in a cool place—never over a fire. Do not use salt or other preparations on them. Place the skins flesh side out, using tacks, if wooden stretchers are employed, to keep the hides in place. The tails of muskrats are of no value. Do not try to skin them.

ONLY ONE.

BY LOU D. STEARNS.

"I wish," said Donny, looking up from his lunch of bread and milk, "that I had a thousand dollars."

"And what," his mother inquired, drawing a pan of cookies from the oven, "would you do with it, son?"

"I'd get a turkey 'most as big as a house, and a whole lot of pumpkin pies, and—and—oh, a twenty-pound box of honey, and carly, and nuts, and everything, and go give everybody a Thanksgiving dinner."

He reached toward the plate of steaming cookies. "Can I?" he begged.

She nodded. "You haven't a thousand dollars, Laddie Boy," she replied, "and you cannot give everybody a Thanksgiving feast. But how about doing what you can? There is old Mr. Day to begin with."

Don's face fell. "He is only one," he argued, "and Mr. Lee said yesterday, in Sunday school, you know, there were loads and loads of folks who wouldn't have any Thanksgiving dinner at all. One wouldn't help out very much, I'm sure."

His mother went on filling her cookie pan for the oven. "If I hadn't a thing for Thanksgiving," said she, "I think I would be pretty glad to have somebody decide that just one counted, if I happened to be that one. Wouldn't you?"

Don's eyes began to shine. "You bet I would," he cried. "Why, ma! When we boys lost our train last Saturday and had to go without supepr until nine o'clock I was most starved, and it felt—" he hesitated, "well," he finished, "it didn't feel good. After all, everybody's just one, aren't they, ma?"

She agreed, with a smiling nod. "And when that one happens to be you," she said emphatically, "it makes quite a difference whether someone remembers or forgets."

His eyes dropped; then he looked up inquiringly. "What'll we do?" he asked.

Mrs. Dean considered. "I will give a plate of turkey and potatoes," she announced. "You will have to do the rest."

"But," he faltered, "how—how—"

"You know, son," she interrupted gravely, "that I have to count pennies, even for us two. There is no big father to work for his man-son, you see. But, Don, there is the pumpkin pie I always bake, and the little dish of plum pudding and cranberry sauce, the few nuts and apples and the cookies. I am going to give half of my share to Grandma Dane. If you want to divide yours with Mr. Day, all right. We can share what is left."

For a moment here was silence while Don looked thoughtfully down at the floor. He did love pumpkin pie and plum pudding, and besides—"but," he argued, "we'd be hungry, then."

"Oh, no," she replied cheerily. "There'll be the turkey, son; and plenty of potatoes, and bread and butter. We wouldn't have quite so many goodies, but we are not alone, you know—or old, or sick."

She turned to the sink and began to wash her baking dishes, and Don crossed to the window and began drumming on the glass.

"Do you think I ought to?" he asked slowly.

"It would be kind, dear," replied his mother. And then, all at once, Don remembered how Mr. Lee had finished his Sunday talk.

"The boy who is kind," he had said, "especially if he has backbone enough to

put others before himself and practice a little denial now and then, is on the way toward the very best sort of manhood."

His head came up with a jerk; his shoulders stiffened. "Ma," he said, crossing to the sink, the light of real manhood in his eyes, his boyish face full of a happy glow, "Can I go now and tell him he's to have Thanksgiving sure this year?"

BIRDS IN WINTER.

BY J. A. KAISER.

That birds are the farmer's friends has been proved beyond all question. That the decrease in the numbers of some species, and the practical extinction of others, has been detrimental to the farmer's interest is also an established fact. Were all bird life to become extinct, the farmer would be swiftly and decisively beaten in the battle for existence. The teeming insect life that is kept in check by birds would multiply a million fold and devastate the land. Birds are the natural enemies of insects and weeds, and insects and weeds are the natural enemies of man. It is probable that even hawks and the larger owls, the outlaws among the feathered folk, do more good than harm, though it is not in their behalf that this article is written.

Since birds are necessary to the success and prosperity of the farmer, it would seem but fair and just that he care for and defend his friends in time of need. In winter, when the snow lies deep and the Frost King reigns supreme, it is often difficult and sometimes impossible for birds to obtain the food necessary to subsistence. A handful of grain, a few crumbs from the table, a few cracked nuts, or a bone with meat on it, will cost but little and may save some bird from starving. The farmer who has the rare privilege of feeding a flock of quails that have been driven to the orchard or barnyard in search of food may engage in a profitable investment, for the quail has been found one of the most beneficial of all our birds. The passing of a law prohibiting forever the slaying of this useful and inoffensive bird would be a step in the right direction.

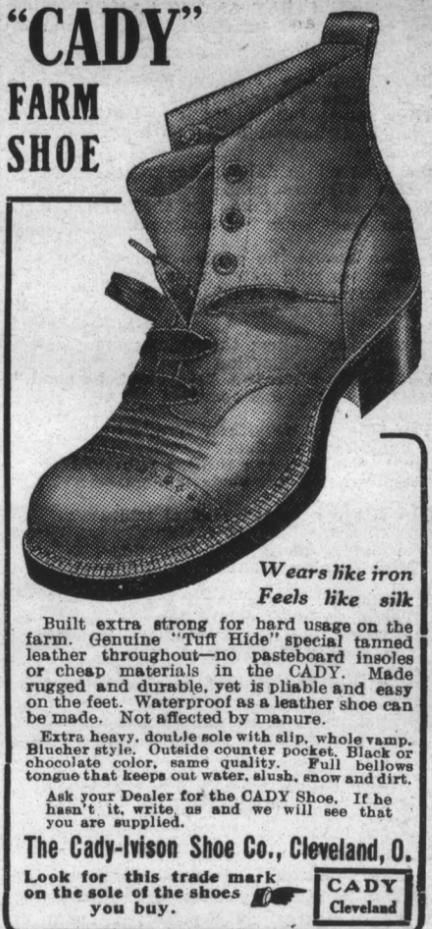
Although the majority of our birds go south in winter, a considerable number remain. Barring the English sparrow, which is an old-world product and always with us, our most common birds in winter are: the blue jay, the nuthatch, the downy woodpecker, the gold-finch, and the chickadee. All of these frequent the orchards and dooryards and may be easily fed. Last winter the writer kept a supply of cracked hickory nuts outside the living-room window, on the window ledge. The first day, the sharp eyes of a pair of blue jays detected the nuts; after that the birds came daily for their food.

And now that I have mentioned the blue jay, I cannot refrain from saying a word in his defence. Many people regard him as a thief and a murderer, but while he sometimes robs the nests of other birds, his depredations are not frequent nor wide spread, and the good that he does more than balances his evil deeds. In summer, when all our song birds are here, we could well dispense with the blue jay. But when the migratory birds have flown he rises into prominence and becomes a familiar part of the scenery. His call sounds welcome now, and he lends life and color to the gray November landscape and the snowy wastes of winter.

If chickadees frequent your place in winter, which is more than likely, they will appreciate a few crumbs or a bone hung from a near-by tree. The wood-chopper who takes his dinner to the woods and builds a fire by which to eat it, enjoys the society of the chickadees who are sure to be on hand to share the mid-day meal. Who that knows the chickadee does not love him! Tiny though he be, he defies the worst storms and severest frosts of winter. He is the embodiment of pluck, endurance, and hardihood. His familiar and characteristic call rings as merrily as though the June sun were shining. And, in his rarer moments, the chickadee can sing—a lisp, tinkling, silvery song that is as sweet as it is short.

Although our birds in winter are by no means so conspicuous or numerous or musical as the birds of summer, yet we would miss them sadly, and old scenes would no longer seem familiar. These hardy feathered folk typify the eternity of the life that sleeps beneath the ice and snow. They break the monotony and give vivacity and color to the winter landscape. Let us care for and defend the birds for utilitarian reasons if you will, though I like better the man who

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cares for the birds because he loves them and feels akin to the wildness and freedom which they represent.

UNTO THYSELF BE TRUE.

(Continued from page 422).

emptorily summoned his protege into his private office and with an unmistakable frown accused: "Roger, you have made a mistake—a very serious mistake."

"I am sorry," apologized the contrite young man, struggling to come down to earth.

"But being sorry will not mend matters." The bank president had reined in his impatience a little too long not to be in danger of overdoing his rebuke.

Roger stood silently fingering the pink edges of a blank cheque book which lay on the desk. With Lucy's father he must be respectful.

"The trouble is, Roger, that lately your head has seemed to be full of cobwebs," Mr. Butler scolded. "If you ever come to anything in the banking business, you must keep your mind on your work."

Roger inwardly groaned and then rebelled. What right had any man thus to shackle his mind! "Mr. Butler," he flamed out, "you demand the impossible. I cannot nail my mind down to such work. I am bigger than such work—too much of a man. The work is not worth it."

"The work not worth it, huh!" scorned the older man after him.

"No, sir!" thundered Roger, with all his newly found dignity up in arms. "Why, Mr. Butler, such a life as you lead here is not living. To me it is slow death; it is hell," and his fist came down upon the desk with a force which made the cheque book leap. "I love your daughter and, God knows what it costs me to give up. It is like pulling out my heartstrings," and the quick tears filled his eyes. "But this simply cannot go on; it stifles all the best that is in me."

The seasoned business man stared at the young visionary. He looked admiringly at the slim, well-knit figure and the face aglow with a lofty emotion which he could not sound. In spite of Roger's absurdity Mr. Butler had never before been so impressed with his higher qualities. Only the more deplorable was it that so much devotion should be wasted on such utter folly. "So you give up?" A regret cropped out in the older man's tone.

"I cannot help it, Mr. Butler. I must do the work for which I was created. That, you see, is not the work of a bank. I must go back to my pictures, or I shall fail in everything. Failure in everything is the penalty of the one who disregards a high call."

"Such fine talk is all foll de roll," spoke Mr. Butler with the assured authority of riper years. Yet as his fat white hands smoothed his gray hair behind his ears, he conceded: "But maybe there is something about it which I do not understand. Maybe there is."

"No, you do not understand," agreed the artist somewhat sadly. "And I might explain from now till the crack of doom and you would not understand," and the speaker's arms vehemently sawed the air. "That is the queer thing about it—the not being able to make other people understand, who have not themselves lived through the experience."

"Well, well, I am sorry," and the banker appeared softened. "I confess, Roger, that I like you. If you would only give your mind to it, you might yet become a successful business man. But if that is not—"

"Heaven preserve me!" Roger broke out. "I sincerely regret my failure and the trouble it has cost you. I shall quickly pack my few belongings and return to New York. My art work imperatively calls me."

"Your art work!" Again Mr. Butler's laugh betrayed his ingrained dislike to the idea of an able-bodied man contentedly painting pictures and treating such employment as serious work. How would Lucy bear this disappointment? Why should this misguided enthusiast ever have come to disturb the tranquillity of a once happy home!

On his own side Roger carried away an undiminished contempt for the man who by holding the disk of a dollar before his eye, could allow it to blot out all the glory of the shining sun.

"Lucy, you are a trump!" exclaimed the delighted lover after he had heard her answer. "After this you can go on believing in me?"

"Roger, dear, I have always believed that you could become a famous painter. My disappointment came, when you gave up art to go into the bank."

"Really? Then you knew me better than I did myself."

"I felt that it was a mistake. But you and father had agreed."

"Well, well; and you still expect me to succeed?"

"My opinion of you, dear, remains unchanged. I still expect you eminently to succeed," and her look proved it.

"But if you have to wait—perhaps for years yet?"

"I shall still have my Roger unspoiled."

"Then, by Jove, I will succeed. If I could only take you with me now! I need the stimulation of your constant presence."

She repressed a sigh. "It will not be long," she cheerfully declared. "Your success may come at any moment."

"You are my good oracle," and he tenderly kissed her. "Now I must run along. I'll be around again this afternoon."

On the way to his rooms Roger stopped at the post office. He ran his eye hungrily over the addresses of the three letters in his hand. With a nervous trepidation he tore open the one from New York for he had never really ceased to anticipate his success from the direction of the great metropolis.

Ah, from Holgate, the picture dealer to whom he had trusted the destiny of his "Dawn" and a few minor pieces and had lately sent his "Village Horse Sale." His eye hurried over the page and then he almost shouted. With such news he must return to Lucy. His rooms were too cramped for a man with such a big emotion. For an absurdly happy hour he and Lucy sat on the porch conferring and planning.

"Stay to luncheon," urged Lucy. "What will father say?"

Mr. Butler came home at noon and found the two still on the porch. With a cool nod the head of the house walked into the passage and hung his hat on the tree. In mock solemnity the lovers followed him into the dining-room and the family sat down at the board. Mrs. Butler was the personification of maternal serenity but a sign from Lucy kept her silent. Presently, Lucy's cheerful voice spoke: "Father, you are a Jeer. So today I shall serve you the sauce of some rare news."

"Well?" interrogated Mr. Butler but without enthusiasm.

"Roger here has a letter from New York. While we supposed that he was nursing a broken arm, he was painting like a hero at a picture whose inspiration he got here in our own little Hill-crest."

Again, at mention of Roger's profession Mr. Butler froze.

The amused Lucy went on: "Some time ago he sent his 'Village Horse Sale' to New York and today he has news of its purchase. Some rich man, born and reared in a village, saw it, took a fancy to it and bought it on the spot."

Silence on Mr. Butler's part.

"The sale of this picture and the things said about it, attracted attention to his 'Dawn' and now that also is sold and—for how much do you guess, father?"

"Aw, come!" Mr. Butler was visibly relenting.

As her father refused to stake his reputation for worldly insight, Lucy continued. "The two pictures have brought our modest artist the snug sum of—well, enough to keep him out of the poorhouse for awhile. And commissions are bound to follow. So, you see, Roger has been set upon his professional feet."

At last Mr. Butler spoke: "Roger, my boy, I hope that I am a fair man; I aim to be a fair man—and I congratulate you. Your way of succeeding is not mine but it may be just as good. But—why, man alive, are people such dum fools as to pay enormous prices for—just pictures—to hang on their walls! Well, you can outdo me at raking in the cash."

"I wish to give my wife as good a home as she is leaving," and the lover's tone was a little too pointed.

"By all means," agreed the complacent father.

RUINATION.

BY WALTER G. DOTY.

"Guess they ain't much use o' tryin'. Might as well give up an' stop. With the 'taters all a-dyin' An' the barley half a crop; An' the worms is et the cabbage. An' the hay's a poor success. Well, good riddance to bad rubbage. Might as well give up, I guess."

But they raised the price of barley Till it went 'way out of sight; And potatoes, late and early. Were about ten cents a bite. And the hay! Why, gold was cheaper; Say, the price would make you faint; And the farmer bought a reaper, And the old barn got some paint.

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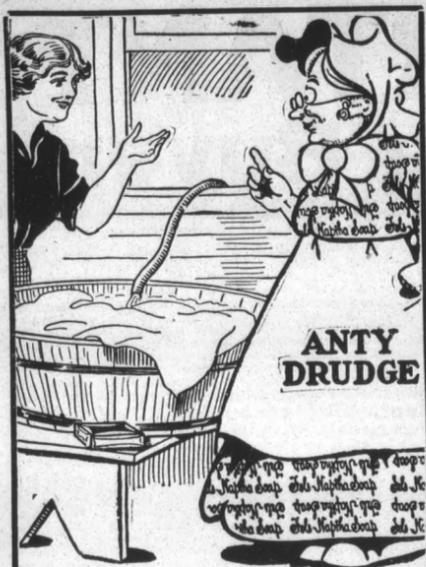
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Woman and Her Needs

At Home and Elsewhere

Have You Found Your "Calling"?

HUMAN nature is queer, looked at in any light. And one of the queerest streaks about us humans is our inability to see the perfectly obvious, when the aforesaid obvious is right in our very homes.

Sir Launfal set us the example. You remember how he looked all over the world for the Holy Grail and came back at last to find it right at his own gate. And since his day how many of us have gone everywhere seeking our calling, when the Master had already placed our work before us. The work he has for us is so ordinary that we can't quite make up our minds that it is really the thing for which we are called, and it is only after many wanderings and bitter disappointments, that we come back home at last to take up with contentment what we overlooked when we started out. Too many of us are like the young man who thought he was "called" to preach, but found out later, as an anxious aunty had suggested, that "it was some other noise he heard." All too often we mistake the "noise" of ambition or a desire for the limelight for a direct call from the Almighty.

I have in mind a woman physician whom I can not but feel has become confused as regards her calling. She is married and has one little girl, but her duties are not in her home. She is a member of every prominent woman's club in the town and state, and is always in attendance at big meetings. She is a convincing speaker, and her speeches on the duties of mothers and on child culture would bring tears to your eyes. You positively feel abased when you think how far short of the ideal you measure. She is keenly interested in girls' protective leagues and urges her audiences to clean up on dance halls, moving picture shows and similar resorts of vice. I have wept to think of the advantage her daughter had in being trained by so noble a woman, but that was before I met one of her neighbors. Of course, so talented a creature could never be expected to spend her time training her own child, so the child goes untrained. Half the time there is not even a maid in the house to watch what she does while her mother is out, and what she does is a caution. There is no one to sew for her, no one to mend her clothes or to teach her to mend them herself. She is a small bundle of untidiness, pinned together with safety pins, except when some of the neighbors feel sorry for her and sew her up. Do you agree with me that that mother has mistaken her vocation?

Another woman with two small sons is a great church worker. She teaches a boys' class, leads the young people's meetings, bakes for all the sociables, entertains the visiting clergymen and belongs to every woman's society in the parish. She feels that she is "called" to do this work, that she is eminently fitted for it. She does do it well, but in the meantime her home work goes undone. The house is untidy and uninviting, except when a crowd of church folks from out of town are to be entertained. Her boys are neglected while she studies the lesson to present to her class. Husband and children have a lean and hungry look because she is so busy baking for the church she seldom has time to get a square meal for the family. Now church work is all right with limitations. But the limit, as with every other outside work, should be placed at that point where neglect of home work begins.

Another woman is called to write. The great public is just hanging on the words which flow from her pen, and her ideas are to overthrow the present social system and bring about the reign of justice and equality. It matters not that heartless editors can not see it that way and manuscripts return with sickening suddenness. She writes on, while her house goes undusted, windows unwashed, stockings undarned, children untaught and husband unnoticed. Her calling is not for this, but for the world.

Perhaps it is, but I can not help wondering why, when the work is placed right under our noses, we are not to feel that this is what we were called to do. Here is sweeping and dusting and churning and baking and mending and sewing to be done, and who else is there to do it? If I am the only one around who can do it why isn't it a pretty good sign that this is my calling? Writing or speech-making or singing or playing would be vastly more exciting, no doubt. But in the end we will find, like Sir Launfal, that the grail was all the time at home.
DEBORAH.

MOTHERS' EXTENSION WORK IN DETROIT.

How many mothers who read this page have a daughter in Detroit? It may be she has come here to study in one of the many educational institutions. Or perhaps she has come because the family income can no longer stretch enough to cover all the needs and someone must go to work. Whatever the call which brought your girl here, two things are sure, your mother heart is anxious and your daughter is homesick an heartsick many a time during her first lonely days.

Would it comfort you to know that there are women here who would gladly help your girl if they knew of her? The city is so big and there are so many strangers that the women who would help can not always tell just what girl needs cheer unless she makes herself known. And all too often the girl does not know to whom to turn. To meet just this condition the Twentieth Century Club through its health committee has organized a mothers' extension league whose work it shall be to befriend girls who are strangers in Detroit.

If your daughter is one of these and you want to feel that someone here is interested in her, will you write the Health Committee of the Twentieth Century Club; Columbia and Witherell Streets, Detroit, and explain conditions? The women in charge of this work want to get in touch with every strange, homesick girl in the city. Let them know about yours.

PROVED PUMPKIN PLANS.

BY MARY CLARK.

If the pumpkin is a good, ripe one, cut it in two, remove seeds, and bake in the oven until thoroughly cooked. If not very ripe, it will be better to cut in small pieces, and boil. Don't think it is done, as soon as it is tender, but boil it for several hours, being sure every bit of water has evaporated. Let get thoroughly cold, then make your pies. If eggs are scarce, use a tablespoonful of flour or corn starch, instead, and if the milk is good and rich, the pies will be almost as good. Green pumpkins make fine pies if cut into small, thin pieces, and made like apple pies.

Preserves.

Cut pumpkin into inch squares, and to nine pounds of pumpkin, add six pounds of granulated sugar and let stand over night. In the morning stir carefully, and put on stove in large vessel. Cook slowly, until pumpkin is clear, then add one pound of seedless raisins, and a sliced lemon. Cook a few minutes longer and put in crocks.

Sweet Pickles.

Peel and slice, then boil till tender, drain, prepare vinegar, sugar and spices, as for any other sweet pickles, and when boiling add pumpkin. Let boil slowly a few minutes then seal while hot.

Pumpkin Butter.

Boil pumpkin thoroughly, all day, if possible, then add sugar, spices and sorghum to taste (the sorghum may be omitted), and cook slowly on back of stove for several hours, or all day.

Imitation Peach Butter.

Take equal quantities of boiled pumpkin and stewed tomatoes; rub through colander, boil together an hour or more, then season to taste with ground cinna-

mon and about three-fourths as much sugar as pumpkin and tomatoes combined. Boil slowly, till thick and clear, this is fine.

Dried Pumpkin.

Cut up as for cooking, then string on stout strings, and hang near cook stove till thoroughly dry.

Pumpkin Leather.

Boil pumpkin down as dry as possible, spread on plates and dry in oven until thoroughly dry. To use, pour boiling water on and let stand till soft. Then proceed as with fresh pumpkins.

Pumpkin Jelly.

Cook as for pie, season to taste, with salt, sugar and spices, spread on plates, and keep in warm place until almost dry, then put on bread-board and knead. This takes out all air spaces. Pack in a stone crock, pounding it down with wooden potato masher. Sprinkle sugar over top and keep in cool, dry place. For each pie use one heaping tablespoonful of the jelly, and proceed as with fresh pumpkin. Sprinkle sugar over space where the jelly was removed. This makes fine pies, but will not keep as well as the leather.

SOME NEEDS OF OUR RURAL SCHOOLS

BY KATE BAKER KNIGHT.

A community may be sadly in need of some change or improvement and rest content in ignorance of the fact, but let it once awakened to its need and want the thing badly enough, and it usually gets it. One thing the people of Michigan have needed long, and that is, improved conditions in the rural schools. The schools belong to the people, and the people can have what they want. But the truth of the matter is, the majority of people know very little about their schools. They do not know what they do want or what they should want. This is not due to any natural incapacity on the part of the average citizen, but it is due, rather, to his indifference to the matter.

What will solve the rural school problem is a community fully awake to the interests of the school. It is a condition that cannot be brought about in a day—no educational process can be—but it is now well under way. Many agencies are being brought to bear upon these conservative centers, and some day we shall see the rural schools of southern Michigan falling into line with the consolidated and the centralized schools of some of the counties of Ohio, Indiana and Illinois.

Last summer the lecturer of our state grange suggested that shortly before the annual school meeting the local granges give topics bearing on school problems a place for discussion on their programs. It was an excellent idea and if carried out might have done much to have awakened an interest that would have raised the standard in more than one district. In this connection let me add that there should be a stronger co-operation between the grange and the rural school. The grange is intended to be, and should be, a strong educational factor in a community. If it is not so it is failing to live up to its privilege. I know of a wide-awake grange in Wayne county that fairly made over three district schools, the grange drawing for its membership from these three districts. What man has done, man can do—more. Local granges, let us awake.

When we have realized this ideal, a community sensitively awake to the interests of the school—the minor needs will have been cared for, but as we have not reached that goal there are several things which we can do of a practical nature to benefit our schools.

We need more enlightened and more efficient school boards, and we should have them. No man or woman has a moral right to accept a position on a school board unless he is sufficiently interested in school affairs to give them a fair amount of decent and prompt attention. Perhaps among my readers are several who are members of school boards. How many of you, may I ask, attended the meeting for school officers in your county last year arranged by State Superintendent of Public Instruction? The purpose of these annual county meetings, to quote from the state superintendent, is

"to integrate rural school administrative intelligence and to enrich such intelligence by co-operation and interchange." As a special inducement to the director to attend, he is allowed two dollars, if he cares to present a bill for it.

Again, school officers, how many of you make your teacher walk from one board member's home to another at the end of each month to get her order signed so that she may draw the salary that she has earned? Why, I even heard a man offer as a recommendation when suggesting another for a position on the board, that his candidate lived near the other two members, and if he were elected, it would be very convenient for the teacher to get her pay.

I suppose it would not be practical to suggest that members of the board visit the school and learn of its needs, but it certainly would be helpful to the teacher to know personally the officers of her district, so it might aid if the wives of the members were to visit the school, meet the teacher and invite her to their homes. I think it is a mistake not to know the person who deals with our children, hence what has been said about visiting applies equally as well to all patrons of the school as to members of the board. If you want the teacher to feel interested in your child, show her that you have enough interest in him yourself, to visit the place where he spends nearly half of his waking hours.

The bulk of the work of the board falls upon the director and he should be chosen because he is suited for the position, not because he is the only man willing to take the place. I believe that all directors hope to secure a good teacher, but unless a man is willing to get up and hustle for one, the chances are he takes up with what the efficient officer leaves. In the schools of Illinois, I have known of more than one board member going 40 miles to get on track of a good teacher—business men they were, to. The tradition of the district school is that the teacher seeks the school. Now why should our officers select from the half dozen only who may chance to apply? Why not stir around and find the best ones? Only recently I heard a director say: "We didn't have much to choose from this year, as there were only three applications." That man is paying taxes every year for the support of our state and our county normals which turn out trained teachers. Many of them will come for \$50 a month to our rural districts, and if they don't prove worth \$45 a year more than an untrained teacher, then are our normals laboring in vain. Graduates can frequently be secured for that, and a good trained teacher at \$450 is exceedingly cheap, while a poor one at \$360 is a criminal extravagance.

If normal graduates are not to be secured, we can at least insist that our teachers have some further preparation for teaching than a high school diploma. The normals are open six weeks every summer and our best rural teachers who are unable to attend college throughout a school year, are taking advantage of these summer sessions. The improvement of their work in spirit and in method attests the value of such a course.

When we get the right kind of a school board it will demand a trained teacher in sympathy with farm interests, with some knowledge of the work which we hope the children are to do later in life, and one who will co-operate in the interests of the community. That sounds almost too good to be true, but it is the ideal towards which our leading educators are working. Why not show our appreciation of their efforts in our behalf by creating a greater demand for such teachers?

Kalamazoo State Normal has a department especially for the preparation of students for rural work. It has taken a district school adjoining the city for a training school, placed the brightest and most capable critic teacher to be secured at its head, and given every student-teacher an opportunity to see real teaching done, as well as a chance to do some practice work under an experienced leader. Here, too, a course is required in the essentials of agriculture and also in domestic economics, so that a teacher is prepared to lead the farmer's boy and girl to find an added interest in the things of the farm and in the work of the farm home.

That there is a demand for this line of study is shown by the fact that a textbook on "The Elements of Agriculture" was placed last year by the Superintendent of Public Instruction on the list of reading-circle books to be read by every Michigan teacher during the year. This is a step in the right direction and all up-to-date instructors should be making

some practical use of it. Such teaching will give to our boys and girls a greater love for farm life and a deeper respect for the pursuit of agriculture, because they can see in it a scientific side, and realize that it may be made as respected a profession as any.

What is your teacher doing along this line, Mr. School Officer? You have a right to know. Indeed, I'm inclined to think it is your duty to know.

I have only one more plea to make, and that is for better conditions in and around our school buildings. If we cannot bring ourselves to believe that much would be gained by uniting two or more adjoining districts and having a centralized school, then let us do something to improve the conditions in our separate districts. Why should not the country schoolhouse and grounds be as good as the best farm home of the district? We are installing modern methods of heating and ventilation in our homes, and yet our district schools depend upon the same means for warmth and comfort that they had 30 years ago. We have relied too much upon books as a means of keeping the boy satisfied with the farm, not realizing the value of things in his education. With the character of the country schoolhouse and grounds must rest one of the possibilities of making country children better satisfied with country life.

Then why not bring some of the vines and bushes and blossoms that glorify our roadside to the school grounds and teach our boys and girls to enjoy the beauties of nature? It will vitalize the work of the rural school and at the same time give the children finer ideals of life. Nothing is more inspiring than a grove of magnificent trees, and yet think of the utter bareness of the school grounds in your district and in mine! We believe in the educational value of a noble tree. Then why not imitate nature and plant a group of trees next Arbor Day? What a change could be made in the next 20 years in the appearance of the school grounds of southern Michigan, if all school officers and teachers would live up to their opportunity.

Country people can have better schools with attractive surroundings when they are willing to give more of their time, more of their thought, and more of their money for them. There is no other way. It is for the people to decide.

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Farm Commerce.

Advises Holding Beans For Better Prices.

LAST year's beans started on a basis approximately 33 1/2 per cent higher than the price for 1913 and many who held their beans sold for much less on the later market than they could have received earlier. Wet weather made a great deal of trouble for bean growers and dealers. Car after car of beans were reported soft and unmerchantable when reaching destination. Many bins of beans in farm granaries deteriorated and were almost a total loss. "Burns bairns dread the fire" is a psychological business fact, and breaking the market or starting a panic is, or comes from, a state of mind.

If you were a market gambler and knew these conditions what could be a more inviting opportunity to sell or offer to sell beans, perhaps 100 carloads, at a price about 20 cents under the then market. The way this is done is to quote beans to the wholesale grocers at a lower price than the dealers are quoting, and it is but natural that the grocery trade either gives orders for beans at those prices, or at least does not accept the offers made by the elevator men who have the actual beans and have paid their money to the bean growers. This in trade parlance is "selling short." The elevator men are the first to feel the depreciation of the beans already bought and unsold and a most natural result is to drop the price to a safety margin. If beans are dropping in price, the grower thinks it well to sell or, as the market words are, "gets from under" a further fall in prices, and the panic originating in a cold blooded calculation of "reaping where he had not sown," has run its cycle and the loss falls largely on the grower. If some "small fry" rogues were to take toll of the farmer's beans out of his granary, say five bushels out of every hundred, the farmer would

official gathering of a few farmers recently who discussed these matters pretty much as has been written here. There have been some things done which prevented the apparent coming panic as the result of the speculative bear movement which still needs the active co-operation of farmers, viz., conservatively marketing the crop.

It will require approximately 12 to 14 million dollars to handle the bean crop, which is a considerable sum of money. The elevators and banks plus the farmers makes a strong combination but when the support of the market is withdrawn by the farmers by dumping beans on the market when prices fall, it is apt to strain the elevators' credit and when he, too, un-

How To Organizing a Co-operative Creamery.

First call a meeting of all the farmers in the locality and arrange to have a dairyman from the Department of Agriculture or a state official present to give general information on creamery organization.

Determine the number of cows within a distance of six miles in every direction from where the creamery is to be located. From 400 to 600 cows, depending on local conditions, are necessary to insure success for the creamery.

A committee should be appointed to ascertain how many cows there are and at the same time have the farmers express themselves as to how many shares they will take at say \$25. This expression on the part of the farmers puts no legal obligation upon them to take the shares but you have a basis upon which to judge your future proceeding. If you have a

loads the price still further drops.

Under normal conditions the farmers who grow beans in Michigan could fix the price of beans compensatory to them and commensurate with their real value. There should be a county organization of growers who would select delegates to a state association. The county association would make careful estimates of acreage and yield. The state association would tabulate, compare and consider the crop conditions of the whole country and determine the price for the crop, probably with a monthly advance during most of the season to cover interest, shrinkage, etc. Were it possible to get such an organization at work this year the price of beans could be put to \$2.00 at once for it is the consensus of the trade that such a price would be, and is, justified now. While no one knows just what the Sherman anti-trust law is, Congress has expressed its opinion that appropriations made for the attorney general's office shall not apply to farmers' associations. And again, it is doubtful if fixing the price of a crop after it is grown, when it cannot be increased or decreased, is in restraint of trade. JAS. N. McBRIDE.

which can be held by any one shareholder, keeping in mind that there must be enough shares for general distribution in the territory surrounding the creamery.

Insert in your by-laws a regulation that gives each shareholder only one vote and not a vote for every share. Also give in your by-laws an article that makes the dividends payable on the amount of butter-fat delivered to the creamery by the shareholder.

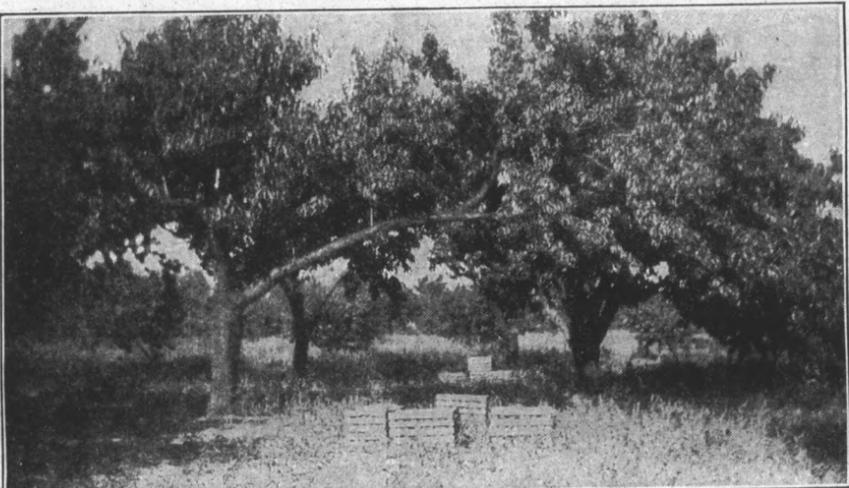
In selecting officers for the association let the stockholders use their best judgment in the selection of men who are the best fitted for the respective places. Choose a president who will preside over the meetings in a fair and unbiased way. Select for a secretary and manager a man who has the confidence of all, one who does not become confused or excited over a little trouble. Select a treasurer and board of directors who will take an interest in the work and perform such duties as come before them.

Put the secretary and treasurer under a suitable bond. This is not a matter to be neglected and it should not be looked on as distrusting those officers, but as a measure that is used in the conduct of all good organizations where a considerable quantity of money is handled. Let good business judgment characterize all transactions, the election of officers, the contract for building, the placing of the machinery and the management of affairs after operations have commenced.

Better Avoid the Professional Promoter.

These agencies and conditions are well understood when investigated and the farmers who contemplate starting a co-operative creamery have as examples hundreds of successful plants to pattern after in building up a successful creamery. There are also hundreds of examples of badly started and poorly operated creameries that have failed and these serve to exemplify things that should be avoided in starting the new organization. It is the rule, with but very few exceptions, that the farmers who take the word of a professional creamery promoter instead of relying entirely on their own efforts or that of state dairy authorities, spend from \$1,000 to \$10,000 more than what is necessary to start such a creamery and this is only a small loss compared with the injury it does the dairy industry in that locality and the retarding influence it has on the industry in nearby locations. When such a promoted creamery fails it follows that the farmers who started it could have well afforded to have spent a little money to send a representative to other places for information, but the past has shown that this information is seldom sought. To meet this condition many states have, through the Dairy Department of their State Agricultural Colleges, made provision for assisting in the organization of co-operative creameries and to further improve them after they are in operation. In many of these same states there is a dairy commissioner with deputies who co-operate with the colleges in this work so that instead of the farmers themselves carrying on costly investigations along these lines, the state has prepared more accurate and valuable information on this matter than the farmers themselves could obtain.

These general statements and suggestions for organizing a co-operative creamery have been prepared partly for the purpose of co-operating with the states



There were thousands of bushels of fruit that went to waste in Michigan orchards this year, and there are thousands of people in our own cities who would gladly have paid a reasonable price for this fruit. The fruit was untouched because the marketing system would not offer enough to pay the farmer to harvest; and a large per cent of the consumers will eat no fruit this winter because that same marketing system demands exorbitant prices. If the farmer and the consumer would dodge the system and become acquainted in a business way one would get paid for his work and the other would get what he wants and needs at a reasonable price. Experience causes us to believe more and more thoroughly in the plan of direct selling.

be saved the trouble of marketing those taken, but the speculator takes this toll by bearing the price, selling short and then asks the farmer to deliver his toll to the market.

The facts as to the bean crop this year are that the old crop was well cleaned up and this year's beans go on a bare and anxiously waiting market. The crop in New York is light and also on the Pacific Coast. This leaves the field to Michigan with a crop not over large. In fact, the estimates since threshing began can be somewhat curtailed. The quality of the crop is excellent, an item that adds to palatability and consumption. The bean growers seemed to fare well in the readjustment of the tariff since the rate was reduced only from 45 cents per bushel to 20 cents, and "free beans" are only told of to mislead and lower the price.

In the dietary role the more especial competitors of beans—potatoes and meats—are high, in fact, much higher comparatively than the beans at \$2.00 to the farmer; which price under normal application of the law of supply and demand would now prevail. There was an un-

sufficient amount promised, say one-half or two-thirds of the amount needed, you are safe in going to the expense of forming a legal organization. Write your secretary of state and ask for the blanks and information necessary to form a creamery company. When you have obtained the papers showing that you are a legal organization you are ready to issue stock to those who have signed their names to the organization agreement and to sell to others.

The strength of the organization depends on the number of farmers having shares, therefore, make it a point to sell to as many farmers as possible. The selling of shares is often a difficult task but efforts spent along this line contribute greatly to the ultimate success of the creamery. In selling shares take either cash or a note from the purchaser, thus relieving the organization of the burden of paying interest. Use the notes as security to borrow a sum equal to the combined amount of the notes and have the sum bear no more interest than the notes.

Put a limit on the number of shares

that are giving assistance along this line, but mainly to supply information to those who are unable to secure it elsewhere. It should be remembered that this information can be greatly supplemented by a representative from the state or federal department who should be present at some of the first meetings held for organizing the co-operative creamery. The apparently insignificant details in establishing such a creamery are too often slighted and an experienced man and one who is disinterested in the financial proceedings of the creamery can give valuable assistance. Those contemplating the organization of a co-operative creamery should not hesitate to call for this assistance.

BELIEVES THE FREE TESTING OF CREAM A GREAT THING FOR FARMERS.

The Michigan Farmer has started a good movement in their free testing of cream, if my experience is like that of others. About August 1, 1913, I felt that I was not getting a square deal from the creamery to which I shipped my cream. I accordingly sent a sample of a shipment of cream to be tested. The report on sample verified my suspicions. Their test showed about five per cent more butter-fat than the creamery test. After that I sent samples from every can I shipped and found that I was being defrauded out of from one and one-half to three per cent. The last shipment was six per cent below the test given me on a subsequent shipment to a different concern.

My conclusion is that one creamery company operating in this state has 50 cents to \$1.00 of my money for every can of cream shipped them and as I received \$90 for my September cream, you can easily see that I was defrauded out of about \$10.

What this company has done to me they are doubtless doing to all their patrons and it would seem as if something might be done to correct such a gigantic fraud.

A. FARMER.

Crop and Market Notes.

Sanilac Co., Oct. 25.—Our sunny and balmy days of fall have turned to rainy, foggy weather, with a few flakes of snow. Such has been the case for the last ten days. But, barring a few fields of potatoes and perhaps one-fourth of the corn not taken care of, the work requiring dry weather is done. Fall plowing, both tile and open ditching and straightening up the fields in general, are the work of this time. Bean threshing is about completed and the yield even smaller than expected and about 50 per cent of the crop already marketed. A larger amount of rough feed in the country, perhaps more than there is stock to consume it. Markets are: Wheat 85c; oats 36c; beans, hand-picked, \$1.80; potatoes 50c. Hay market is about the same.

Livingston Co., Oct. 25.—We are having ideal weather conditions and farmers are improving it by getting their corn husked. Our first snow came on the 23rd, but only lasted a day. About the usual acreage of wheat and rye was sown this fall. Beans are being marketed quite freely at about \$1.75 per bu. There has been an unusually large acreage of cloverseed harvested and it is well filled. Potatoes only a fair crop.

Northern Isabella and Southern Clare Co.'s, Oct. 27.—This has been a very fine fall for the farmer to get his work done but hired help is a scarce article. Corn husking and fall plowing is the order of the day. Corn is a good fair crop but the fodder is badly frosted. Bean threshing is nearly done and a majority of the farmers are selling their beans as soon as they are threshed. Potatoes are a fair crop and bringing 50c per bu. Not much hay is being marketed at the present time. Cattle of all kinds scarce and high. Lots of horses for sale and few buyers. Prices: Eggs 25c; butter 24c; wheat, No. 2 red, 84c; wheat, No. 1 white, 84c; oats 35c; rye 61c; beans, hand-picked, \$1.75.

Ohio.

Ashtabula Co., Oct. 27.—Thunderstorms in fall and winter are of occasional occurrence in this section but a thunderstorm and a snow storm at the same time are not so frequent, but it was a treat we had here the 24th. It was a winter picture with a summer accompaniment. The wet snow doing much damage to telephone wires and trees, especially in the peach belt. Potatoes about half dug, and selling for 75c; milk \$1.70 per cwt., with skim-milk returned; eggs 30c; butter 30c. No cloverseed is raised in this section. No hog cholera has been reported in the past six months. Farmers are busy getting ready for winter.

Medina Co., Nov. 1.—There has been considerable rain for the last month, making fall plowing for corn possible, a practicing farmer are following more and more. Not all the potatoes are dug yet, and but a small portion of the corn crop is husked. Wheat is in excellent shape. Price of pork lower, 7½@7¾c; sheep selling very low; dairy cows high; eggs 35c; butter 32c; potatoes 75c.

Darke Co., Oct. 22.—The farmers have reasons, both for being satisfied and complaining in this section. The corn crop is about one-half husked and is not a very good crop. Some buyers have offered 60c per bushel for the new grain but very few of the farmers are accepting those prices. Wheat looks good. Apples were harvested in a short time owing to the light yield. They are finding a market at \$1 per bushel for the average run. Tobacco is nearly all cured. Dealers

offer from eight to ten cents, but farmers are not selling at the figures, they being of the opinion that higher prices will rule later.

Clermont Co., Oct. 25.—Some rain fell this week. Most of the fall-sown grain is up and looking fine. Everyone is shucking corn, which is about half a crop. Help scarce. Hogs are being shipped to market. Most of them are offered in good condition. No loss is reported from disease so far. Hogs 7@8½c; corn 92c bu; wheat 90c; chickens 14c; butter 28c; eggs 25c. Plenty of chickens being sold; eggs scarce.

Madison Co., Oct. 28.—The cool damp weather has delayed the corn husking and also caused some damage as the crop was somewhat unmaturing when the heavy frost occurred at start of cutting. The cloverseed crop is about all threshed and of average quality and yield. The wheat is going into winter quarters in fine condition. A large acreage was sown and it looks very promising, with fine growing weather at present. Many public sales are advertised, stock generally high. Horses from \$220@275; cows from \$50@100; hogs 8c; sheep 8c; lambs from \$4@6.50. Grain prices at present are: Corn 65c; wheat 86c; oats 40c; rye 65c; potatoes \$1; eggs 27c; butter 30c. Poultry, especially turkeys, are not plentiful.

Indiana.

Shelby Co., Oct. 31.—Weather is cool and damp. Corn cutting done and shredders are hard at work. Wheat is green. Pastures continue remarkably good. The roads are in fair condition. No cholera among hogs yet but it is in neighboring counties and may be here soon. Cattle are scarce. Rabbits are apparently more plentiful than at this time last year. Some diphtheria in schools but not serious.

Rush Co., Oct. 31.—We had some pretty rough weather and snow this week and a great deal of cold drizzling rain. Several buildings not completed and cement work unfinished. Many farmers are getting light and power from adjacent trolley lines. Turkeys are somewhat scarce and are selling for 17c. Other prices: Ducks 12c; geese 10c; hens 12c butter 26c; eggs 27c; cattle \$3.50; hogs \$3.25; sheep \$4.

Wisconsin.

Clark Co., Oct. 31.—The weather has been cloudy and dull for the last two weeks. Had some snow lately with some cold winds. Plowing about half done; winter grain look real good. Hay selling at \$13 per ton; butter 90c; eggs 28c; hogs 10c dressed; chickens 9@12c. Farmers are shipping their own stock and are getting very good prices. Milch cows go from \$50@80. Horses are also high and range in price from \$175@300.

Missouri.

Vernon Co., Nov. 1.—Winter has set in early; had two snow storms to date. We had snow before frost. Wheat is in fine condition for winter. Corn, oats, wheat and rye are being shipped in here and are selling as follows: Corn 80c; oats 48c; wheat \$1; rye 85c. Some sickness reported among stock owing to the mouldy fodder being fed. Not many silos in this county but last year's drouth has been a boost for the silo man here.

Nodaway Co., Oct. 31.—Winter began with a hard freeze, but better weather now prevails. Markets remain unchanged during the past month. Sales are very common here at present. Sales are having a difficult time finding places to work the coming year. Some wheat is still being sown. Corn was a poor crop, but fall pasture is extremely good. Fall work is well along, and in a short time there will be very little for the men to do in this section. Water is very low and the roads are fine.

Kansas.

Cowley Co., Oct. 30.—Unusually cold weather has injured late prairie hay and alfalfa. Few fields of kaffir matured and feed will be scarce and of poor quality. Shipped in corn is selling at 85c; home-grown 75c. Wheat and rye pasture good. Many fields being pastured now.

Dickerson Co., Oct. 27.—Fine rains and good growing weather prevailed the last month. A slight snow storm and light frosts did but little damage to vegetation. Alfalfa and late feed is being cut. Stock is being pastured on early sown rye and wheat and stubblefields. Wheat in fine condition; also fields of alfalfa sown after the late rains. Milch cows selling at \$70@80. Hogs \$7.50 per cwt. Horses are cheap. Butter 30c; eggs 25c; corn 80c; hay \$15@20 per ton. Potatoes and apples shipped at \$1@1.25 per bu.

Finney Co., Oct. 29.—Have had several hard freezes this month. The first frost fell the 10th and the first freeze came the night of the 17th. Some of the farmers are still sowing wheat, while some wheat fields are looking fine and green. Several of the farmers still have fields of maize to be headed yet. Have had few windy days this month.

Nebraska.

Saunders Co., Nov. 1.—Corn husking is in full blast. The average yield will be about 35 bu. The quality is good. Wheat has never been in better condition. Pastures are good; stock is in good condition.

Dodge Co., Nov. 1.—The weather during the first of the week was raw and cold, but it has changed to Indian summer during the last two days. Farmers are anxious to get the corn out in good season. Yield from 30 to 40 bu. Prices are: Wheat 73c; corn 64c; oats 34c; hogs \$6.75; butter-fat, delivered, 28c; eggs 39c; butter 30c.

Dawson Co., Nov. 1.—October was cool and dry. Only a small per cent of the usual acreage of winter wheat has been sown. The leaves have mostly fallen from the trees, and at present we are en-

(Continued on page 430).



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75 Young, Tuberculin-Tested, Reg. Holsteins, 75
These comprise the offerings in
Fred Bachman's Second Public Sale,
Azalia, Mich., Nov. 20, 1913.

In the Sale will be:
Forty beautiful heifer calves, many of these sired by a grandson of Colantha Johanna Lad.
Fifteen splendid yearlings and ten 2-yr.-olds, all soon due to freshen, and the most of them in calf by a double grandson of Woodcrest Pietje.
Several granddaughters of King of the Pontiacs, heavy in calf by a grandson of King of the Pontiacs—a strong King of the Pontiacs combination.

Sale will be held on the Bachman farm, which can be reached from Milan on the Wabash also Ann Arbor R. R. Coming from the North the morning of the Sale, get off at stop Aiston, on the Ann Arbor, less than half mile from farm. Send for catalog. Prescott, of the Hastings Bureau will manage the sale.

COL H. L. PERRY, CHAS. TOMPSON, } Auctioneers. FRED BACHMAN, Azalia, Mich.

GREAT AUCTION SALE NOVEMBER 19

of 5 IMPORTED CLYDESDALE and PERCHERON STALLIONS, including the Clydesdale Stallion Manaton (9985) (33619), winner of many prizes in Scotland and America, being first at Detroit Fair, 1912, and weighing 2150 lbs. Sale will be held at the farm, 12 miles from Detroit by trolley; take trolley car at Pitt St., Windsor. Cars stop at Maidstone.
JOSEPH PHILLIPS, Maidstone, Ont., Canada

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Of Horses and other Property
2½ miles Southwest of Orleans, Ionia Co., Michigan.
Wednesday Nov. 12, 1913.
21 Head of High Grade Percheron Horses, including six Registered Brood Mares, Daisy No. 72927, Queen No. 62170, Florence No. 47835, and many others just as good. Terms: 12 Months time on approved notes at 6%.
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Markets.

GRAINS AND SEEDS.

November 4, 1913.

Wheat.—Trading has been on a higher basis the past week, prices showing an advance of nearly 2c. The high point was reached last Friday, since which time fractional declines have occurred. The news argues for at least maintaining present prices. Farmers are delivering very sparingly in both the southwestern and northwestern states, receipts at primary elevators running far below those of a year ago. Canada is also delivering less wheat to the transportation companies, which fact causes a noticeable firmness in the English and continental markets. Restricted shipments are reported from Russia, while India's crop and the conditions in Argentina both augur for the bull side of the deal. The chief bearish feature of the trade is the lack of demand for cash grain, millers taking only what they need for immediate use. The flour trade is slow. One year ago the price of No. 2 red wheat was \$1.08 on the local market. Quotations for this week are:

	No. 2	No. 1	Dec.	May.
Wednesday	94½	94½	95¾	99½
Thursday	94½	94½	95¾	99½
Friday	95	95	96¼	99¾
Saturday	94¾	94¾	95¾	99¾
Monday	94¾	94¾	95¾	99¾
Tuesday	94¾	94¾	95	99¾

Chicago, (Nov. 4).—No. 2 red wheat 94½@95½c; Dec., 84¾c; May 89¾c.
Corn.—This market has improved with wheat, values running above those of a week ago. Many sections that formerly were exporters of this grain will have too little this year for their own needs and will draw upon outside sections. Husking has been delayed on account of rains and cold weather. The visible supply shows a decrease of nearly a million bu. One year ago the price for No. 3 corn was 62c on the local market. Quotations are as follows:

	No. 2	No. 2	Yellow.
Wednesday	74	Mixed.	75
Thursday	74		75
Friday	74		75
Saturday	74		75
Monday	74½		75½
Tuesday	74½		75½

Chicago, (Nov. 4).—No. 2 corn 72¾@73c; Dec. 69¼c; May 70¼c; July 69¾c.
Oats.—This cereal failed to make advances in face of the stronger markets for wheat and corn. At the present time there seems to be a fairly good supply, which with the demand running slack, causes an easier feeling in the trade, and the consequent reduction of values. One year ago standard oats were quoted at 35c per bu. Quotations for the past week are:

	Standard.	White.
Wednesday	43	42½
Thursday	43	42½
Friday	43	42½
Saturday	43	42½
Monday	42½	42
Tuesday	42	41½

Chicago, (Nov. 4).—No. 2 white oats 42¼c; Standard 40¼@41¼c; Dec. 37¼c; March 41¼c.

Beans.—Further reductions are noted in the price of beans. There has been fairly liberal selling by farmers, many of whom are perhaps influenced by the experience of a year ago, when they lost money by holding. Conditions this year are quite different, and it seems to be the general opinion among those best informed that values will advance later. Most of this year's crop will grade high and is at present in good condition, which, with the shortage in the crop should make the outlook favorable to those having beans to sell. Immediate and Nov. shipments are quoted at \$1.80; January at \$1.90 per bushel at country points. At Chicago the market is steady with pea beans hand-picked, choice, quoted at \$2.15@2.20; common \$1.50@1.75; red kidneys, choice, \$3@3.10 per bu.

Rye.—This cereal declined 2c the past week and the trade is quiet. No. 2 is quoted at 67c per bu.

Barley.—At Chicago barley is quoted at 53@80c per bu., while Milwaukee quotes the matting grades at from 64@81c.

Cloverseed.—Values continue steady, and the trade is firm. Prime spot is quoted at Detroit at \$8 per bu; Dec., \$8; March \$8.10. Prime alsike is steady at \$10.50 per bu. At Toledo, December and March are quoted at \$8.30 and prime alsike at \$10.70.

Alfalfa Seed.—Market is steady, with prime spot quoted at \$7.25 per bu.

Timothy Seed.—Market steady at \$2.50 per bu. for prime spot.

FLOUR AND FEEDS.

Flour.—Jobbing lots in ¼ paper sacks are selling on the Detroit market per 196 lbs. as follows: Best patent, \$5.30; second, \$4.90; straight, \$4.50; spring patent, \$5.10; rye flour, \$4.60 per bbl.

Feed.—In 100-lb. sacks, jobbing lots: Bran, \$25; coarse middlings, \$27; fine middlings, \$27; cracked corn, \$31; coarse corn meal, \$30; corn and oat chop, \$26.50 per ton.

Hay.—A firmer tone prevails in this market and prices are up 50c. Carlots on the track at Detroit are: No. 1 timothy \$16.50@17; standard \$15.50@16; No. 2, \$14.50@15; light mixed \$15.50@16; No. 1 mixed \$13.50@14.

Chicago.—Offerings liberal and demand fair with prices steady. Choice timothy

quoted at \$18@19 per ton; No. 1, \$16.50@17.50; No. 2, \$15@16.
 New York.—Prices rule about steady. Large baled, No. 1 timothy, 22; standard \$20.50; light clover mixed, \$19@20; heavy mixed, \$16@18 per ton.
Straw.—Detroit.—Steady. Rye, \$8@9; wheat and oat straw, \$7@7.50 per ton.
 Chicago.—Quotable as follows: Rye \$8@9; oat \$6@6.50; wheat \$6@6.50.
 New York.—Steady. New rye straw, \$19@20 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—The local market holds very steady, the sharp advance at other points and the subsequent irregular and unsettled conditions not being felt here. Quotations are: Extra creamery 30c per lb; firsts 29c; dairy 23c; packing stock 21c per lb.

Elgin.—Market firm at 31c per lb., an advance of ¼c over last week.

Chicago.—Demand is largely confined to best makes and extra creamery is the only grade showing a price change during the week. Undergrades show considerable accumulation and in some instances are dull and draggy. Quotations are: Extra creamery 31½c; extra firsts 29½@30c; firsts 26½@27c; seconds 23@23½c; ladies 22½@23c; packing stock 21½c per lb.

New York.—This market, too, is irregular, the situation being much the same as at Chicago—top qualities in demand and higher, others slow to lower. Quotations rule as follows: Creamery extras 32@33c; firsts 27½@30c; seconds 24½@27c; state dairy, finest 30@31c; good to prime 27@29c; common to fair 23@26c; packing 21@23c as to quality.

Eggs.—Strictly fresh stock continues scarce at all points. Locally the demand is good and current receipts are quoted 1c higher than last week. Current offerings, cases included, quoted at 30c per dozen.

Chicago.—All grades quoted an average of 2c higher than last week, with market generally steady. Fresh-laid and fresh-gathered stock commands outside quotations while mixed held stock, which constitutes the bulk of the receipts, is somewhat slow at inside figures. Quotations are: Miscellaneous lots, cases included 25@29c, according to quality; do. cases returned, 24½@28½c; ordinary firsts 26@28c; firsts 30@31c; refrigerator stock in fair demand at 25@25½c for April firsts.

New York.—This market is strong, the better qualities advancing 3@4c since this time last week. Under grades rather irregular. Quotations are: Fresh gathered extras 38@40c; extra firsts 35@37c; firsts 33@34c; western gathered whites 33@48c per dozen.

Poultry.—Because the larger dealers failed to clean up the market since the recent heavy run of receipts prices for chickens have gone down. Other poultry remains steady. Quotations: Live—Springs 12@13c; hens, 12@12½c; No. 2 hens, 9@10c; old roosters 9@10c; turkeys 17@18c; geese 13@14c; ducks 15@16c.

Chicago.—Notwithstanding the heavy receipts of the past fortnight an active demand has thwarted any attempt to slaughter prices. Turkeys are off 2c and chickens a fraction. Geese are higher and ducks steady. Quotations on live are: Turkeys, good weight, 16c; others 12c; fowls, general run, 12c; spring chickens, 12½c; ducks, 11@14c; geese, 8@13½c; guinea hens, \$4.50@6.50 per dozen.

Cheese.—Market rather quiet, values unchanged. Wholesale lots, Michigan flats 15@15½c; New York flats, 17@17½c; brick cream, 17@17½c; limburger, 14½@15c.

Veal.—Rather scarce in the local market. Demand moderate. Quotations are: Fancy 12½@13c per lb; common 10@11c.

Chicago.—Little doing in this market, light receipts meeting an indifferent demand. Quoted as follows. Good to choice 90@100 lbs., 14@14½c; fair to good, 60@90 lbs., 11½@13½c.

FRUITS AND VEGETABLES.

Apples.—Moving freely at better prices. Quotations: Snow \$4@4.50; Spy \$3.50@3.75; Greening \$3.50@3.75; King \$3.50@4; Twenty-ounce \$3.50@3.75 per bbl; No. 2, \$1.75@2.25 per bbl; bulk \$1.25@1.50 per cwt. At Chicago there is a firmer feeling and only moderate offerings. Barreled goods are moving more freely and at firm quotations. Values rule from \$2.50@5.25 per bbl., No. 1 Jonathan's selling best.

Grapes.—In 8-lb. baskets sales are made at 32c. At Chicago the market is higher with receipts small. General quotation, 32@34c for 8-lb. basket.

Pears.—Kieffers, 75c@\$1 per bushel.

Potatoes.—Since quite a little stock is coming in slightly frosted the range of prices has widened. The feeling among farmers and dealers is bullish for cheap potatoes seem impossible. Quotations: In bulk 60@70c per bu; in sacks 65@75c per bu. At Chicago the receipts are about equal to requirements, and market remains steady at last week's prices. Michigan stock is going at 70@75c.

Cabbage.—Steady at last week's figures. Good quality quoted at \$2@2.25 per bbl.

PRICES ON DETROIT EASTERN MARKET.

Former prices were well maintained on the Eastern Market Tuesday morning. There was a fair number of farmers and buyers were plentiful enough to keep prices firm. The offerings consisted largely of apples and potatoes. The fruit growers continue to offer a large number of windfalls, and this practice is holding the price of apples down, the range extending from 50c@1.50. Potatoes were in fair supply with the average offerings quoted at 85c per bu. Pears 90c@\$1 per bu;

spinach 50c; carrots 50c; peppers 50c; cauliflower \$1.25; parsnips 75@90c; pie pumpkins \$1; turnips 50c; squash 60@70c; onions \$1.50; eggs 40c; chickens \$1.25 per pair; celery 35c per large bunch. Loose hay is not coming to market at all freely, while value continue to range from \$15@18 per ton.

GRAND RAPIDS.

Potatoes are leaders on the city market this week, with prices around 65@70c. Reports of shortage in the crop are coming in and many tubers will be held for higher prices. The egg market is firm at 30c; dairy butter steady at 23c. Hay is selling at \$17@22. The mills are paying as follows for grain: Wheat 90c; corn 74c; oats 40c; rye 58c; beans \$1.70. Dressing hogs continue at 10½@11½c. In live poultry, fowls are quoted at 11c; ducks 10c; turkeys 14@16c.

THE LIVE STOCK MARKETS.

November 3, 1913.

Buffalo.

(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York.)

We had 320 cars of cattle on sale today, 23,000 reported in Chicago; our market, quality considered, was just about steady with last week. In fact, there was no really prime cattle on the market of the heavy weight. The best handy weight butcher steers and heifers sold full strong with last Monday and in some instances 10c higher. At the close there was perhaps 30 or 40 loads of stockers and feeders unsold and three loads of fat Ohio cattle that came in too late.

We quote: Choice to prime heavy native cattle, \$8.50@8.75; anything strictly prime and corn fed would bring more. Best shipping steers, Canada, \$8.25@8.50; fair to good weight steers, \$7.50@7.75; fair to good shipping steers, \$7.50@7.65; plain weighty steers, \$7@7.50; choice to fancy yearlings, \$8.50@9; good yearlings, \$7.75@8.25; best handy weight butcher cattle, \$7.75@8.25; heavy fancy fat cows, \$6@6.50; choice to prime fat cows, \$5.50@5.75; good butcher cows, \$5.25@5.50; common to good cutters, \$4@4.25; canners, \$3.50@3.90; prime to fancy heifers, \$7.50@8; best heifers, \$6.75@7; medium to good heifers, \$6@6.50; best feeders, \$6.65@7; fair to good feeders, \$6@6.25; best stockers, \$6.25@6.75; good stockers, \$5.75@6.25; common stockers, \$4.75@5; best butcher bulls, \$6.25@6.75; bologna bulls, \$5.75@6.25; stock bulls, \$5@5.75; best milkers and springers, \$75@100; medium to good, \$45@60.

We had a liberal supply of hogs today, totaling 175 double decks. The demand was good and prices 10@15c lower on all grades but pigs, \$8.25 took the bulk, with a few selected mediums at \$8.30@8.40; pigs and lights, \$7.75@8; roughs, \$7.50 generally; stags \$6.75@7.25. Market closed easy with a number of loads of late arrivals unsold.

The sheep and lamb market was active today; prices 25c lower than the close of last week; most of the choice lambs selling from \$7@7.10. Look for shade higher prices on lambs the last of the week with moderate receipts.

We quote: Choice lambs, \$7@7.10; cull to fair, \$5.50@6.90; yearlings, \$5.25@5.75; bucks, \$3@3.50; wethers, \$5@5.15; handy ewes, \$4.40@4.50; heavy do, \$4.25@4.35; cull sheep, \$3@3.50; veals, choice to extra, \$11.50@12; fair to good \$10@11; heavy calves, \$5.50@8.

Chicago.

November 3, 1913.

Cattle. Hogs. Sheep. Received today 23,000 38,000 52,000 Same day last year: 15,791 18,935 32,052 Received last week: 66,166 144,697 192,784 Same week last year: 59,265 121,739 133,316

Cattle were in excellent general demand today at steady to 10c higher prices, plenty of sales showing an advance, including females and bulls as well as steers. Hogs were largely 5c lower early, with a top of \$8.25, and before the close packers were paying 10c lower. Hogs received last week averaged 207 lbs., comparing with 225 lbs. a year ago, 203 lbs. two years ago, 244 lbs. three years ago and 228 lbs. four years ago. Feeder lambs and sheep sold at steady prices, but mutton flocks were called a dime lower, because of the large receipts. Eastern markets were lower, and this affected the Chicago market.

Cattle were greatly depressed in values last week by the great increase in the receipts, with a particularly bad market Monday, when a run of 33,545 head caused a quick decline of 15@25c, only fancy yearlings and a few prime heavy steers escaping the break. There was a good supply for Wednesday, when 19,000 head showed up, the receipts including 100 cars of canner cows consigned direct to packers from Buffalo and Ohio river shipping points. There was no superabundance of good cattle that day, however, and they sold at steady prices, but medium and common grades were irregularly lower. Beef steers sold during the week largely at \$7.75@9.25, the commoner class of light-weight grassy steers going at \$6.75@7.75 and the best class of yearlings at \$9.25@9.75, there being a fresh high record for the best. Pretty good to strictly prime cattle of strong weights brought \$8.50@9.50, while medium lots of steers brought \$8 and over. Butchering cows and heifers had a slow outlet at sharp declines in prices, sales ranging at \$4.65@7.90, a few prime heifers bringing \$8@8.50. Cutters brought \$4.15@4.60, canners \$3.25@4.10 and bulls \$4.75@7.75. The big decline in prices for stockers and feeders that placed them on the lowest level of the season resulted in a greatly increased business, stock steers going at \$4.75@7.25, feeders at \$6@7.50 and stock cows

and heifers at \$4.75@6.60. Calves had a fair sale at \$4.75@10.75 for coarse heavy to prime light vealers, and milch cows sold at \$60@110 each. At the close of the week the great bulk of the cattle, the best excepted, sold 25@35c lower than a week earlier.

Hogs met with more favor from local packers and smaller butchers last week, and there were recoveries from the recent big decline in prices, although the market was apt to be uneven. Usually, early trading was mostly in hogs of the better class, and after buyers had absorbed the cream of the offerings, the coarser lots were purchased, the latter failing to show any great amount of activity. There has been a narrowing tendency of prices of late, and it promises to become still narrower in the near future, "little fellers" selling to better advantage than heretofore. Pigs and underweights continue to comprise a large percentage of the offerings, however, and choice heavy hogs have brought the highest prices, hogs weighing from 300 to 320 lbs. being among the market toppers. The light mixed class failed to do as well as the little pigs weighing from 50 to 90 lbs. on some days, the latter moving up on one day at least 25c. Hogs closed the week with sales at \$7.45@8.30, comparing with about the same prices a week earlier, pigs going at \$5@7.70, stags at \$8@8.40 and throwout packing sows at \$6.75@7.40.

Sheep and lambs were marketed freely last week for so late in the season, with a Monday run of 67,695 head. However, there was a good demand from slaughterers, shippers and feeders, and after a sharp decline in prices the opening day, due to the excessive supply, rallies in values took place. Fat lambs sold especially well, being comparatively few and in strong demand, but fat sheep also sold freely at rallies from early declines. The receipts from the ranges of Montana and other states included an extremely large representation of feeders, and many of them were extremely thin and light in weight, selling at prices far below those current for choice feeders. Because of the existence of scab in Indiana feeding districts, the federal authorities cause all feeders to be dipped before going to that state. At the week's close lambs sold at \$5.25@7.65, yearlings at \$5@6, wethers at \$4.35@5, ewes at \$2.50@4.55, and breeding ewes at \$4.25@5.50. Feeders bought range lambs at \$5@6.65, yearlings at \$5@5.40, wethers at \$4@4.50 and ewes at \$3@3.75.

Horses were in fairly active general demand last week, the call being mainly for good and choice grades of heavy animals, while the coarser horses moved off slowly. Wagon horses and good little chunks usually sold quite well, and expressers showing quality were fairly active at steady prices. Some excellent horses carrying good weight brought \$250 and upwards, but fair to pretty good horses were bought for \$200 and over. Some good, rugged chunks were sold at \$175@200, and it was reported that they went dangerously near their country cost. There was scarcely any inquiry for the inferior and blemished animals at \$75@100, and horses of the prime extra heavy draft type at \$300@350 were offered sparingly.

CROP AND MARKET NOTES.

(Continued from page 429.)

Joying an Indian summer. The corn crop is very light, the yields ranging from five to ten bushels per acre where not irrigated. The majority of spring pigs and many cows have been sold, owing to the scarcity of corn and other feeds. Farmers' Institutes will soon begin. Agricultural high schools are being introduced in this section. The prices for all agricultural products are high.

Scotts Bluff, Oct. 27.—The weather has been very cold but no snow has fallen. Threshing is about done. Sugar beets are about three-quarters harvested, and will be the best crop in five years. Many fields will yield 20 tons per acre. The potato crop is all harvested here, and they are selling at \$1 per cwt., f. o. b. sacked. Range stock is doing fine on the splendid fall pasture. Beef steers are about all shipped out. There is a large amount of alfalfa hay being shipped from our town at prices ranging from \$9@10 per ton f. o. b. Some land is changing hands.

Cass Co., Oct. 27.—We have had three to four inches of rain, putting soil in good condition. Although the sowing was delayed later than usual an increased average of winter wheat was sown, considerable being sown in standing corn. Have had some freezes and cool weather. Husking corn is in progress the yield so far being about one-third of a normal crop. Stock of all kinds in good condition. Prices: Wheat 75c; corn 65c; oats 40c; cattle 3½@7c; hogs 7@7½c; butter 25c; butter-fat 30c; eggs 20c.

Colorado.

Weed Co., Oct. 30.—October has been a very disagreeable month. Several rain storms and several snow storms occurring. It froze one-half inch of ice at times. This made slow work for the threshers, who have about two more weeks' work. Wheat was pretty good but price is low, \$1.17 per cwt. Two weeks of beet digging yet. All crops were very good; lots of water and rain all year. Prices: Hay \$10@12 per ton; corn \$1.80 per cwt; butter 35c; butter-fat 38c; eggs 30c. Very few hogs raised here, price \$8.25 per cwt; land \$100@300 per acre.

Farmers have been marketing enormous numbers of little pigs and young hogs because of the widespread prevalence of hog cholera in various states tributary to the Chicago stockyards, and they have been sold at extremely low prices compared with those obtained for matured bacon hogs, the latter being much sought after. Eastern shippers have been good buyers of light and medium butcher-weight hogs in the Chicago market for several weeks.

THIS IS THE FIRST EDITION.

In the first edition the Detroit Live Stock Markets are reports of last week; all other markets are right up to date.

DETROIT LIVE STOCK MARKETS.

Thursday's Market. October 30, 1913. Cattle.

Receipts, 1609. Market dull and 25c lower than last week on all grades but bulls, canners and feeders, which are steady.

We quote. Best steers and heifers, \$7.50 @7.75; steers and heifers, 1000 to 1200, \$7.25@7.50; do 800 to 1000, \$6.75@7; do that are fat, 500 to 700, \$5.50@6.50; choice fat cows, \$5.75@6; good do, \$5.25@5.50; common cows, \$4.25@5; canners, \$3@4; choice heavy bulls, \$6.25@6.50; fair to good bolognas, bulls, \$5.75@6; stock bulls \$4.25@5; choice feeding steers, 800 to 1000, \$6.75@7; fair do, 800 to 1000, \$6.25@6.75; choice stockers, 500 to 700, \$6.25@6.75; fair stockers, 500 to 700, \$6@6.25; stock heifers, \$4.50@5.50; milkers, large, young, medium age, \$75@80; common milkers, \$40@60.

Haley & M. sold Wagner 8 stockers av 675 at \$6.60; to Mich. B. Co. 9 butchers av 876 at \$6.50, 25 do av 977 at \$6.75, 14 steers av 954 at \$7.6 do av 650 at \$6.10; to Hintz 7 stockers av 494 at \$5.50, 8 do av 600 at \$5.75; to Bresnahan 26 steers av 1128 at \$7.25, 3 butchers av 703 at \$6.3 do av 823 at \$6.25; to Sullivan P. Co. 2 cows av 1065 at \$5.50, 2 do av 770 at \$4; to Curtiss 8 feeders av 847 at \$7; to Kamman B. Co. 18 cows av 1165 at \$5.95; to Breitenbeck Bros. 14 butchers av 924 at \$6.70; to Parker, W. & Co. 9 steers av 772 at \$7.49 do av 947 at \$7; to Newton B. Co. 5 cows av 1242 at \$6.1 do weighing 1000 at \$5.25, 8 do av 1071 at \$5.75, 4 do av 1025 at \$5.1 do weighing 970 at \$4; to Applebaum 2 heifers av 785 at \$6.30, 4 cows av 1105 at \$4.75; to Rattkowsky 4 bulls av 832 at \$5.25; to Bresnahan 25 butchers av 1053 at \$6.90; to Mason B. Co. 6 cows av 1143 at \$6; to Hertler 15 stockers av 730 at \$6.50, 3 do av 613 at \$6.12 feeders av 1010 at \$7.10; to Heinrich 14 steers av 974 at \$6.75; to Rattkowsky 6 cows av 1040 at \$5.50.

Spicer & R. sold Gerish Mkt. Co. 27 steers av 1096 at \$7.60; to Slider 16 stockers av 629 at \$6.50; to Newton B. Co. 1 steer weighing 790 at \$6; to Breitenbeck 1 bull weighing 1120 at \$6; to Truesdall 10 feeders av 730 at \$7; to Sullivan P. Co. 3 cows av 863 at \$4.2 steers av 840 at \$6.70; to Mich. B. Co. 3 butchers av 917 at \$5.75; to Hammond, S. & Co. 1 bull weighing 1650 at \$6.50; to Stadler 4 stockers av 607 at \$6.50; to Sullivan P. Co. 2 heifers av 715 at \$6.75, 6 canners av 900 at \$4.2 bulls av 1265 at \$6.25; to Rattkowsky 2 cows av 910 at \$5.50, 3 do av 870 at \$5.25; to Bresnahan 24 steers av 1019 at \$7.20, 22 do av 1130 at \$7.20; to Sullivan P. Co. 7 do av 1147 at \$7.10; to Bresnahan 10 butchers av 580 at \$5.75, 7 bulls av 640 at \$5.25; to Grant 17 butchers av 630 at \$5.2 steers av 975 at \$6.6 cows av 823 at \$4.90, 4 heifers av 870 at \$6.75; to Riley 5 feeders av 752 at \$6.35, 2 do av 830 at \$6.25; to Heck 9 do av 920 at \$6.75, 10 stockers av 635 at \$6.35.

Bishop, B. & H. sold Sullivan P. Co. 3 cows av 924 at \$4.4 butchers av 932 at \$6.75, 2 bulls av 1415 at \$6.35, 2 cows av 855 at \$4.1 steer weighing 830 at \$6.50, 3 cows av 857 at \$4.2 do av 1065 at \$6.4 do av 1057 at \$5.50, 3 do av 870 at \$4.2 do av 1020 at \$4.50, 5 do av 1160 at \$5.50, 4 do av 967 at \$4.25, 2 do av 1025 at \$4.25, 3 do av 1010 at \$5.30, 5 do av 1032 at \$5.1 bull weighing 1280 at \$6.1 do weighing 700 at \$4.75, 1 do weighing 1420 at \$6; to Parker, W. & Co. 2 cows av 1070 at \$5.50, 11 steers av 960 at \$7.24 do av 1012 at \$7.25, 19 do av 1124 at \$7.50, 1 do weighing 930 at \$7.34 butchers av 640 at \$6.2 steers av 1100 at \$7.25; to Applebaum 2 cows av 965 at \$4.75; to Kamman B. Co. 1 heifer weighing 1020 at \$7.3 do av 813 at \$6.60; to Bresnahan Jr. 5 do av 768 at \$6; to Rattkowsky 5 cows av 870 at \$4.75, 2 do av 1095 at \$5.25, 6 cows and bulls av 995 at \$5.60; to Mich. B. Co. 18 butchers av 830 at \$6.25; to Goose 3 cows av 927 at \$4.60, 4 do av 840 at \$4.35; to Hintz 34 stockers av 581 at \$6.10; to Kamman B. Co. 3 cows av 923 at \$5.75; to Rattkowsky 5 cows av 1000 at \$5.25.

Roe Com. Co. sold Breitenbeck 2 cows av 950 at \$4.50; to Kamman B. Co. 11 butchers av 925 at \$6.60; to Sullivan P. Co. 1 cow weighing 910 at \$3.50; to Goose 9 do av 1031 at \$4.80, 8 heifers av 420 at \$6; to Stadler 9 stockers av 600 at \$6; to Rattkowsky 4 cows av 1062 at \$5.30; to Mich. B. Co. 1 steer weighing 800 at \$7, 2 cows av 800 at \$4.50, 11 do av 846 at \$4.80, 9 butchers av 998 at \$6.50, 9 do av 615 at \$5.90; to Grant 1 steer weighing 890 at \$6; to Mich. B. Co. 6 cows av 1008 at \$5; to Sullivan P. Co. 23 steers av 960 at \$6.75; to Kamman B. Co. 20 do av 823 at \$6.60; to Jones 26 feeders av 819 at \$6.35.

Veal Calves.

Receipts, 589. Market steady. Best, 10@11; others, \$7@9.50. Bishop, B. & H. sold Parker, W. & Co. 4 av 155 at \$10.50, 3 av 170 at \$11, 3 av 140 at \$10.50, 19 av 150 at \$11; to Sullivan P. Co. 1 weighing 120 at \$10.50, 5 av 165 at \$10.25, 2 av 180 at \$9.75, 3 av 150 at \$11; to Nagle P. Co. 3 av 160 at \$11, 3 av 151 at \$10.50, 2 av 125 at \$10.75, 2 av 130 at \$10.50, 3 av 165 at \$11, 4 av 155 at \$10.50; to Parker, W. & Co. 27 av 140 at \$10; to Burnstine 1 weighing 280 at \$6.50, 2 av 110 at \$8.13 av 150 at \$10.

Spicer & R. sold Parker, W. & Co. 5 av 145 at \$11, 7 av 140 at \$11, 16 av 150 at \$10.60, 7 av 140 at \$11; to Goose 9 av 140 at \$10.75.

Sheep and Lambs.

Receipts, 8402. Market, opening dull at Wednesday's prices; think will close trifle lower. Best lambs, \$6.75@7; fair to good lambs, \$6.50; light to common lambs, \$5.75@6.25; fair to good sheep, \$4@4.50; culls and common, \$2.75@3.

Spicer & R. sold Mich. B. Co. 31 lambs av 73 at \$6.75, 12 do av 77 at \$7.49 do av 65 at \$6.75, 11 sheep av 105 at \$4.

Bishop, B. & H. sold Parker, W. & Co. 72 sheep av 85 at \$3.50; to Sullivan P. Co. 15 lambs av 48 at \$6.25, 16 do av 55 at \$6.50, 37 sheep av 110 at \$4.25, 14 lambs av 50 at \$6.25, 14 do av 55 at \$6.60, 5 sheep av 100 at \$4.25, 22 lambs av 55 at \$6.35; to Thompson Bros. 12 sheep av 90 at \$4.11 lambs av 65 at \$6.75; to Nagle P. Co. 198 lambs av 80 at \$7.56 do av 70 at \$6.90, 49 do av 70 at \$7.185 do av 85 at \$6.75, 29 sheep av 115 at \$4.40, 75 lambs av 70 at \$7; to Hammond, S. & Co. 45 do av 68 at \$7.44 sheep av 95 at \$4.50, 14 do av 105 at \$4.50, 5 do av 85 at \$3.25, 99 lambs av 75 at \$7.34 do av 55 at \$5.35; to Nagle P. Co. 86 do av 70 at \$6.90, 175 do av 75 at \$7.107 do av 85 at \$6.75, 80 do av 80 at \$7.45 do av 77 at \$7.14 do av 50 at \$6.20; to Sullivan P. Co. 65 sheep av 135 at \$4.35, 25 lambs av 50 at \$6.25; to Parker, W. & Co. 17 sheep av 90 at \$3.50; to Ratner 25 do av 95 at \$4; to Sullivan P. Co. 45 sheep av 120 at \$4.25, 22 sheep av 90 at \$3.25; to Hayes 27 lambs av 50 at \$6; to Sullivan P. Co. 60 do av 50 at \$6.25; to Nagle P. Co. 21 sheep av 90 at \$4.40, 20 do av 85 at \$2.75; to Youngs 52 lambs av 83 at \$6.75, 10 sheep av 122 at \$4; to Fitzpatrick Bros. 15 do av 85 at \$3.25.

Haley & M. sold Mich. B. Co. 68 sheep av 125 at \$4.25, 15 do av 105 at \$4.25, 17 lambs av 55 at \$6.25, 19 do av 60 at \$6.50, 6 sheep av 130 at \$4.72 lambs av 58 at \$6.50; to Newton B. Co. 88 do av 75 at \$6.90; to Young 110 do av 88 at \$7.36 do av 60 at \$6.25, 192 do av 80 at \$7; to Harland 25 do av 70 at \$6.75; to Newton B. Co. 88 do av 75 at \$6.90.

Hogs.

Receipts, 8588. None sold up to noon; prospects 5@10c higher than on Wednesday.

Range of prices: Light to good butchers, \$8.05@8.15; pigs, \$7.25@7.60; mixed, \$8.05@8.15; heavy, \$8.05@8.15.

Spicer & R. sold Hammond, S. & Co. 725 av 190 at \$8.10, 40 pigs av 125 at \$7.50. Haley & M. sold same 750 av 190 at \$8.10, 550 av 180 at \$8.15.

Roe Com. Co. sold Sullivan P. Co. 525 av 185 at \$8.15. Bishop, B. & H. sold Parker, W. & Co. 3150 av 170 at \$8.10, 1015 av 210 at \$8.15, 1017 av 160 at \$8.05, 540 av 140 at \$8.

Friday's Market.

October 31, 1913. Cattle.

Receipts this week, 2085; last week, 1516. Market steady.

We quote: Best steers and heifers, \$7.50@7.75; steers and heifers, 1000 to 1200 \$7.25@7.50; do 800 to 1000, \$6.75@7; do that are fat, 500 to 700, \$5.50@6.50; choice fat cows, \$5.75@6; good do, \$5@5.50; common do, \$4.25@5; canners, \$3@4; choice heavy bulls, \$6.25@6.50; fair to good bolognas, bulls, \$5.75@6; stock bulls, \$4.25@4.50; choice feeding steers, 800 to 1000, \$6.75@7; fair do, 800 to 1000, \$6.25@6.75; choice stockers, 500 to 700, \$6.25@6.75; fair do, 500 to 700, \$6@6.25; stock heifers, \$5@5.75; milkers, large, young, medium age, \$70@80; common milkers, \$40@60.

Veal Calves. Receipts this week, 739; last week, 614. Market steady. Best, \$10@11; others, \$7@9.75.

Sheep and Lambs.

Receipts this week, 9710; last week, 7100; market steady. Best lambs, \$7; fair to good lambs, \$6.50@6.75; light to common lambs, \$5.75@6.25; fair to good sheep \$4@4.50; culls and common \$3@3.50.

Hogs.

Receipts this week, 12,187; last week, 9552; market 5@10c lower. Range of prices. Light to good butchers, \$8@8.25; pigs, \$7@7.50; light yorkers, \$8@8.05; heavy, \$8@8.05.

LIVE STOCK NEWS.

E. M. Hastings, Sales Manager, Lacona, N. Y., writes: "Granddaughters of King of the Pontiacs are always at a premium. Therefore, the Bachman sale, to be held at Azalia, Mich., Nov. 20, is entitled to special attention, as its offerings include some of the granddaughters of King of the Pontiacs bred to a grandson of the same sire. It will be noted by the advertisement in this issue that the Bachman sale is the second in the series. Mr. Bachman tells us that the offerings comprise a fine lot of individuals, and judging by their breeding and the fact that all are of good ages, it would seem that they must prove a desirable purchase.

The Meridale herd has been making milk and butter in Delaware county, New York, for the past 25 years. The herd has grown, in this quarter of a century, from 11 head of grades to about 350 thoroughbred Jerseys; while the area of the farm has increased from 30 to about 1,800 acres. Yearly authenticated testing was begun at Meridale Farms, located in Delaware county, N. Y., January 1, 1909. In 1910 there were 52 cows in the herd which had qualified for the Register of Merit on yearly tests, their average product being 6,949 lbs. of milk, 413 lbs. of butter. In 1911 there were 97 of them, with an average yield of 7,596 lbs. of milk, 462 lbs. of butter. In 1912 they numbered 117, and their average yield stood at 7,624 lbs. milk, 471 lbs. butter. This year there are again 117 cows with authenticated yearly records, but their average product has arisen to 7,894 lbs. milk, 509 lbs. butter per cow for the year and in this average are included 26 two-year-olds.

ADDITIONAL VETERINARY.

Cracked Heels.—My 14-year-old horse went lame in left fore leg four weeks ago. Leg swelled badly, broke open in several places under fetlock, soon spread over leg and lately the other leg is sore. I called a Vet. who called it mange caused by an insect. He gave me two kinds of medicine, one to apply, the other to give, and said he would be much better in two days and he soon recovered, but legs are swelling lately. I am inclined to believe his kidneys are sluggish. His feed consists of cover hay, corn fodder and some new corn. C. E. W., Otsego, Mich.—He had an attack of cracked heels (scratches) and if you will apply one part carbolic acid and ten parts glycerine to sores they will soon heal. Give him a dessertspoonful of Fowler's solution and a teaspoonful of powdered nitrate potash at a dose in feed two or three times a day. His bowels should be kept open.

Indigestion—Impure Blood.—Have a horse not less than 20 years old which has good teeth, eats plenty, breaks out in sores and fails to lay on flesh. J. G. W., Battle Creek, Mich.—Perhaps you should increase his food supply and give him 1/2 oz. Donovan's solution at a dose in feed three times a day. Salt him well and exercise him daily.

Paralysis—Feeding Hens.—One of my hens seems to have lost use of legs and I would like to know if she has paralysis. I am told that I over fed her. Mrs. E. J. H., Fremont, Mich.—Kill hen, she will not get well. If she was too fleshy high feeding may have caused her loss of power. You ask how to feed your hens. Feed cracked corn, oats, wheat, some meat scraps and let them exercise and hunt part of their food supply.

Vertigo—Blind Stagers.—I have a mare that has had three sick spells lately, showing the following symptoms: First throws up head, wabbles some, drops down on hind quarters and after each attack, she appears weak. Her appetite is good and she does not seem sick. Now is this a dangerous disease and can it be cured? A. B. Montrose, Mich.—You are perhaps overfeeding her; exercise her daily, keep bowels open and active, also give 1 dr. ground nux vomica, 1/2 oz. bicarbonate soda and 2 drs. potassium bromide at a dose in feed three times a day. If she is fleshy, reduce her.

Sore Teats.—One of my cows has had sore teats all summer; now several of my herd are in much the same condition and I am afraid it is a contagious ailment. A Subscriber, Milford, Mich.—Apply one part permanganate potash and 200 parts water to sores once daily; also apply one part bichloride mercury and 500 parts water once a day. One part carbolic acid and 10 parts glycerine is another useful remedy to finish up with.

Indigestion—Cough.—Heifer came fresh five weeks ago and has given 20 qts. of milk daily, until last Sunday; since then only one quart and I can't account for it. I bought and had a calf shipped to me two weeks ago, since then it breathes much like a broken-winded horse; besides, it coughs. D. K. W., Kendall, Mich.—Change feed, give 1 lb. epsom salts, one dose only, also give 1 oz. of bicarbonate soda, 1 oz. charcoal and 1 oz. salt at a dose in feed three times a day. She may need exercise.

Trappers Write Us First Get our price list and shipping tags. Highest Prices for Furs We buy any quantity—every kind. Send today for prices and shipping tags sure. McCullough & Tumbach, 124 N. Main St., St. Louis, Mo.

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HAY Potatoes, Apples. We pay highest market price for car loads. The E. L. Richmond Co., Detroit, Mich. Responsible representatives wanted.

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FARMERS—We are paying 5 cents above the Official Detroit Market for new-laid eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., 31-33 Griswold St., Detroit, Mich.

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(Breeder's Directory continued on page 433)



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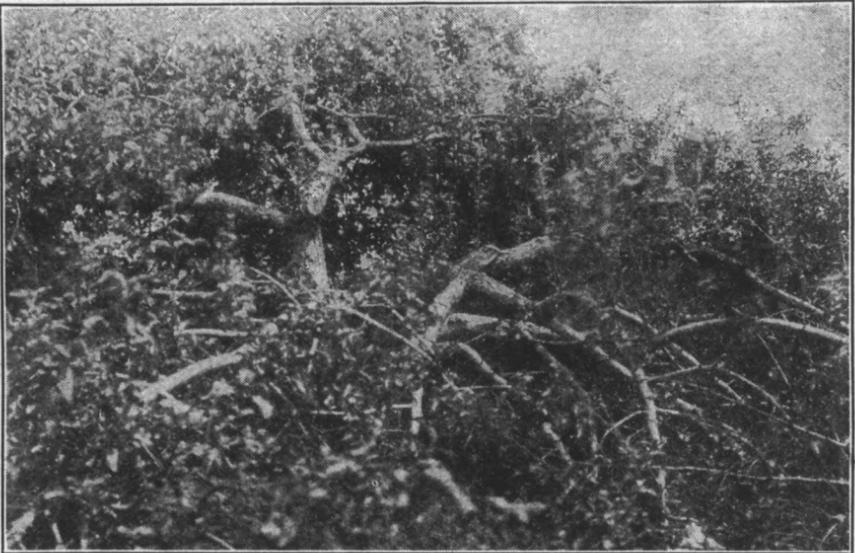
THE OVER-LOADED FRUIT TREE.

In taking an inventory of the accidents that may befall the fruit trees, one cannot overlook the question of over-loaded them. In making surveys of orchards the observer is surprised at the large number of trees that have main branches, or whole halves, broken down. Where fruit growing is a real part of the farmers business the accidents from overloading curtail to no small degree the value of the orchard products. These accidents naturally happen on years when fruit is plentiful, and consequently work for a greater shortage the following seasons when a scarcity prevails and prices rule high. The matter is also of importance in that these trees usually die earlier than

together small branches in such a way as to grow a living brace to each main limb. This practice aids in building strong trees.

The style of pruning is another feature that weakens or strengthens the trees. If the tops are not allowed to grow far out away from the trunks then the branches will hold more fruit without breaking. How to prune to secure this end is the art of the real horticulturist.

The formation of the tops when the trees are yet small determines much in the ability of the tree to withstand the tests of time. If the main branches leave the trunk at practically the same level there is increased danger of an accident some stormy day, while if the branches start at different levels the insurance



The Usefulness of this Tree has been Prematurely Ended by Overloading.

their unharmed neighbors, leaving vacant places in the orchard, places that give little if any returns after the trees are gone, since the little openings cannot be otherwise utilized while the orchard stands.

Overloaded orchards are usually to be found on farms where the orchards are not given good care. To this statement there are exceptions, of course, but careful observation will show it to be the rule. The uncared for orchard will not produce much fruit for a few years, or until it has accumulated vitality to overcome its natural handicaps, and have some to spare, when it will under favorable circumstances develop an enormous number of buds into fruit. When the fruits are small the weight is readily borne by the trees, but as pulp and seed enlarge the weight increases until the entire strength of the limbs is used. Then some windy day the damage follows.

But not always do these accidents occur on stormy days. The writer recalls being in an orchard one morning and noticing a beautiful Snow apple tree that was overloaded with fruit. That afternoon he had occasion to pass by the tree again and the branches were fallen to the ground, as the one in the accompanying illustration. Yet the day was very still.

But storms are an added cause, since the twisting and shaking of the weighted limbs may tear wood tissue that would hold if only the weight of the fruit was to be supported. Storms being of exceedingly variable intensity it is difficult to know just how much weight the trees ought to be allowed to carry. But since there are fewer of the severe storms one must use his judgment and operate so that the loss to him will be brought to a minimum.

Now to reduce the loss from this cause to a minimum there are more than one practice to give attention to. A careful watching of the amount of fruit growing on the tree and the removal of any surplus would almost entirely obviate the necessity of considering other means; still the method of heading and the style of pruning the trees and the system of bracing the branches, add considerable to the strength of the plants to carry crops. And these precautions should be added to that of thinning the fruit.

Bracing the branches is not a common practice except, perhaps, with a few old trees showing a tendency to break down. However, some orchardists do the work systematically by going through the orchard when the trees are young and tying

against risks of overloading is amplified. With these tasks should go the thinning of the fruit, that gradually growing practice which is becoming popular with all progressive fruit men. By taking care that the trees do not use all their vitality for the production of a bumper crop in a season when fruit is cheap and saving it for growing a fair crop in a year of scarcity it will enable the trees in a term of years to carry a large amount of fruit without endangering them.

Like the attacks of insects and other pests, the way to prevent trees from breaking down is to give care that will enable them to stand against the demands made upon their strength.

STORING CABBAGE FOR WINTER USE.

It is often desirable to store cabbage for home use in the winter and decaying cabbages give off such an unpleasant odor that it is a very objectionable practice to store them in the cellar. In those families where sauer kraut is relished, the question of storing cabbage is easily handled, for it can be stored as sauer kraut but, where this dish is not liked, it is necessary to store the cabbage in some other way.

If cabbages can be stored out of doors, they keep in better condition, besides removing the unpleasantness of storing inside.

It is a practice with many farmers to dig trenches about eight or ten inches deep, and wide enough to hold three or four cabbage heads. The cabbages are pulled after cold weather sets in and after placing a small amount of straw in the bottom of the trench, the cabbages are set in with the heads downward. Then the ditch is covered with dirt, leaving just the cabbage roots sticking out. In the winter when a cabbage is needed for dinner, it may be easily obtained by digging away a small amount of the dirt surrounding the root and then the cabbage can be pulled out.

There are several advantages of this method of storage. In addition to the reason stated above, the cabbage keep better out of doors. It is a well known fact that as soon as these crops get dead ripe, they start to decay and go "down hill." Now the longer one can keep them in a ripening state, the better they keep and the less danger there will be from rotting. It is for the same reason that cabbages are often stored for winter while

they are yet very green. They go on maturing in storage and the colder the storage conditions, the slower is the maturing process. Slight freezes and thaws do not hurt the eating qualities of cabbages; it is the alternate hard freezing and thawing which does them the harm and so if they are eight or ten inches below the ground, they are out of danger of hard frosts and so far below that they will not be affected by the winter thaws.

The very fact that the heads are kept cool tells why they would be less liable to rots. Since the cabbages are placed with the heads downward, all the rain or moisture is conducted downward off from the head, not into it. If these vegetables are stored in this manner and near to the house they are very accessible and may be gotten and prepared as easily as when they are stored in the cellar.

The advantages of outdoor storage for cabbage are: 1. The elimination of foul odors from the cellar; 2, the vegetables will keep better and longer, and 3, they are easily gotten and prepared for meals.

Ingham Co. I. J. MATHEWS.

FALL WORK IN THE GARDEN.

Riding about the country in the late fall, after the frosts have killed all the tender plants, I have been much interested in noting the condition of the gardens, so much so, in fact, that I am moved to write a few paragraphs of advice out of the fullness of many years of experience. So many seem to think that no more work is necessary after the passing of summer, except to garner the harvest, and the litter of vegetable tops, weeds and vines is left to be cleared up next spring when time is limited and moments are precious.

Some contend that the weeds and vines serve as a mulch and help to conserve the fertility. Be that as it may, I have practiced the method of clearing away all surplus weeds and vines and placing them on a compost heap, where with a mixture of muck and leaves the fertilizing elements are prepared to be returned to the soil a year later. So when any vine has ended its period of production it is promptly removed. So far as possible no weeds are allowed to go to seed, and in this way fewer weeds appear each year. I think few gardeners appreciate how much labor can be saved in this way.

My garden is covered with a layer of manure from the cow barn after everything is removed, and this is plowed under in the spring. Being exposed to the action of the elements all winter rots the manure and makes it much more readily accessible as plant food than new manure would be. Vegetables like parsnips and salsify are covered with coarse strawy manure to guard against alternate freezing and thawing during the cold months. The flavor of the roots seems considerably improved in this way. Straw and litter from the stable also serves as an excellent covering for the strawberry and asparagus beds, as well as the autumn-sown spinach. In the spring all the coarse material should be raked away and will help to build up the compost heap. The material of this compost heap is an excellent fertilizer for sweet corn and has given fine results with melons and squash as a supplement to the stable manure.

In the small fruit patch, all dead canes are cut away in the fall, not too close to the ground, but no dry branches are left. Leaves may be allowed to collect about the blackberry and raspberry bushes and will serve as some protection against the frosts of winter. Some of the tenderer shrubs and rose bushes of the border are wound in straw and burlap, and I am well repaid by the beautiful flowers each year.

Aside from the added production, and the ease of cultivation directly traceable to this fall work in the garden, it is worth something to me to have my neighbors say as they drive past, "How nice his garden looks." When the garden is near the public highway and close to the farm buildings, it adds much to the attractiveness of the place if the plot is kept neat and clean.

New Hampshire. C. H. CHESLEY.

The Potash Industry is the title of a new book recently published by German Kali Works, Inc., 1901 McCormick Bldg., Chicago, Ill. This book gives a historical sketch of the potash industry, together with illustrated sketches of mining and manufacturing processes, and statistics regarding the output of potash salts and the consumption of same in the different countries of the world. The importance of potash to agriculture is made the subject of a special chapter, while in the illustrations comparative yields with and without use of potash are shown. This book is sent free by the above firm to readers of this paper.

Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to someone else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Rheumatism.—For many years I have been a reader of the Michigan Farmer and get much valuable information from it. In watching veterinary column I fall to notice similar cases to my 10-year-old driving horse which is lame in right hind leg, only part of the time. After a drive and when allowed to stand still, he shows some lameness starting, but soon recovers. Have had two local Vets. examine him; one of them located trouble in stifle, other treated him for hock joint lameness. The treatment we have applied fails to make him any better and his hock is free from blemish. B. B. Shaf-burg, Mich.—I am most inclined to believe this a case of rheumatism and if so give him a dessertspoonful of powdered nitrate of potash at a dose in feed three times a day until kidneys act brisk, then give the medicine less frequently. When not giving the nitrate of potash, give 2 dr. doses of sodium salicylate twice or three times a day. I suggest that you ascertain if right hock is not warmer than left, and if so the lameness may be caused by synovitis. For an ailment of this kind, you will obtain fairly good results by giving the horse rest and apply one part iodine and ten parts fresh lard to hock every two or three days.

Chronic Stomach.—I have a seven-year-old horse that has swollen leg and I am told it is a case of farcy. Part of time leg is about normal, but stocks considerable when not exercised. C. B. G., Hartland, Mich.—An animal of this kind should be fed sparingly of grain when idle and not exercised, besides it is good practice to give them some exercise every day. Also give him 2 drs. potassium iodide at a dose in feed twice a day and occasionally give a dessertspoonful of powdered nitrate of potash to keep kidneys active. After exercise it is good practice to bandage leg in cotton, leaving bandage on a few hours.

Weakness—Indigestion.—During early part of summer I bought a large cow and she has never been as active as my other; besides, she gets up with difficulty and keeps thin. Her appetite is poor; she is about nine years old. H. J. L., Inkster, Mich.—Give your cow 1 oz. ground gentian, 1 oz. ground ginger and 1 oz. of bicarbonate soda at a dose in each feed; besides, give her 1 dr. ground nux vomica at a dose in feed three times a day. This medicine can be given all at the same time.

Fungus Under Belly—Wart.—We have a three-year-old colt that has a raw bunch under belly and I have applied carbolic lotion, dusted on burnt alum, also applied salve without apparently doing any good. The bunch is now as large as a man's fist and bleeds some. R. W., Central Lake, Mich.—I am inclined to believe that this fungus or wart growth should be cut off and in order to stop the bleeding, if there is much, burn the parts with a red hot iron—or apply Monsell's solution of iron, or tie a silk thread around blood vessel which will stop the hemorrhage. Kindly understand the colt will not bleed to death if this is not done. Apply equal parts powdered alum, oxide of zinc and boric acid to wound twice a day.

Chronic Bronchitis.—I have a cow six years old that has fallen away in flesh, has poor appetite and a choking cough. She seems to have difficulty in breathing. She has been running on grass and fed dry corn fodder, but she does not do well. W. E. S., Nevada, Mo.—She should be tested with tuberculin for she may have tuberculosis and if so might as well be destroyed for she will prove unprofitable for dairy purposes and it will not pay to feed her. Give her 1/2 oz. glycoheroin (Smith) at a dose three times a day; also give her 1/2 oz. Fowler's solution at a dose three times a day.

Bloody Milk.—Cow gives bloody milk from both fore quarters of udder, but she appears to be in perfect health. W. H. A., Fennville, Mich.—While stepping over fence, doorsill, some hard substance, she bruised both fore quarters of udder. Now if you can remove the cause she will get well without treatment. In some cases it is brought on by over-feeding, or a blow from a dairyman; however, most cows injure their own udder. Apply one part tincture arnica and six parts water twice a day. Furnish her plenty of bedding and milk her with care.

Mammitis.—Our local Vet. who has been treating the udder of my cow tells me that cow has injured bag. One quarter only affected. She first gave bloody milk, then milk and flakes of matter; we have been drawing off this fluid through a milking tube. The teat seems to be sore and bag quite caked. G. T. L., Gagetown, Mich.—You will obtain fairly good results by applying one part iodine and 15 parts fresh lard to caked quarters once a day. Also give her a dessertspoonful of hypo-sulphite soda at a dose three times a day. Most of these troubles are due to exciting causes. Therefore a removal of the cause is a great aid in effecting a cure.

(Additional Veterinary on page 431).

"PITTSBURGH PERFECT" FENCE



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Makers of "Pittsburgh Perfect" Brands of Barbed Wire; Bright, Annealed and Galvanized Wire; Hard Spring Coil Wire; Twisted Cable Wire; Galvanized Telephone Wire; Bale Ties; Fence Staples; Poultry Netting Staples; Regular Wire Nails, Galvanized Wire Nails; Large Head Roofing Nails; "Pittsburgh Perfect" Fencing.



Breeders' Directory—Continued.

Bigelow's Holstein Farms Breedsville, Mich.

Have for sale several fine young bulls out of cows with high official butter and milk records.
Send for circular.

"Top-Notch" Holsteins.

Choice bull calves from 6 to 10 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices.
McPHERSON FARMS CO., Howell, Michigan.

Bull Ready For Service.

A grand son of Pietertje Hengervelds Count DeKol, and out of Bertha Josephine Nudine. This is an almost faultless individual, Guaranteed right in every particular, and "dirt" cheap to a quick buyer. Also 7 good cows, one fresh—the others yet to freshen. The above would make a fine herd for some one. \$1950 will buy the bunch.
L. E. CONNELL, Fayette, Ohio.

BUTTER BRED JERSEY BULLS FOR SALE CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

FOR SALE 20 months old Jersey Bull MEADOWLAND FARM Waterman & Waterman, Ann Arbor, Mich.

JERSEYS—Bulls calves bred for production. Also cows and heifers, Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.
For Sale—Jersey bull calves, sire Count's Toronto No. 9181, \$10. Barred Rock cockerels and Bronze turkeys. Peter H. Douma, R. 2, Holland, Mich.

Lillie Farmstead Jerseys
(Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed.
COLON C. LILLIE, Coopersville, Mich.

For Sale—Registered Jersey Cattle, tuberculin tested: bulls and bull calves; heifer and heifer calves; cows with Register of Merit and Cow Testing Association records. IRVIN FOX, Allegan, Mich.

Dairy Shorthorn Bull For Sale—Calved Mar. 10th, 1910. A splendid Red. A sure breeder of extra good calves. Always been kind. W. W. Knapp, Watervliet, Mich., R. F. D. 4.

2 Yearling Shorthorn Bulls For Sale—One white, grand son of White Hall Sultan. W. C. OSIUS, Hilldale, Mich.

DAIRY BRED SHORTHORNS—Bates bred bull 7-mo. old for sale. Price \$100.
J. B. HUMMEL, Mason, Michigan.

9 Shorthorns—Bulls from 8 to 12 months old. Best of breeding. Write for pedigrees. W. W. KNAPP, Howell, Mich.

3 Choice Shorthorn Bulls For Sale. 7 to 9 mos. old. Bates bred. Registered. Call or write to J. E. TANSWELL, Maple Ridge Farm, Mason, Mich.

FOR SALE—6 Shorthorn Bulls, 7 to 12 mos., sired by grand son of Whitehall Sultan, also choice females. W. B. McQuillan, Howell or Oriskany, Mich.

SHEEP.

Delaines and Merinos—Large size, long staple, heavy shearers. Stock for sale at greatly reduced prices. S. H. Sanders, Ashtabula O.

Leicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

OXFORD RAMS AND EWES FOR SALE at farmers prices. Address B. F. Miller or Geo. L. Spillane, Flint, Mich.

Three-Year-Old OXFORD and SHROPSHIRE Rams For sale cheap. Parkhurst Bros., Reed City, Mich.

For Sale OXFORDS, 30 Reg. Rams, Prices Right.
J. A. DeGARMO, Mutr, Michigan.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS, "the sheep man of the east." Shropshires, Rambouillet, Polled Delaines and Parsons Oxfords. R. I. Grand Lodge, Mich.

Registered Merino Rams For Sale.
OSCAR FROST & SON, Armada, Michigan.

Reg. Rambouillet Sheep, Pure Bred Poland China HOGS and PERCHERON HORSES. 2 1/2 miles E. Morrice, on G. T. R. R. and M. U. E. J. Q. A. COOK.

SHROPSHIRE RAMS. Registered. Sired by Imp. Minton ram. Quality for grade or registered flocks. Also some young ewes. Prices right. WILLIS S. MEADE, Lapeer, Michigan.

REGISTERED SHROPSHIRE—Rams and ewes for sale at reasonable prices. Breeding of the best. Harry Potter, Davison, Mich.

MAPLESHADE FARM SHROPSHIRE—Bog, yearling and ram lambs, 25 ewes and 15 ewe lambs. WM. P. PULLING & SON, Parma, Michigan.

Registered Shropshire Rams.
\$15 each; 3 yearlings; 4 2-year-olds; will also trade for good one. (not used.) C. E. WINTERS, Augusta, Mich.

SHROPSHIRE A few choice rams priced right for immediate shipment.
C. J. THOMPSON, Rockford, Michigan.

SHROPSHIRE YEARLING and two-year-old Rams. Good ones, priced to sell.
W. E. MORRIS, Flushing, Michigan.

SHROPSHIRE RAMS AND EWES FOR SALE.
DAN BOOHER, R. 1, Marion, Michigan.

HOGS.

Durocs & Victorias—A Desirable Bunch of Sows of either Breed due April and May.
M. T. Story, R. R. 48 Lowell, Mich. City Phone 55.

Berkshire Boar—of spring farrowing with the best of breeding for sale.
A. A. PATTULLO, R. No. 1, Deckerville, Mich.

BURGESS'S BERKSHIRES, MASTERPIECE STRAIN THE LONG SQUARE KIND
2 Handsome yearling boars, 3 Splendid fall gilts, 4 Spring pigs. Papers and pedigrees furnished. No cholera ever on the farm. Prices Reasonable.
W. O. HULBERT, Mgr. R. 4, Big Rapids, Mich.

INGLESIDE FARM—Offers recorded SHROPSHIRE, ewes bred to choice rams for \$15.00 per head.
HERBERT E. POWELL, Ionia, Michigan.

Chester Whites—Spring and summer pigs, write us of your wants. Price and quality right.
Meadow View Stock Farm, R. F. D. No. 5, Holland, Mich.

O. I. C.—BIG GROWTHY TYPE. Last spring stock, either sex, pairs not akin. Very good stock. Scott No. 1 head of herd. Farm 1/2 mile west of depot.
OTTO B. SCHULZE, Nashville, Mich.

O. I. C.—MARCH and APRIL PIGS, the long growthy kind, with plenty of bone. No cholera ever on or near farm. Satisfaction guaranteed.
A. NEWMAN, R. 1, Marietta, Mich.

O. I. C.'s.—Taking Orders for Sept. Pigs, pairs and trios.
FRED NICKEL, R. No. 1, Monroe, Michigan.

O. I. C.'s—Boars ready for service. Aug. pigs, all of right type. I pay express charges.
GEO. P. ANDREWS, Danville, Ingham Co., Mich.

O. I. C. SWINE—Bred gilts all sold, have a No. of Spring pigs on hand. Will book orders for Sept. pigs, get my price on pairs and trios not akin.
A. J. GORDON, R. No. 2, Dorrt, Mich.

WRITE US Your Wants For Reg. Chester White Swine, Holstein Bulls, Shropshire Sheep Lamb Rams. Sept. pigs now ready for shipment. RAY B. PARHAM, Bronson, Michigan.

O. I. C. SPRING BOARS and Fall Pigs and Red Polled Cattle.
JOHN BERNER & SON, Grand Lodge, Mich.

O. I. C. SPRING BOARS and FALL PIGS—at reasonable prices.
MAPLE LEAF FARM, R-1, Deford, Michigan.

THIS

O. I. C.

SOW WEIGHED 932 LBS.
AT 23 MONTHS OLD

IONIA GIRL

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN, R. No. 10 Portland, Mich.

Duroc Jersey Boars For Sale, of the large growthy type, also 2 Reg. Percheron Stallions 1-yr.-old. M. A. BRAY, Okemos, Mich.

DUROC JERSEYS—Spring boars of the big type, a few from cherry King, the 1912 International champion, at prices that will sell them. W. C. Taylor, Milan, Mich.

Duroc Jerseys For Sale—Three fall boars, also spring pigs, either sex, of finest breeding and individual quality. John McNeill, Station A, R. 4, Bay City Mich.

Improved Chesters I have a few choice young breeders of April farrow, either sex. Twenty years a breeder. W. O. Wilson, Okemos, Mich.

DUROCS—36 High Class immuned boars ready for service. Special prices for 30 days. Write or come and see. J. C. BARNEY, Coldwater, Mich.

BIG TYPE DUROCS—March and April Boars, ready for service. Pairs not akin. Also Shropshire Rams for sale. F. J. DRODT, R. No. 1, Monroe, Mich.

Duroc Jerseys—20 Spring Boars Ready to Ship.
CAREY U. EDMONDS, Hastings, Michigan.

DUROCS, Good Enough to Ship Without the Money.
KOPE 'KON FARM, Kinderhook, Michigan.

Duroc Jerseys—Spring boars from prize-winning strains. Sows all ages. Brookwater Farm, R. F. D. No. 7, Ann Arbor, Mich.

ESSEX PIGS—We are offering just now some very choice young Essex Pigs. No better time to get something good at reasonable prices. E. P. OLIVER, Flint, Mich.

POLAND CHINAS—Both Western and Home Bred. Either sex, all ages. Prices right. W. J. HAGEMSHAW, Augusta, Mich.

Poland Chinas and Single Comb White Leghorns.
B. M. WING & SON, Sheridan, Michigan.

POLAND CHINAS

The Large Prolific Kind

SPRING BOARS

We have a nice lot of

At Farmers' Prices.

ALLEN BROS

Paw Paw, Michigan.

LARGE STYLED POLAND CHINAS—Spring and L summer pigs. Also Oxford bucks and buck lambs at close prices. ROBERT NEVE, Pierson, Mich.

P. C. MARCH AND APRIL PIGS—The long bodied kind. Guaranteed to please. R. W. MILLS, Salline, Michigan.

FOR SALE—Poland China Boars, March and April farrow. Prices right.
G. W. HOLTON, R. No. 11, Kalamazoo, Mich.

POLAND CHINAS—Choice lot of spring pigs, L. W. BARNES & SON, Byron, Shiawassee Co., Mich.

BIG TYPE P. C.—Boars and Sows of best breeding. Extra good individuals.
A. A. WOOD & SON, Salline, Michigan.

POLAND CHINAS—Either sex, all ages. Some of the finest good at a low price.
P. D. LONG, R. No. 8, Grand Rapids, Michigan.

LARGE STRAIN PROLIFIC POLAND CHINA HOGS—Two choice fall yearlings, the best lot of spring pigs I ever raised, 5 sows farrowed 49 pigs.
H. O. SWARTZ, R. 37, Schoolcraft, Michigan.

Butler's Big Bone Prolific Poland Chinas
Big boars ready for service, weigh up to 250 lbs. not fat. From big prolific sows that not only farrow big litters but raise them. Write for what you want.
J. C. BUTLER, Portland, Michigan.

LARGE TYPE P. C. FALL PIGS all sold. Have the greatest bunch of spring pigs I ever raised. Eight sows farrowed 88. Come or write. Expenses paid if not satisfied. Free livery from Parma. W. E. Livingston, Parma, Mich.

Large Yorkshires—Pigs farrowed in August from prize winning stock, for sale.
JONES & LUTZ, Oak Grove, Michigan.

IMPROVED LARGE YORKSHIRES
Sows and gilts bred for September and October farrow. Service boars. Pigs all ages. Breeding and prices upon application.
W. C. COOK, R. 42, Ada, Michigan.

350 BIG TYPE MULE FOOT HOGS—All ages for sale. Prolific and hardy. Best bred for Michigan. Also Ponies. J. DUNLAP, Box M, Williamsport, Ohio

YORKSHIRE SWINE—Young boars ready for service. Also spring farrowed gilts and Aug. farrowed pigs for sale. Pairs not akin. GEO. S. McMULLEN, Grand Lodge, Mich.

YORKSHIRE SWINE—A few choice boars left. Special prices for quick sale.
OSTRANDER BROS, Morley, Mich.

Lillie Farmstead Yorkshires
Spring gilts, splendid ones. Fall pigs, either sex. Gilts bred for Spring farrow.
COLON C. LILLIE Coopersville, Michigan.

Poultry and Bees.

ATTENTION DEMANDED BY THE MATURING PULLETS.

We now find the early pullets laying or showing indications of about commencing egg production. Their singing, the reddening of their combs and the frequent visiting of nests are all sure signs of early laying. But these indications alone are not sufficient to insure a full egg basket the coming winter. The maturing pullets must be carefully handled lest they be given a setback. You can make or mar a good winter layer at this time. Good food and good care will produce excellent results, while, on the other hand, negligence will do harm.

Not later than November the young stock should be put into winter quarters. The pullets should be in their winter home several weeks before they commence laying. If they are interrupted after they commence to lay by being changed about from one pen to another, the unfavorable surroundings and the excitement incidental to being moved will check the yield of eggs for some time. Fowls get accustomed to their home and do not care to be changed about. Therefore, to secure best results get the layers into their winter home early and keep them there.

One must exercise care in feeding the maturing pullets. When taking them from the range some are likely to put them on heavy winter rations at once in order to induce egg production. Now, I am not in favor of making such an abrupt change. Rather make the change gradually and thus prevent the fowls from getting out of condition. On the other must be guarded carefully. On the other hand, some poultrymen, especially beginners, often fail to get a good egg yield in early winter because they are not liberal enough in feeding the maturing pullets; they fail to realize that the pullets at this time require a large amount of food. They are, and should be, hearty eaters. It is when their appetite fails and they do not care to eat that trouble may be looked for. Give them all the food they want but make them work for it and they will be in the best of condition. At night, especially, should they have all they want. A little food left over at this time will not do any harm. In the morning, however, they are kept slightly hungry, just enough so to encourage them to work. Were they given a full meal in the morning they would most likely spend the day in idleness.

Some may urge that liberal feeding will get fowls into an overfat condition. I have yet to find this true with growing pullets. In my opinion, no matter how much food they consume they will not put on excessive flesh. All the food they consume will tend to develop muscle and frame. It is only when pullets have maintained their growth, and egg production has not yet commenced, that we may expect surplus food to produce fat.

Some breeders consider pullets the only profitable winter egg producers. Yearling hens, if rightly handled, will also prove profitable layers during and after the month of January. Yearling hens, if not pushed for egg production the previous fall, usually molt early and are in fine condition for egg production in January. The eggs they produce will be worth many times the cost of the food the hens consume. Hens, however, if confined during the winter will be more likely to get overfat than will pullets, and must therefore be forced to work for all the food they get.

Indiana. O. E. HACHMAN.

HEXAGONAL POULTRY HOUSE.

Advantages in a House of Such Unusual Construction.

It sometimes happens that the most desirable location for a poultry house is one where a building of the usual type would detract from the surrounding buildings and mar the appearance of the place—a reason why the one described here-with was erected.

In the first place it is a compact building; it has six sides and area equivalent to one ten feet wide and twenty-seven feet long. By consulting the floor plan it will be seen that there is a feeding alley, yet it takes up but a small portion of floor space and that none of the compartment doors are far from the entrance, a great convenience in feeding,

cleaning, etc. The plan shows four compartments, but by putting in a single door, straight across in place of the two farthest from the entrance, one-half of the whole space can be used as a single pen, while there will be two pens remaining for breeding purposes.

The posts for the inside doors run from the floor to tie beams above and they are used to support the partitions, which are made of two strips of one-inch mesh poultry netting two and one-half feet wide with a six-inch board at the bottom, making the total height five and one-half feet. Two strips of netting are used because it is easier stretched than the wide netting.

The doors are house screen doors, and they may be culls of the cheapest kind; if oiled with linseed oil occasionally they will last for years and they make a light, serviceable door. A spiral door spring is used to keep them closed and no other fastening is necessary.

There are five windows which slide in grooves at both top and bottom, the openings in the building being made in the center of each of the five sides, the sixth being used for the entrance door. These five windows make a house with no dark corners and the sunlight can penetrate to the farthest corner, yet at no time will there be a flood of sunshine to overheat in the middle of the day.

The window sash are made different from the ordinary sash (see cut). The outside frame is extended so that there are really two sashes in one. One-half of the sash is provided with cross bars for 12 19x12-inch panes; the other half is without cross bars, in which can be tacked cheesecloth. The opening in the building is equal to one-half the width of the entire sash, so that it may be closed wholly with the glass or wholly with the cloth, or it may be closed with a portion of both, or left entirely open, at the will

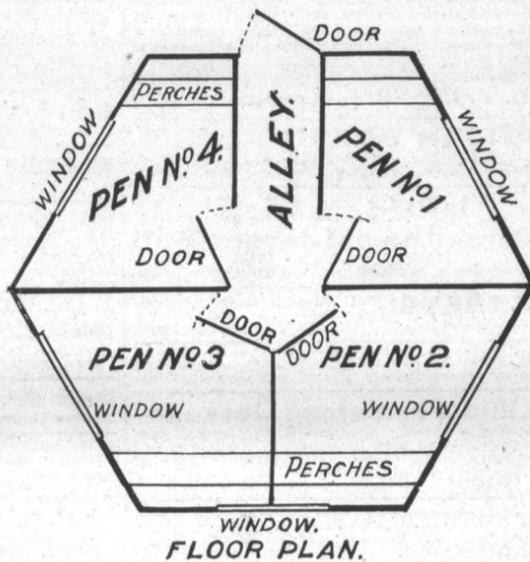
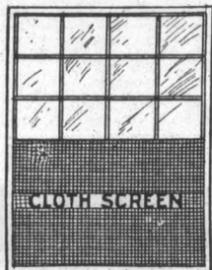


Diagram Showing Floor Plan and Window Construction of Hexagonal Poultry House.

of the poultryman; thus it will be seen that the question of window ventilation can be controlled and varied to suit the weather conditions by manipulating the sliding sash.

The roof slopes from all the six sides up and toward the center where there is an opening about 12 inches across; this opening is provided with a movable cover which can be opened in summer, allowing the vitiated air to pass out freely; in fact, it acts as a chimney to the openings below, although there is no draft upon the fowls.

The perches are used without dropping boards and are about two feet from the floor; one end resting on the girt that supports the window sash, the other in the wire netting of the partitions, they are removable and there is little chance for vermin to conceal themselves.

I find that this type of building suits my purpose better than the long type; it is easy to keep clean and free from vermin; it is convenient to work in; it is easy to build yard fences, as they run out in all directions from a common center; all parts of the interior can be seen from the entrance without going inside to disturb the fowls.

The cost of such a building is little, if any, greater than other kinds, the difference being mostly in labor. Everything is cut on the bevel except the siding, but

with a bevel square properly set to begin with all pieces are cut to that bevel and it is not so difficult as the appearance of the building would indicate.

Huron Co., O. F. M. LUTTS.

EXPERIENCE IN OUTDOOR WINTERING OF BEES.

The bee-keeper who tries to winter bees on summer stands in any form of a hive other than a chaff or double-walled hive, will, in my opinion, lose more in the value of bees than the extra expense he would be at in making chaff hives of some kind. I think that some form of hive that can be used to advantage in summer should be used. This thing of having outside winter cases to set over hives is decidedly a disadvantage in many ways. When winter is over they cannot be used about the apiary to any advantage whatever, but the bee-keeper must have a house or other shelter for them or they will become warped and weather beaten, and will last but a few years. The use of a summer and winter chaff hive certainly overcomes many of these objections.

After years of experience with chaff hives, used in connection with sawdust cushions over the top of the brood chamber, I have become convinced that there is nothing better for wintering bees on the summer stands. I winter my bees on summer stands with very little loss. They have plenty of good stores, plenty of young bees, and, properly packed, I believe in late brood rearing so that the hives will be full of young bees at the beginning of winter. At least this is my plan, and my bees winter nicely.

With too small an entrance in a damp climate, you will be sure of moldy combs and more than the ordinary number of dead bees. The trouble becomes aggravated in the course of the winter by the clogging of the entrance with dead bees. Let the full entrance be given as in summer, and clean the dead bees from it every few weeks.

During heavy storms in winter it frequently happens that hives are entirely buried in snow. While the snow is light and porous, air will penetrate it and reach the entrances of the hives, but should the



"BETTER put on this Stephenson Underwear for traveling—I've washed it and it's just like new—No! Never a darn needed. Feel how soft and comfy it is. I'm going to buy it every time for you because it's substantial, buttons well sewn on, and the stitching is just perfect. I know it by the label":

STEPHENSON
SOUTH BEND, IND.
UNDERWEAR
"STALEY BRAND"

No. 905—Union Suit. Royal Rib; gray tint; worsted mix, a combination of Territory Worsted Yarn and Strict, Good Middling Cotton Yarn; the collar is hand made to prevent stretching and sagging so common in heavy-weight Union Suit neckbands; button holes reinforced; all seams reinforced to prevent ripping; cuffs attached by a six-thread flat seam; the shoulders are sloped in the cutting and made elastic by reversing the webbing at that particular point; wide flap crotch which covers completely, making it satisfactory and very convenient; heaviest and warmest garment on the market for the price. **\$3.00**

Other numbers as low as \$1.00 per garment. Write for interesting booklet on Underwear Stephenson Underwear Mills, South Bend, Ind. Product Sold to Merchants Only

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Write today for our free Trappers' Book—tells you all about how to increase your catch, and inside facts about how to get the most money out of furs. Best book for trappers ever published. No up-to-date trappers can afford to be without it. Our confidential information is very valuable and will be sent to you monthly during the season—it means big money to trappers. All of the above free for the asking. Address **I. ABRAHAM** 213 N. Main St., Dept. 160 St. Louis, Mo.

SKUNKS

and all other furs will be high this season. I trapped from 1890 to 1899, the year I started in business and I know the hardships a trapper has to go thru to be successful. Why not SHIP YOUR FURS this season to a man who understands the business from the trap line to the finished garment. I am that man and I want you to have my free price lists which contain reliable information and quotations that any man can understand at a glance. **JAS. P. ELLIS, 35-37 Mill St., Middletown, N. Y.** Formerly 137-139 W. 29th St., New York.

RABBITS

—We will sell Rabbits for you to good advantage; also poultry, veal and general farm produce. Twenty-five years in Detroit, in the one store assures honest dealings. **CHAS. W. RUDD & SON, Detroit, Michigan.**

POULTRY.

Barred Rock Cockerels and Hens, Bargain Prices W. C. COFFMAN, R. No. 6, Benton Harbor, Mich.

PRIZE WINNING Barred Rocks, R. I. Reds, High quality, low prices. 500 Indian Runner and Pekin ducks, \$5 per trio, circular free. **EMWOOD FARM, R. R. No. 15, Grand Rapids, Mich.**

COLUMBIA Wyandottes, Winners at Chicago, Grand Rapids, South Bend and St. Joseph. Stock and eggs. **RICHARD SAWYER, Benton Harbor, Michigan.**

PINE CREST WHITE ORPINGTONS won at State Fair 1st and 3rd cockerel, 1st and 3rd hen and 1st pullet out of seven entries. Stock for sale. **Mrs. Willis Hough, Pine Crest Farm, Royal Oak, Mich.**

SILVER LACED, golden and white Wyandottes Eggs for hatching at reasonable prices; send for circular. **Browning's Wyandotte Farm, R. 30, Portland, Mich.**

LILLIE FARMSTEAD POULTRY B. P. Rocks, R. I. Reds, and S. C. W. Leghorn eggs for sale. 15 for \$1; 25 for \$1.50; 50 for \$2.50. **COLON C. LILLIE, Coopersville, Mich.**

WHITE WYANDOTTE COCKERELS from heavy layers and thoroughbred stock. \$2 up. Write wants. **A. FRANKLIN SMITH, Ann Arbor, Mich.**

WHITE LEGHORN COCKERELS—Wyckoff Strain. **Maple City Poultry Plant, Box C, Charlotte, Mich.**

DOGS AND FERRETS.

FOX AND WOLF HOUNDS of the best English strains in America; 40 years experience in breeding these fine hounds for my own sport. I now offer them for sale. Send stamp for Catalogue. **T. E. HUGSPETH, Sibley, Jackson Co., Mo.**

HOUNDS FOR HUNTING Fox, Coon, Skunk **FERRETS** and Rabbits. Send 2c stamp. **W. E. LECKY, Holmesville, Ohio.**

FERRETS—A SPECIALTY. Best Rat and Rabbit Hunters. Write at once for prices. **C. M. SACKETT, Ashland, Ohio.**

Farmers' Clubs

Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto:

The skillful hand, with cultured mind, is the farmer's most valuable asset.

CLUB FAIRS.

The Washington Center Farmers' Club held their thirteenth annual fair October 9, at the home of Mr. and Mrs. C. N. Curren. The weather looked somewhat threatening in the morning but by noon there were about 175 people gathered together for a pleasant day of visiting and sight-seeing. Two large banners stretched across the buildings announced that all were welcome to the Farmers' Club Fair. Flags, bunting, crepe paper and autumn leaves converted the inside of the building into a bower of beauty. A tent was erected for the poultry and some very fine birds were on display, also a pair of white rabbits. Every department was well filled. There were over 200 entries. The display of apples, potatoes and corn were especially good. A Hubbard squash weighed 22 pounds. Mr. Mette brought a cabbage weighing 13½ pounds, also a very large pie pumpkin. Mr. Crowell showed a pumpkin which weighed 35 pounds. The fancy work department was well filled, there being a large doll dressed in an outfit made from a dress and skirt over 100 years old, being all sewed by hand, also the embroidery done by hand. It showed very artistic needle work. Mrs. Ackley, of near St. Johns, had it on display. The canned fruit, jellies and grains of all kinds all deserve special mention.

About 11:30 President Long called the meeting to order and after opening exercises appointed the different committees for acting as judges in different departments. After dinner people gathered together, some in groups and some viewing the exhibits until they were called together by the photographer, who took several pictures of the crowd, waiters, mothers and babies. The interest in the fair seems to be increasing every year and this was one of the best the Club has ever held.

The November meeting will be held at the Cottonwoods with Mr. and Mrs. W. C. Long, Nov. 13.

CLUB DISCUSSIONS.

Add New Members.—The Salem Farmers' Club held its October meeting at the new and commodious home of Mr. and Mrs. Irving Johnson. After the bountiful dinner, which the Salem ladies know so well how to prepare, an excellent program was rendered. Mrs. Mae Atchinson rendered a recitation entitled, "The Golden Barn," dealing with the new laws of sanitation now in force. Also speaker did not favor the silo, but kept to the older method of feeding good grain, hay, etc. This topic was discussed by the Club, most of the speakers favoring the use of the silo. An interesting reading was given by Mrs. Kate Smith, entitled, "The Two Clocks." A humorous recitation was given by Mrs. Dewey Farley, entitled, "A Clean Shave." A paper was read by Mr. Chas. Ross, on the "Farmer as a Business Man." The writer mentioned many methods whereby the farmer could put his work upon a more business-like basis, such as buying for cash, where cash will buy the most; setting your price upon your own crops, and so get some of the profits in this time of scarcity instead of giving it to the other man; cutting oats green for feed; housing farm tools; plenty of oil, and an inclination to use it. This was a very practical and helpful paper. Club next discussed how to get good catch of clover. Led by Mr. Johnson. Resolutions were read on the loss of a dear member of the Club, Mrs. Geo. Whiteman, by chairman of committee, Mrs. Alice Lane. The subject of a reading course was brought before the Club. No action taken. New members, Mr. and Mrs. Ira Soper. New executive committee, Mr. and Mrs. Irving Johnson, Mr. and Mrs. Ira Soper. Closed with music.

How the Ladies Would Farm.—The Northeast Venice Farmers' Club held its October meeting at Sunnyside Farm with Mr. and Mrs. Chas. Everets on Thursday, Oct. 23. Meeting called to order by President Clara Nichols. Devotional services conducted by Mrs. May White. After partaking of a bountiful dinner meeting again came to order. "How I would run the farm if I were a man," was the title of a talk given by Mrs. Ransom, who convinced all present that she would have made an ideal farmer. "How I would keep house if I were a woman," was next, by Geo. Lawcock. Dennis Kildea gave an impromptu oration on the condition of the American farmer which was enjoyed by all. J. E. Lowcock had charge of question box consisting of nine questions which brought out some very good discussions. Several good literary and musical numbers were enjoyed. Club adjourned to meet with Mr. and Mrs. Geo. Koon the second Thursday in November.—Cor. Sec.

The Milford Farmers' Club will entertain the Oakland County Horticultural Club at 10:30 a. m., Saturday, Nov. 8, at Milford when A. M. Bullock of Lapeer will give an address on "Supplying Orchard Fertility," and W. D. Flint, of Novi, will speak on the "Efficiency of the motor truck for fruit growers."

Grange.

Our Motto—"The farmer is of more consequence than the farm, and should be first improved."

A PAIR OF GOOD MEETINGS.

Western Pomona Considers Variety of Topics.

Ottawa, otherwise known as Western, Pomona met with Conklin Grange last month and reports a good attendance regardless of unfavorable weather and roads. After a dinner which belied reports of unsatisfactory crop conditions in that section, Master N. B. Spencer called the afternoon session. The roll-call response was in answer to the question, "What is the greatest need of the times?" and brought many good suggestions. One brother thought that the abolition of the liquor traffic is the greatest need. Others thought we are much in need of good roads, of honest, upright and unselfish men for officials and of granting to women the right of suffrage. "How to supply our cows with feed when pasture is short," was answered by Bro. Ralph Wells, who thought the use of the summer silo the best means of furnishing such feed. A good patch of sweet corn was suggested by others. The question of re-submitting the bonding question for good roads brought out a lively discussion. While Pomona Grange does not claim to have settled the matter, still the main sentiment seemed to be that the county road system is all right if we could get good, unselfish, competent men for commissioners and overseers.

Bro. Spencer, in a very able talk, described how membership in the Grange may benefit a person in his life work. He spoke of the social and educational advantages of the order and how the latent abilities of members are developed by meeting together and exchanging ideas upon the current topics of the day.

At the evening session Bro. Courtright described the workings of the employers' liability law and how it affects farmers. While farmers were supposed to be exempt from the effect of this law, yet if the hired man is injured while running a binder or mower, or in erecting or repairing a building, the farmer can be held for damages, from the fact that this law classes such work as mechanical labor. Myrtle Brown and Anna Sivers gave many good suggestions in regard to the improvement of rural schools. They urged all districts to endeavor to get their schools into the "Standard Class" as prescribed by the State Superintendent of Public Instruction. Bro. L. C. Root, of Allegan, gave an interesting address on "General Improvements." He portrayed the great transformation for the better that has come to the farming class during recent years, and stated that in his opinion the Grange was the prime factor in bringing about this change. The literary and musical numbers furnished by Conklin Grange added much to the pleasure of the program.

Eaton County Combines Business with Pleasure.

In the commodious home of Delta Mills Grange was held, during October, a meeting of Eaton Pomona Grange which, in many respects, was the most successful in the history of the county Grange. Every section of the county was represented, some subordinates sending good-sized delegations. All seemed determined to make the most of the social side without in any way allowing the business of the meeting to suffer. The first duty of a Pomona Grange is to assist struggling subordinates in any way possible. While reports from all points were reasonably satisfactory the matter of taking some steps whereby a little missionary work might be done in behalf of the weaker Granges was brought up and it was decided to have members of neighboring Granges call on them. It was also decided to invite Barry county patrons to pay a fraternal visit to their Eaton county brethren during the coming winter, and a committee composed of Hayes Tieche, of Northwest Kalamo Grange, A. D. Kenyon, of Oneida Center Grange, and Willard Upright, of Charlotte Grange, were appointed to take charge of the matter. The bi-county meetings held last winter, in which nearly a thousand members participated, have not been forgotten and everyone is anxious for a repetition of this pleasant event. Resolutions of thanks to those individuals outside the order who assisted in the recent "better babies" contest were adopted, and a resolution from Charlotte Grange urging that the State Grange return to its former method of electing its officers and executive committee, was endorsed by the Pomona. Hon. E. S. Pray was elected to represent the Pomona at State Grange. It was also decided that the Pomona would again issue a year book and a committee of three was appointed to have charge of the work.

The program, which was in charge of the lecturer, Mrs. Bernice Curtis, contained many pleasurable and entertaining features, among which may be mentioned an amusing play given by the members of Oneida Grange. Other Granges contributed musical and literary numbers and the program closed with an address by Prof. W. H. French, of M. A. C., the keynote of whose theme was that the child from the farm should be taught to respect the calling of its father, and his ideas on the teaching of agriculture in the public schools were heartily endorsed by those present.

Kalamazoo Co., with Schoolcraft Grange, in Woodman hall, Wednesday, Nov. 12.

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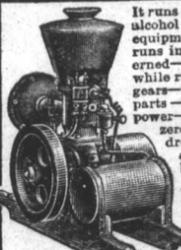
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"After all other remedies had failed, 'Sal-Vet' destroyed the worms in one of our horses. It surely does the business

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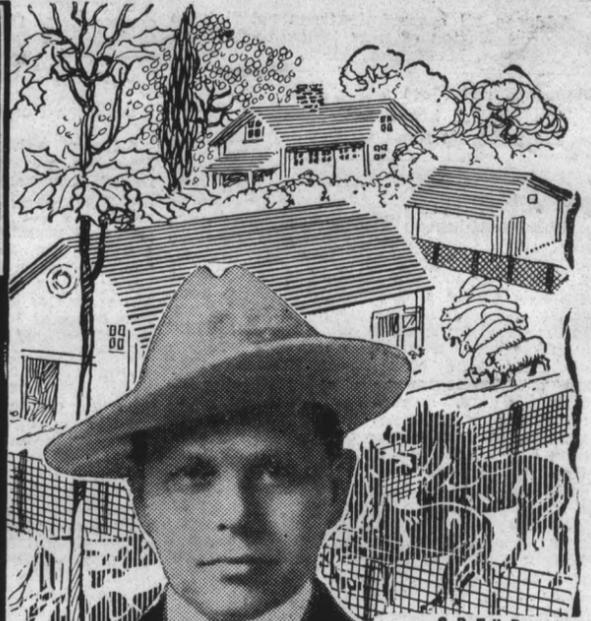
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Mr. Feil is a Registered Pharmacist, a graduate of the Cleveland School of Pharmacy and of the National Institute of Pharmacy. He has been engaged in laboratory work for more than 25 years and was formerly assistant to Dr. Nathan Rosewater, former Chemist of the Ohio State Dairy and Food Commission, for many years has been engaged in compounding veterinary remedies.