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DETROIT, NOV. 20, 1915

CURRENT COMMENT.

Again as the Thanksgiving, giving season approaches, people of Michigan, as well as the country, have exceptional reasons for thankfulness. Nature, coupled with industry, has given us bountiful yields of foodstuffs, which may be counted a greater blessing because of the fact that peace and industrial prosperity prevail, affording ample opportunity to enjoy these abundant fruits of nature.

Our first page design conveys something of this idea to the reader's mind. The Thanksgiving bird perched upon the plow is symbolical of a prosperous agriculture and the ability to enjoy a suitable Thanksgiving feast. The circle on which is perched the national bird indicates that in America there is a special cause for thankfulness at this Thanksgiving season.

In the enjoyment of the temporal feast, the spiritual significance of the day should not be forgotten, as is aptly brought out in the annual Thanksgiving proclamation issued by the chief executive of the state, the text of which follows:

The people of the United States are grateful to the Infinite Father for their capacity and disposition to appreciate the bounties of nature. Through this appreciation, man cheerfully applies his labor to the earth in order that her bounties may serve as a means for realizing the essential joys of life. Abundant harvests are simply a necessary means to an end. The measuring unit of life is not to be found in bushels of grain, or potatoes, or fruits, or coal, or copper, or silver, or gold, or houses, or lands, but in the laughter of children around the hearthstone, in the love and loyalty of the home. "Home is the nation's safety." In the year nineteen hundred fifteen, we are grateful for the benediction that rests upon the American home. In the great Commonwealth of Michigan we are, in common with all the other states, the recipients of the richest blessings. It is eminently fitting that we set apart November twenty-fifth as a special day for Thanksgiving—a day on which we may pray for "Peace on earth, good will to men."

Therefore, I, Woodbridge N. Ferris, Governor of the State of Michigan, do hereby designate Thursday, the twenty-fifth of November, as a day for all the people of this Commonwealth to celebrate in thanksgiving and prayer.

Great as have been Farm Power and developments, particularly in the way of power and transportation, in the industrial world during the past half century, recent and impending developments along similar lines in the agricultural field promise to eclipse them in far-reaching importance.

Beginning with the invention and development of the internal combustion

engine, this progress has been steady and rapid. The development of the automobile and auto truck has reached a stage which promises the solution in a large way, of the problem of farm transportation, and the later development of the farm tractor promises to have nearly, if not quite, as great an influence upon the conduct of farm operations in the field as have other developments of the gas engine in other departments of farm power and transportation.

One of the most wholesome effects of this development will undoubtedly be the interesting of a greater proportion of country bred young men in agriculture as an occupation. Already the influence of the automobile has been felt in this direction, and that of the farm tractor is making its appearance as a close second in the same line of influence. Compared with this beneficial influence toward maintaining a high percentage of independent and progressive home-owning farmers, other considerations are of secondary importance.

Early in the period of development of the automobile, many pessimistic prophets insisted that its development would ruin the horse breeding industry; such, however, has not been the case. Now similar prophecies are being made on account of the modern development of the farm tractor. The result is, of course, problematical so far as our horse breeding industry is concerned. There is a possibility that the nature of the demand may be altered as was the case with the development of the automobile. Always, however, a very considerable number of good horses will be needed both on the farm and in other industries. The European war demand has taken many thousands of second-grade horses from the farms of this country. These may well be replaced by horses of better type and breeding, which will insure a good demand for good horses in the immediate future.

In the last analysis economy in the performance of any task, together with the facility of its accomplishment, must determine the agencies employed upon the farm as well as in the factory. But while these industrial and economic developments may be expected to be as frequent and rapid in the future as they have been in the past, they can scarcely be so rapid as to preclude an industrial adjustment to the new conditions which will permit the gain to agriculture from such development to far outweigh any possible curtailment along any special line of production.

Now that the farm campaign is practically closed, preparations for winter are in order. An important factor of these preparations is the selection of reading matter for the winter season. Not the least important consideration in this connection is the farm trade paper which will aid in pointing out the mistakes of the past season and methods by which their repetition next year can be avoided.

To be of the greatest value in this connection the farm trade paper should be one which is adapted particularly to the locality in which the operations are being conducted. The Michigan Farmer is a trade paper published especially for the farmers of Michigan, and its columns are devoted wholly to technical matter relating to Michigan agriculture and the solution of agricultural problems upon Michigan farms, together with general educational matter and fiction selected with a view to its fitness to occupy a prominent place upon the reading table in the farm home.

In addition special service to the subscriber is always gratuitously given. Something new along this line will be announced in the near future, together with the general plans which are now nearing completion, for mak-

ing the Michigan Farmer of still greater practical value to its readers. In the selection of reading matter for the winter give your home trade paper the consideration which it merits.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Fighting and diplomatic strategy in the Balkan district hold first place in the active interest of the belligerent nations. The Austro-German armies have forced the Serbians still further back into the recesses of the mountains, but at tremendous cost, while on the eastern front the Serbians have checked the Bulgarian advance and compelled the latter forces to call upon the Germans for assistance. Farther to the south the French troops, assisted by the British, have met with success in not only repulsing the Bulgarian attacks but in undertaking small offensive movements with good results. Italy has entered the struggle in this district and her ships have shelled Dedeagatch in southern Bulgaria and destroyed trains of war munitions. No important changes are reported from the Dardanelles. On the Russian front the Czar's forces are on the offensive over a greater portion of the fighting line, especially in the district of Riga and Dvinsk have they succeeded in defeating the objective of the German forces who were intent upon capturing these points during the fall campaign. Along the Sty river in the south the Austro-Germans by a counter-stroke pierced the Russian lines and captured 1500 prisoners. The Russians for several weeks back have been slowly advancing in this section. On the western front nothing of importance is reported. By a sudden attack Sunday morning the Germans succeeded in taking a French trench in Artois but the ground was regained a few hours later.

The sinking of the Italian steamer Ancona by an Austrian submarine boat, which resulted in the drowning of American passengers, is the cause of much diplomatic correspondence in which the United States is involved. Austria contends that the action of the submarine commander was justified, while Rome declares that the submarine cannonaded the Ancona without warning.

Conventions assembled Monday in each of the 23 Chinese provinces to record the decision of the people on the acceptance of a revised constitution and the substitution of a monarchical form of government for the republic. The vote was taken last week.

The Bohemian National Alliance is appealing to the nations of the world with the exception of Germany and Austria, for an independent state to be formed from territory now controlled by Austro-Hungary.

National.

The enormous increase of mail matter in the third contract section, which includes Michigan, Ohio, Indiana, Illinois, Minnesota, Wisconsin and Missouri, has made it necessary to increase the pay to railroads for carrying this mail matter, to \$20,000,000, or \$4,300,000 above the allowance made in 1907.

A movement is developing in the Pacific coast states looking toward the acquisition of lower California and the northern portion of Sonora and Chihuahua of Mexico. The purpose of acquiring this territory would be to prevent Japan or other nations who may become enemies of the United States from establishing a naval base in the Gulf of California.

Robert Fay, the German who was arrested, with others, charged with assisting in attempts to destroy ships carrying munitions of war to the Allies, is about to turn state's evidence, following the long line of consistent testimony collaborated by the federal secret service men.

An organization headed by prominent Americans has been incorporated in New York state for the purpose of fostering Americanism by uniting organizations to spread the knowledge of American laws and institutions and bring about a mutual understanding between aliens and citizens of this country.

In order to systematize the expenditures of the three departments of the federal government, President Wilson and his cabinet will hold a conference with members of the ways and means committee of Congress to arrange if possible for an appropriation program that will give each department of the government its proportionate share of income.

Booker T. Washington, foremost teacher and leader of the Negro race, died at his home near Tuskegee Institute, Sunday, following a nervous breakdown. He was born a slave in Virginia in 1857 or 1858. Largely through his efforts he succeeded in establishing the Tuskegee school con-

sisting of 40 or more buildings with 2,500 acres of land valued at over \$1,500,000. Last year there were enrolled 1,662 students. Since 1882 more than 8,000 graduates were sent out to do service as teachers or industrial workers.

LIVE STOCK AND POTATO MEETINGS IN WEXFORD COUNTY.

One of the best live stock meetings ever held in Wexford county was conducted at Manton on November 10, and Buckley on November 11. Mr. D. D. Aitken, President of National Holstein Breeders' Association, of Flint, Mich., and Prof. A. C. Anderson, of the Michigan Agricultural College, were the principal speakers of the day. Mr. Aitken's topic was "Holsteins and Farmers," and the members of the association voted it the best address ever delivered before the county association. Mr. Mark Curdy, President of Livingston County Holstein Association at Howell, Mich., also gave an interesting address on the work of their association. Mr. L. A. Lillie, Secretary of West Michigan State Fair, of Grand Rapids, gave an interesting address on "Advertising Farm Products." In connection with this program J. F. Zimmer, County Farm Agent, arranged to hold a potato show, and \$25 in prizes were given away for the best exhibit of potatoes. It is hoped that we may have many similar meetings in Wexford county as cattle improvement is one of the main things on the farm today.

NATIONAL CROP REPORT.

November 1 Crop Conditions.

The month of October was generally favorable, almost ideal, to agriculture throughout the United States. The greater part of the month, particularly the last half, was characterized by warm, sunny drying weather, which facilitated the maturing and harvesting of the late grain crops, favored cotton picking and continued development of late growing crops in the south, and was particularly helpful in drying out a very large acreage of immature frosted corn in the northern states. Plowing, fall seeding, and other farm work which had been considerably, and in some states seriously, delayed, advanced very rapidly. Rarely has October been so nearly ideal. Threshing in the grain states is generally well advanced toward completion, and unthreshed grain is now largely stacked. Although most of the month has been dry, the soil almost everywhere contains ample moisture.

Corn.—The estimated yield per acre and total production are somewhat greater than forecast from the October 1 condition report. The estimated grand total of 3,091,000,000 bu. approaches within 34,000,000 bushels of the record crop of 1912, though the estimated yield per acre of 28.3 bushels has been three times surpassed in the last 10 years. The yield in the northern portions of the corn belt was seriously reduced by frost damage. A large proportion of the corn throughout Michigan, Wisconsin, Minnesota, Iowa, North and South Dakota, Nebraska and Montana failed to mature, being in the dough or milk, or at even less mature stages at the time of killing frost. Such corn, even where sufficiently advanced to have distinct feeding value, is very chaffy, and the yield in weighed bushels falls far below its early promise. The quality in states where the proportion of the crop injured by frost is high ranges generally below 50 per cent. The quality in the remainder of the corn belt is generally fair and in most places better than last year. The average for the United States, 77.2 per cent, is the lowest since 1901.

Quality of Grain.—A considerable percentage of wheat was so injured as to become unsuitable for milling and will have to be used for stock feed. The average weight of winter wheat, as reported, is 57.8 pounds, the lowest since 1905. The quality of spring wheat in the northern sections of the belt was very good, the weight per bushel, 58.1 pounds, being the highest since 1905. Oats suffered severe damage from excessive rain at time of harvest, in some of the commercially important states. Taking the country as a whole, oats equal exactly the 10-year average in quality. In weight, 33 pounds per bushel, oats are equaled during the past 18 years only by the crop of 1912, the unusual weight being most marked in the northern tier of the north central states. Barley, averaging 47.4 pounds, is about one pound heavier than usual.

Buckwheat.—Buckwheat yielded an estimated average of 20.4 bushels per acre, the grain being slightly above average quality, having suffered some damage from frost, wet and cold
(Continued on page 463).

Reclaiming Swamp Lands

THERE are approximately 4,400,000 acres of swamp land in Michigan, a large part of which is in the northern counties, and in these counties the prospect of reclamation is especially bright, because of the great water fall that everywhere obtains.

It is amazing to contemplate the great acreage in this section which, with a comparatively small outlay, can be converted into the most desirable land from an agricultural standpoint. These lands are ideal for raising mint, celery and onions, and are the best yet for hay. However, it must not be taken for granted that all swamp land is so easily made available, or is so productive when reclaimed, for the same rule applies to swamps that applies to other land; to wit, that there are all kinds of swamps, and the secret of success lies in the ability of the purchaser to distinguish the difference between the desirable swamp, and the undesirable. We will attempt to describe the different types of swamp land, in such a manner as to be of assistance to those intending to purchase land for reclamation purposes.

The best of these lands are the "Blue Joint" marshes; first, because there is practically no clearing to be done, and, second, because the soil is fairly sweet and will raise good crops of hay from the start.

Next we have the "Wire Grass" marshes. These are just as good as the blue joint type, but require rotting and subduing, which is done by plowing carefully, so that all the sod is turned under, and sowing to alsike clover. We have seen a mixture of alsike and timothy cut four tons per acre on this kind of marsh, which had been farmed for three years. This particular marsh is underlaid with sand.

Then, we have what are locally known as "Red Marshes." In these the muck is from one to four feet deep and under this is a white sand. Personally, we do not know whether this class of land is desirable or not. We have known of only one case where the reclamation of this kind of swamp has been attempted and that was a failure, but that was to be expected, as the man who tried it is of that numerous class known as chronic failures. However, we see no reason why this class of swamp would not be as good as any other, if it was well drained, limed, and sown to alsike clover for three or four years to sweeten it.

Now we come to the timbered swamps; first among these is the "Black Ash" swamps, they grow black ash, black birch and elm. This class of swamp will compare favorably with the wire grass marshes, except that it costs more to clear and prepare it for the plow.

Then there are the "Tamarack" swamps. They grow tamarack, cedar and spruce. In these the soil is often cold, owing to the presence of springs. We believe that, when the muck is sufficiently deep, if this type of swamp was well tiled, the tile being laid about three to four feet deep, the spring water would be carried off, and the soil made as warm as any other.

There are some swamps which are underlaid with marl, which is composed largely of carbonate of lime and is a good fertilizer or amendment, when hauled on other land. We see no reason why, if this land was well drained, it should not make good as a farming proposition; however, we do not profess to know anything about it.

Swamp Reclamation an Investment.

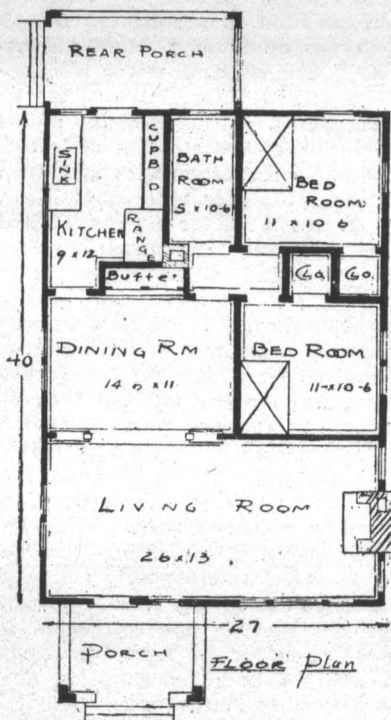
Having described the land, we now come to the question of reclaiming it. Allow us to suggest here, that this is not a poor man's proposition. We are pretty well acquainted with the land

in three of these northern counties, and we know of very few cases which a man with less than \$5,000 or \$6,000 has any business to attempt. And furthermore, this is not a proposition for the real estate men, or at least not the type of real estate dealers with which these northern counties are now blessed (?)—the men who have bought large tracts of land and are waiting for the advance of improvements to raise the price. But this problem is for those who have money to invest and are willing to invest it in improvements, which improvements return handsome dividends when executed wisely.

It doesn't cost as much to improve these swamp lands as one would naturally think, since because of the great water fall which is generally to be had, it doesn't require a very large ditch; and since the advent of dynamite in ditching, this part of the problem is not so serious as it used to be. This point can not be better illustrated than by a bit of our own experience: A neighbor was trying to let a job of ditching at \$1.00 per rod, and the lowest bid was \$1.25; we looked over the ground, and took the job. It cost us, including labor and dynamite, 62 cents a rod to dig the ditch.

Ditching with Dynamite.

If a ditch, say eight feet wide and five feet deep is required, we go over the ground where the ditch is wanted and without any previous work on the ground, put down two rows of holes about two and a half feet apart, and about the same distance between holes in the row. They should be about two and a half feet deep, the charge varying with the character of the soil. Then put down a third row of holes between the first two to a depth of four and a half feet, and load this row a little heavier than the other two. Prime the first two rows with electric blasting caps, and the third row with delay electric blasting caps and ignite the whole with a blasting machine. The first two rows explode, tearing off the top, and loosening up the soil, and a moment later the center row explodes, blowing out the core, and making a very good ditch. Then by taking an axe and shovel and cutting off a few projecting roots, and trimming up the bank a little here and there, we have just as good a ditch as we



could dig by hand, and at a fraction of the cost. In most of the ditching, such as side ditches and branches that empty into the main ditch, only a small one is required; which is made by a single row of holes nearly as deep as the ditch is wanted.

Clearing the Land.

Having completed the drainage of our swamp, we must next clear the

land. In the case of the marsh, there is very little of this to do, but with the timbered swamp it is very different. When the brush is very thick—and it generally is—the trees can be felled in windrows and the smaller brush thrown upon them, then allowed to lay over winter and burned when sufficiently dry the next summer. The result is that you have only the largest logs and stumps left, the latter setting on top of the ground so they can easily be pulled and burned. Care should be taken, however, that the swamp doesn't get too dry before burning, for in case of extreme drouth the muck will burn, leaving the land full of holes and in bad shape to work. As a rule the average swamp can be cleared ready for the plow, for \$20 to \$30 per acre.

Having the land cleared it remains to subdue and sweeten a soil that is sour. The remedy is lime and alsike clover; they will bring the land around, and pay a profit while doing it, and in from three to five years we have as good land as can be found anywhere.

Otsego Co. G. F. DELAMATER.

AN ATTRACTIVE BUNGALOW PLAN.

For the housewife who does not care to be continually chasing up and down the stairs during the day's work, the accompanying house plan will appeal quite strongly. It is hard to find a more economical and convenient floor plan arrangement in a bungalow than the one that is shown here. There are two good-sized bedrooms that are



supplied with closets and open into the bath room in the rear of the house. A built-in buffet in the dining-room, with the colonnade opening, with china cases or book cases in the pedestals, will go to make this an up-to-date plan. The range in the kitchen is located close to the flue for a direct draft. The built-in cupboard and the sink made the kitchen a handy workshop for the housewife. This 27x40-foot house can be built for \$2,500.

W. E. F.

EXPERIENCE IN INOCULATING LEGUMES.

Late in September of 1914 I had seven acres of wheat on which I used 200 pounds of commercial fertilizer per acre. The following season I harvested 22 bushels of wheat per acre. On April 27, 1915, I had five acres of this wheat land sowed to alfalfa. The seed for about four acres was inoculated with pure culture obtained from the Agricultural College. The seed was broadcasted and harrowed in with a spike-tooth harrow as fast as sown. At present I can see no difference in stand of alfalfa, though I think it is hardly a profitable stand. The soil is slightly sandy and I do not think it is sour. I consider that the land was not fertile enough to insure success with alfalfa. I believe that the condition of the land is generally the cause of failure or success of inoculation, but in the following case the condition of the weather was the great factor.

On June 15, 1915, I drilled two bushels of hand-picked beans. One bushel was inoculated with pure culture. The beans seemed to make about the same growth throughout the summer, but about two weeks before the beans would have been ripe they were frosted. The frost did not affect the inoculated beans, except that a few leaves

fell off, while the leaves all came off the uninoculated beans and most of the pods were injured, the beans not growing any thereafter, simply ripening. These beans were all harvested at the same time but the pods and beans of those inoculated were much larger and brighter than the rest, 25 per cent better at least.

I consider that the experience obtained from inoculating in this case has fully paid me for my trouble and expense, besides the substantial increase in the bean crop.

Montcalm Co.

M. GEORGE.

DRAINAGE QUESTIONS.

A Six-inch Tile Not Large Enough.

I wish you would kindly advise me regarding the following question regarding drainage. I own a farm on St. Clair river. The farm runs back from the river very near a mile and two-thirds. The largest part of the land is heavy clay. I want to tile or underdrain this land, starting with the main drain at the river bank where the bank is about 12 feet high and running straight west with the main drain. Across the center of the farm is a ridge probably 10 feet high and sloping again to the west; now I intend to lay the main drain deep enough so as to be able to drain the west part of the farm and I would like to know if a six-inch vitrified sewer tile would be the right kind and size for the main and how much fall should there be to every 100 feet; how far apart would the laterals have to be, also how deep and how much fall should they have?

St. Clair Co.

SUBSCRIBER.

A tile drain one and two-thirds miles long is a very long drain. The lower half or third of its length will be called upon to carry an immense amount of water during the wet part of the year. I do not believe a six-inch tile will be sufficient. An eight-inch tile for the lower half or third of the drain will be much better and if the farm is very wide, (you do not say how wide), so the lateral drains are quite long, it will pay to use a 10-inch tile for some distance. Some may say that an eight-inch or 10-inch tile will not make much difference, but it must be remembered that tile (cylinders) carry water or permit water to flow through them in proportion to the square of their diameter. Hence six-inch, eight-inch and 10-inch tile would carry water in proportion to 36, 64 and 100, or a 10-inch tile will carry nearly three times as much water as a six-inch, and an eight-inch will carry nearly twice as much as a six-inch.

I would suggest that you use eight-inch tile for the first half mile, six-inch for the second half mile, then five-inch for half a mile and the balance four-inch. If the laterals are over 40 rods long I would use four-inch tile for 20 rods and then three-inch for the balance.

This is a job of tiling that requires a careful survey. Don't trust anyone to lay out this main drain, except a good surveyor with a good level. Beyond the ridge where the land slopes the wrong way you don't want your ditch to be like Horace Greeley's. He said his ditch was a good one only the water run the wrong way.

If carefully laid to a true grade line a ditch will work successfully with as little fall as two inches to 100 feet. But get a greater fall than this if you can. In fact, get all the fall you can.

On heavy clay land drains ought to be no more than three yards apart and not over two and a half feet deep. In deep clay two feet is better. If too deep on heavy clay it takes too long for the water to get away after a heavy rain.

COLON C. LILLIE.

The careful farmer has long since placed his implements under cover, but the man who has been "too busy to bring them in" will soon forget them entirely and they will be permitted to remain out of doors all winter to get a beautiful weathered appearance, not to say a coat of rust on all metal parts.

Make Money Pulling Stumps!



Add new, rich, crop growing land to your own farm by clearing it of stumps. Clear your neighbors' land. Your Hercules will be kept busy when others see what it does. Big profits for you. With the

Hercules All-Steel Triple Power Stump Pullers you can clear an acre a day. The known and proved stump puller all over the civilized world—easiest to operate—most durable. Special introductory price, 30 days' trial offer, 3 years' guarantee, on immediate orders. Write for big Free book of land clearing facts.

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"Natco On The Farm"

is the title of our new book that every farmer who takes pride in his farm buildings should have. It shows with many fine illustrations the use of Natco Hollow Tile for barns, houses, corn cribs, etc. Send for it. Study it. Also get our Silo Catalog and learn about the money-saving, worryless, repairless

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"The Silo That Lasts for Generations"—that perfect ensilage preserver that can never blow down, decay, warp, crack, crumble or burn. So efficient that a great demand for other Natco buildings was created and they are now springing up everywhere. Send for these books. Ask for free plans and advice. Let us save you money for years to come. Write now.

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Crush ear corn (with or without shucks) and grind all kinds of small grain.

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Bowser Mills are differently constructed from others. Light running—handy to operate. In 10 sizes from 2 to 25 H. P. Sold with or without elevator. We also make Sweep Grinders. Write today.

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Table mounted on grooved rolls. Almost self-feeding with even heaviest logs. Cut is down—not against operator. Many other exclusive advantages. Write for circulars—also our drag saw machines, saw and shingle mills, hoists, etc.

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HUSK YOUR CORN AT A CASH OUTLAY OF 1c PER BU.

Write for Our Offer

ADAMS HUSKER CO.,
MARYSVILLE, O.

The Farm Woodlot Problem

THE problem with the farm woodlot is to make it pay. Farmers can no more afford to keep unprofitable land than they can afford to keep unprofitable cows—the Department of Agriculture through the work of the co-operative cow-testing associations has demonstrated the folly of "boarding cows." Idle land which is not growing more valuable is like the boarder in the dairy herd. Every farmer needs to know at the close of the year whether he is richer or poorer for his timbered land. It costs money to hold land. Every acre means carrying cost. The tenant farmer pays this cost in rent. The man who works his own farm should be able to earn at least rent and wages. If he sold the farm and put the money in a good savings bank it would yield him a yearly income without the lifting of a finger. His farm is an investment. It should be a paying investment. A bank which paid no interest would be a poor place to put savings. So a farm which does not yield its owner and user a fair return on his investment as well as a fair return on the labor and industry of himself and his family is a poor place to work. If the woodlot does not directly or indirectly compensate for taxes and interest allowance on its value, it is not doing its share toward making the farm pay.

Nearly 150,000,000 acres, or two-fifths of the total farm area, is either woodland or other unimproved farm land. The total farm area which either has or should have timber growing on it certainly exceeds 200,000,000 acres. The productive capacity of these 200,000,000 acres is enormous. In area this is much more than the entire holdings of the government in the national forests. It is nearly equal to the area of the Atlantic states from Maine to and including Maryland, with Ohio, Indiana and Illinois added. With an average stand of 3,000 board feet to the acre (a much smaller stand than could be counted on if moderately good forestry were everywhere practiced) this land would have on it 600,000,000 board feet of timber. The annual lumber cut of the entire country is in the neighborhood of 40,000,000 feet. With an annual growth of 200 board feet per acre of sawlog timber this land would produce in perpetuity the equivalent of our entire lumber cut. It should at the same time be capable of producing not less than 120,000,000 cords of wood other than sawlogs. At \$3 per thousand feet on the stump the annual crop of saw timber alone would be worth \$120,000,000, to say nothing of the returns to labor which its utilization would involve.

Farm Woodlot Still Important.

While the farm is much less dependent today on the woodlot for the supply of material consumed on the farm than it was in earlier days, the woodlot still remains an important matter. Merely from the standpoint of diversified crop production, the possible field for timber growing calls for careful study. The forest crop is preeminently adapted to utilize land of low value for other purposes, and land too steep or broken for plowing. A very strong point for the woodlot is the chance which it affords for winter work. Even though the farmer makes only day wages, to be able to earn something in an otherwise unproductive period may make the difference between a farm run at a profit and a farm run at a loss. While timber is still cheap, there is a time coming when the tide will turn and a movement in the opposite direction will probably begin to develop. Then it will be much more worth while than it is now to have good timber in the woodlot.

It is better worth while even now

than many farmers realize. A farm for sale will generally bring a decidedly lower price if it is without timber. This is due not only because more money can be made on it, now or later, in consequence of it having timber on it, but because the farm is a pleasanter one to live on. There is also the value of the woods as shelter. To the extent that this adds to the comfort of those who make the farm their home, the protection afforded by the woodlot is a part of what has been referred to as its sentimental value. It helps make life more agreeable. A very real money value, however, attaches to timber which protects live stock against winds and storms. Further, forest growth often affords valuable protection for field crops against parching winds.

Good roads are coming and with them the value of timber will rise. An improved highway between the woodlot and the railroad, that will increase from 50 to 100 per cent or more the weight which a team of horses can haul over, may increase the value of the farmer's stumpage, or make salable timber which previously had no market value at all. Only through the development of sound principles of farm management can the farmer find a true solution of the woodlot problem. The woodlot problem is an integral part of the larger problem of making the farm pay.

Washington, D. C. G. E. M.

The Farm Beneficent

IN addition to the variously described forms of agricultural practice, as simplified and complete, there is at least another form to be described as per the head line of this article. The farm beneficent exist in part in many places possibly, wholly rarely.

As a rule the farm beneficent is of the maximum acreage to compel a complete equipment in stock and machinery and its owner has caught the age spirit of co-operation, rather than exploitation. But how to co-operate is the question, for such a farm it would seem to be a self-sufficient unit, which in fact is true of scarcely any business, "for man liveth not to himself alone," was spoken by the Master of men and work. In fact, the weakness of co-operation is not in the theory but in the application. Perhaps nowhere in the civilized world is co-operation as little in practice as in the United States. In England the states have a financial interest in their tenantry and soil maintenance and farm conditions, together with rural labor, that is not a factor in the United States from the land owner's standpoint. Cropping and share farming in the west and southwest has proven unsatisfactory in a social as well as in a financial way, and is regarded by economists as a sort of conspiracy against soil fertility and rural development. In the northern states the lure of city life, with its promise of higher wage and year-around employment, has made a genuine farm problem to be reckoned with. With the further noting of the small labor return on farms where poorly equipped as brought out by the federal government soil surveys one can begin to see the place for the farm beneficent, and where genuine co-operation may be practiced to mutual gain.

On the large farms there is a dearth of extra labor on special occasions, and on the small or poorly equipped farm there is a lack of capital in tools, stock and seeds. Available, yet unexpended labor on one hand and available capital on an adjacent farm in the shape of tools, stock, seeds, etc., is capital unemployed up to the maximum. Each need in a measure what the other has, and the problem is one

of sympathetic adjustment and can be made to work well or ill, according to the personal equation. Live stock improvement in the neighborhood depends not entirely upon the blood of the sires to be employed, but upon the community spirit of the neighborhood. James J. Hill sent good Galloway sires into the northwest to improve, as some wag said, the stock of the Great Northern Railway. This witticism was also widely true. One farmer beneficent said that the failure to collect service fees was never a source of regret or really of actual loss to him, because he more than recovered any apparent loss in the improved feeders he bought in the neighborhood. Another farmer of this type said that there were a fixed number of acres of service stored up in every tool or machine he owned and the sooner the machine or tool was used to its maximum and paid for by the user at the minimum acre cost, so much the sooner would be purchased a new and improved machine.

The farm beneficent can afford to try out new seeds and methods of farm procedure and serve the neighborhood by pointing out successes as well as failures. One of the interesting incidents of slavery times in the south was the "grapevine telegraph," or carrying of whatever was of information from one plantation to another miles and miles away. The slaves would "run" and have clandestine night meeting and be back, especially in the autumn season, and all the ways of each plantation were common property in distribution, and on the whole, to the general good of the planter. There was among many of the slaves an agricultural and mechanical conception of farming not generally credited by those who were not acquainted with the negro of antebellum days.

The word Grange in French, from which language the word is derived, means more than a barn, rather a storehouse, where grains, seeds, and stock were kept, and in addition was a room where the neighbors came and visited or, as one of my facetious friends to whom I described this feature said, the "Rube's" club house, as he gathered the idea. It is said that the farm beneficent was well in the mind of the founder of the order of the Patrons of Husbandry, Father Kelley, who made their meeting place the grange, or storehouse, of agricultural activities and benefits. A most excellent beginning of co-operation and the co-operative spirit to come is to have more and more of the farms beneficent in every portion of the country. "Noblesse Oblige" is found as a motto in many places among the French people, and in their storehouses which, as we all know, means "rank imposes obligations." The successful farmer can well accept the spirit of community co-operation which his position imposes.

Shiawassee Co. J. N. McBride.

A PRODUCTIVE HALF-ACRE.

Perhaps some of your readers may be interested in knowing what has been done on a measured half acre this year on my small Grosse Pointe Farm. This half acre, upon which are growing 63 young fruit trees now in their second year, was planted to cow beets in the spring. Four rows of beets were omitted to allow for drainage furrows, and after the beets had gained sufficient headway, these furrows were planted to cabbage. The yield of beets now gathered and stored amounts to 36,000 pounds, and 700 head of cabbage have been produced—all from this half acre; and in the meantime, the fruit trees have been growing along quite merrily.

If any other Michigan farmer can beat this I would like to hear from him.

Wayne Co. J. C. HUTCHINS.

A detailed black and white illustration of a large, dark pig standing on a pile of sticks or straw. The pig is facing right, with its head slightly turned back. It has a thick, dark coat and a small, curled tail. The ground it stands on is composed of numerous small, light-colored sticks or pieces of straw. The background is plain white.

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Milk	25	24
Cream	32	31
Fat	44	43
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When writing to advertisers please mention the Michigan Farmer.

Dairy.

CONDUCTED BY COLON C. LILLIE.

LILLIE FARMSTEAD DAIRY NOTES.

There are numerous complaints in this section of the state about distemper among the dairy cows. In many instances the discharge is bloody. This is probably due to feeding clover meadows, pastures, etc., that have been grown too rank during our cold wet fall. Everybody has forced their meadows and turned in the cows. But this is not all the story. They have withheld the grain or other ration, thinking that as the cows had an abundance of pasture they needed no other feed. Eating too much of this rank growth of fall feed is, I believe, the primary cause of the trouble.

We have had none of this difficulty and I attribute our good luck in this respect to the fact that we never pasture meadows, in fact, our meadows are not fenced at all. Our cows have had the run of the permanent pasture as usual, but this has not made as luxuriant a growth as clover meadows have. It has, however, afforded more food than usual.

Our cows have been stabled every night and been fed a feed of silage night and morning, also all the alfalfa hay they could eat besides their grain ration. They have thus not been affected by the vigorous growth of fall feed. Had all cows been stabled at night and fed some dry feed, I think the trouble would have been largely avoided, if not entirely so.

Why dairy food prices should be so high at this time is hard to explain. One would think that owing to a lessened demand in Europe for our by-products used as dry feed, it would affect the price here. Germany has always been a heavy purchaser of our dry foods and this market is now entirely cut off. The immense wheat crop, with very moderate prices, considering, should make bran cheaper instead of dearer; also the oat crop is far greater than ever before, and we would expect cheaper oats, but they bring good prices. In all probability farmers are holding back all they can, expecting an advance in prices, and this keeps the market firm. In other words, farmers this year as never before, are controlling their market. Farmers rarely do this. They usually dump their surplus on the market as soon as possible, regardless of the effect on the market. If they would regulate the sale of their products every year they would get better prices for their products.

In addition to answering numerous inquiries in the Michigan Farmer about ensilaging frosted corn, I answer on the average about two per day by mail direct. This is done because the time is short and one needs to act in a hurry, and because the inquirers do not seem to have read what I said on this subject in the Michigan Farmer. There can be only one answer to all such inquiries and that is, get the corn into the silo as soon as possible.

Cows should be sheltered from cold winds; especially is this true of new milch cows. Keep them in the stable days when we have cold winds. They will pay you for this extra care one hundred fold.

THE COMPOSITION OF MILK.

What per cent of clear water is there in 100 lbs. of skim-milk and what ingredients does the balance contain? What is the feeding value of 100 lbs. of skim-milk? I am asking these questions as they have commenced to operate a condensary which we are favorably located to send our milk to.

The average normal milk contains 87.3 per cent of water, that is, 87.3

lbs. of water for 100 lbs. of milk. It also contains 3.4 per cent protein, 3.7 per cent sugar and 0.7 per cent ash, or a total of 12.7 lbs. of solids in 100 lbs. of milk. In condensing milk the water is by heat forced to vaporize and pass off; the solids are left, all of them in the condensed milk.

The feeding value of skim-milk depends on several things; first on the quality of the milk. If the milk is rich in fat it is also rich in the solids not fat; that is rich milk. Milk that tests say five per cent butter-fat contains more protein, more sugar and more ash than poor milk, and after the fat is removed 100 lbs. of skim-milk that originally tested five per cent is worth more than 100 lbs. of skim-milk that originally tested three per cent.

Again, the value of skim-milk depends on the price of other foods. If corn is worth 80 cents per bushel, 100 lbs. of skim-milk is worth more than when corn is worth only 60 cents. Feeding tests show that when properly fed skim-milk is worth from 25 to 35 cents per 100 lbs.

REFILLING SILO, AND RATIONS FOR PIGS AND COWS.

Kindly give me some advice about putting dry cornstalks with ears in silo. I have 20 acres of corn. I filled one silo 10x32, with five acres; now have 15 acres left, part of it has a lot of soft ears. My idea was to start feeding silage right now, and then some time in December refill again with dry stalks and water. Will the cows eat such silage and is it good for them? What is best to feed to young pigs, middlings or ground sprouted wheat? The price is the same. Also give me a balanced ration for milch cows, of the following feeds: Silage, cornstalks, mixed hay for roughage, ground oats, cottonseed meal \$31; bran \$24; middlings \$28. I have enough corn in silage and stalks. Ottawa Co. SUBSCRIBER.

By refilling your silo with this dry soft corn you will get more out of it than in any other way. Use plenty of water when filling and it will make fairly good feed. The cows will eat it with relish and do well upon it.

Fine wheat middlings is fully as food as ground wheat for pigs, and they will do well on either. If I had to buy and could get middlings for the same price, I would take the middlings. If, however, a farmer has the sprouted wheat then he had better grind it himself and feed it.

Feed all the silage, cornstalks and mixed hay the cows will eat without waste. Feed two pounds of cottonseed meal per day to each cow and enough bran besides to make one pound of grain per day for every four pounds of milk the cow gives if she produces less than four per cent milk, or for every three pounds of milk if it tests above four per cent. Or give one pound of grain per day for every pound of butter-fat produced in a week.

THE CHAMPION MILK COW.

Irma Gilt Edge Queen 2nd, whose picture appears in our columns in the issue of October 30, is the champion milk cow of the world under five years old. She has the wonderful yearly production of 26,000 pounds of milk to her credit and a butter record of 948.60, instead of 498.60 as stated in the cut line under the photo. She stands third in the senior four-year-old division in the production of butter-fat. She is the result of careful breeding of Holstein-Friesian cattle by L. E. Connell, Fulton county, Ohio.

Be considerate to the cows. During milking time use no profane language. Keep dogs and strangers out of the barn. Become acquainted with and know your cows. It pays. Under no circumstances permit a cow to be kicked or abused by the hired man—it never pays.

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Practical Science.

SPECIAL FOOD PRODUCTS.

BY FLOYD W. ROBISON.

Oysters.

A custom has grown up in this country which associates the consumption of oysters with certain months of the year. It is quite common to hear one say that oysters may be eaten any month which contains the letter "R." This would eliminate from the calendar year the months of May, June, July and August, leaving eight months of the year, from September to April, inclusive, as months in which the oyster may with perfect safety be eaten. This precautionary measure has perhaps in a way done some harm for it has taught the people more surely than any other methods of teaching that the oyster is an article designed for food which must be eaten with caution. This is no more true with the oyster than with many other classes of food, but strangely enough the appetite does not lead one to care for oysters greatly during the warm months of the summer.

Oysters are a product, of course, of the salt waters. They do not grow in any fresh water district and consequently being a product of the salt water they are dependent upon the prevailing modes of transportation to reach the interior of the country. It is due to this latter condition which has made it desirable for the consumers to examine these products somewhat carefully to insure a perfect condition of wholesomeness.

A study of the conditions of propagating oysters is one of the most interesting things with which we have come in contact. The life history of the oyster from the egg to the adult exists over a period of four to five years, during which time it is continually beset by conditions of animal life, and climate as well, which produce a frightful mortality.

The utilization of the oyster as food takes advantage of one of the beautiful illustrations in nature of the conservation of resources. Much valuable food material reaches the sea in a condition unfit for human consumption. In composition it is suited for human consumption; in appearance and in form it is not. It is microscopic in character and in the absence of such bodies as the oyster, vast quantities of this microscopic food material would be entirely wasted.

Oysters Must Have Clear and Clean Water.

To secure a healthy growth and to secure a productive growth of oysters the conditions must be ideal and consequently the more or less shallow, rocky, gravelly bottom places in the ocean where the water is clear and more or less quiet, furnishes the ideal conditions for the oyster growth. At the time the young oyster is propagated it is so tiny that it is scarcely visible with the naked eye, and from that time on until it reaches maturity it is at the mercy of a variety of enemies which take advantage of its helpless condition. Certain types of fish search out the oyster beds and destroy quantities of them. The starfish is especially an enemy of the oyster and there are other types of life which fasten themselves on the shell and bore tiny holes completely through until they come in contact with the sensitive and delicate morsel in the shell.

The oyster gets its food, as we have stated, from the microscopic particles of food material which are carried to it in the water which surrounds it. All over its entire surface are little cilia, or hairs, which keep up a delicate movement of the water current toward the oyster and the water is

filtered through the delicate membranes in the mouth and the tiny particles of food which are microscopic in character are in this manner retained and absorbed by the protoplasm of the oyster itself. It has been stated that a single oyster will in this manner, in search of its food, filter 25 to 50 quarts of water in a day.

The Oyster a Quite Perfect Food.

In composition the oyster is a well organized protein type of food. It contains as well a carbohydrate molecule of the sugar type and consequently in composition it may be considered quite a perfect food.

Pure Food Inspection Has Brought the Oyster into its Own.

If the conditions surrounding the growth and culture of the oyster are ideal there is no reason why it should not be a perfectly wholesome article of diet. As farmed along the coast the oyster is in excellent condition but many times upon reaching the interior it has become deteriorated. The passage of the National Food and Drugs Act and the more rigid inspection of these commodities by the various states has done a great deal to improve the condition of the oyster as marketed in the interior. In fact, it is the market conditions more than any other thing which has been responsible in times past for the feeling of suspicion which has been thrown around the oyster. The consumer on going to the market to secure oysters, and they have nearly always been sold by the measure, would get perhaps a pint of liquor in the quart of oysters purchased. The establishing of standards regarding the amount of water permissible, or rather, regarding the real oyster substance necessary has almost completely eradicated this evil. At the same time it has accomplished the eradication of another very insanitary practice, that is, the icing of oysters in transit, that is, by putting a chunk of ice right into the tank in which the oysters were shipped. This, aside from the insanitary features of introducing the ice, left the product upon reaching its destination in a highly watered condition. It is possible that to make a marketable article it may be desirable to wash the oysters, but when so washed it should be remembered that they were grown surrounded by salt water and not by fresh water, and that unless this is taken into account in the washing, the sudden change from salt water to fresh water may cause the oysters to absorb a large quantity of water. This property has been taken advantage of by some unscrupulous dealers and vendors who have resorted to the use of fresh water in this way to plump the oysters and make them seem larger than they otherwise would be, and at the same time in this way succeed in selling at the fancy oyster price vast quantities of water.

Oysters a Delicious and not an Economical Food.

Oysters are a valuable food product but, of course, from a standpoint of economy of nutrients they are exceedingly expensive. There is no common food product with which we are familiar but what is much cheaper from an economical point of view, that is, in the cost of nutrients consumed, than is the oyster, but our people have continually refused to be placed in the machine class insofar as the things upon which we feed are concerned. The oyster is expensive but much prized and the quantities consumed in this country are enormous. There are many million bushels per year of this product harvested and the demand is such that the market never becomes flooded.



"The stock ain't fed yet, Hiram!"

Yes, played at home—right on the farm—Carom and Pocket Billiards abound with thrilling shots that make you forget the toil and cares of the day. No indoor sport can match their merry cross-fire—it caps each climax with a round of laughter!

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Magazine Section

LITERATURE
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MICHIGAN FARMER
AND *LIVE STOCK* JOURNAL
PUBLISHED WEEKLY. 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.

Miss Hepsy's Thanksgiving Arrangements

THANK you just as much, Lucretia, but I've made other arrangements for Thanksgiving this year."

Plump Mrs. Lucretia Berry's rosy face fell into disappointed lines, as she looked up at her old schoolmate and friend, Hepsy Strout.

"I'm awfully sorry," she said, after a moment. "I made sure that this year I'd get ahead of any of the village people inviting you, and it's been so long since you was out to the farm!"

"I know, and I'll try to get out there just's soon 's I can, Crete, but as for Thanksgiving, that's impossible."

Lucretia sighed her regrets once more, and presently moved on to the drygoods counter of the village store, where the above conversation took place, and began to look at outing flannel suitable for children's night-gowns. Miss Hepsy finished her transactions at the grocery side of the store, and went out.

By ANNETTE CHADBOURNE SYMMES

"I wonder what she'd think," soliloquized Hepsy, as she trudged along over the rough, frozen ground, "if she knew what my arrangements are? There isn't a soul in town, I s'pose, that wouldn't be shocked if I was to tell 'em that instid of keepin' Thanksgiving Day this year, I aim to put in the day bein' just as mis'able an' unthankful's I can! But it's no use. I'm done pretendin'! As long's father and mother was spared to me, I could celebrate with a good heart, an' even after they was taken away, I could still be thankful for one day a year, at least, but I've got tired of rackin' my brains to think of things to be thankful for; tired of eatin' a big dinner at somebody else's table, or of settin' out a meal for myself alone, or of invitin' from the highways an' byways, as I've done the last few years. An' this year I'm goin' to keep a Day of Unthankfulness an' see if I can't get some o' the discontent out o' my sys-

tem. I'll have fried salt pork, boiled potatoes, an' cabbage for dinner, I won't go near the service at the church, nor I won't send a single Thanksgiving postcard. An' then, maybe I'll feel better, an' can feel to enjoy life a little better'n I've been doin' the past few months."

Miss Hepsy's face did not look like that of one whose thought run to ungratefulness; indeed, from her appearance one would have selected her as a shining example of the cheerful, industrious, contented spinster, but appearances, as we have all heard, are sometimes deceitful, and just now Miss Hepsy felt as chafed and uncomfortable in mind as the most approved pessimist.

She mounted the steps of her little cottage house on the outskirts of the village, and fumbled behind the blind for her key, only to discover that it was gone. The door was unlocked, and when she entered the kitchen in-

to which it opened, she saw a slender female figure, heavily draped in black sitting beside the stove. The intruder turned a pale, strained face toward Miss Hepsy, as she came in, and the good woman recognized her visitor with a gasp of surprise.

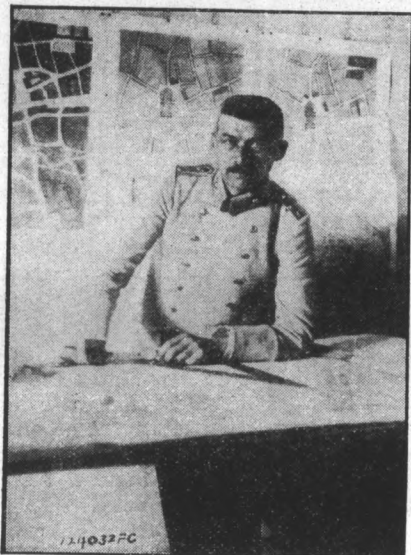
"Bella Williams! When did you come? I didn't know you was expected!"

"I came on the stage today," replied the girl, for she was little more than that, in years, "and as Mrs. Rogers wrote me that she left the key to my house with you, I called here first to get it, and knowing your habits, I made bold to come right in to wait for you."

"That was just right!" heartily approved Miss Hepsy, putting her bundles upon the table, and bustling over to her guest. "Take your things right off, Bella, and stay here tonight. You can't stop in that damp, closed-up house without getting your death of cold."

"If it was'n't for the children, I'd

WORLD EVENTS IN PICTURES



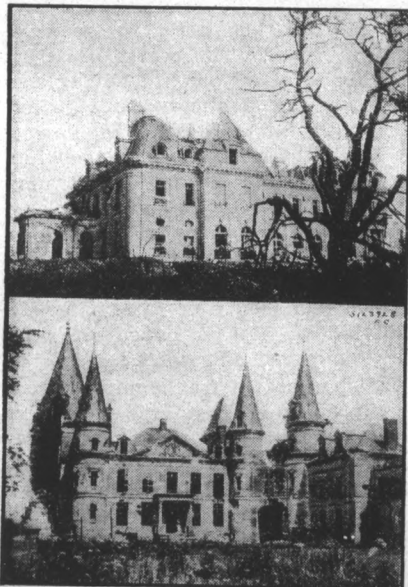
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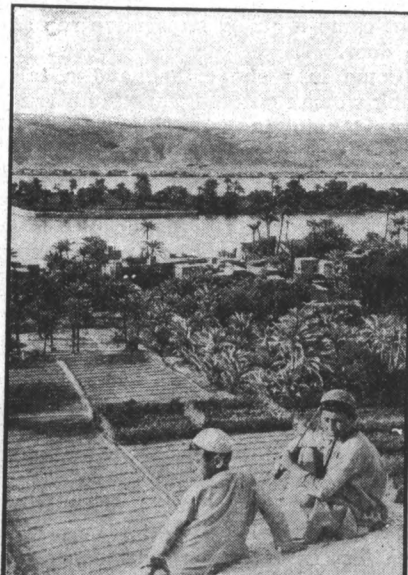
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hope I would catch my death,” said Bella dully, but submitting to Miss Hepsy's deft, gentle touch as she relieved her of her wraps. “Oh, Miss Hepsy, you don't know! You can't! Nobody can, till they've stood where I have, this past three months! Frank suffered so, before he went, and he was so brave and patient, though he knew, I feel sure, how it was all going to end! And now—and now—” she broke down entirely, and wept convulsively into her black-bordered handkerchief.

Miss Hepsy said very little, but she was mistress of all the gentle and unobtrusive arts by which womanly sympathy is shown. She finally succeeded in inducing the newly-made widow to drink a cup of tea, and eat something, knowing well that she probably had not eaten since morning, and after awhile, poor Bella told her the story which the village had learned, in brief form, some two weeks before.

Three months previous to this, Frank Williams a young man of the place, had gone to the hospital in a distant city, to be treated for an obscure and painful disease, and with him had gone his wife Bella, and their two babies, aged three years and eight months respectively. After a long illness in the hospital he had died, and the news had reached the village, as we have said, a fortnight before. Bella, having left her children in the care of the old aunt with whom she had boarded during her husband's illness, had now come down to pick up the things in the empty house.

“I'll tell you what,” proposed Hepsy, after Bella had told the whole story, “I'm not especially busy now. Let me help you pack up. You'll get done quicker and easier, and won't be so likely to get sick out of it. You're going to stop here nights, and to meals, of course.”

After some demur, Bella accepted this offer, and for the next three days, the two women worked busily, picking up the things, seeing about their bestowal in a neighbor's barn chamber, and cleaning up the house. It was Saturday night when they finished, and Bella, with thanks and tears, was driven to the station to take the night train for town.

“I'm glad that's over,” said Miss Hepsy to herself, over her supper of brown bread and beans. “Poor Bella! Life looks pretty dark and hard to her now! There's one thing, those that's never married doesn't have to suffer through losing their partner like those that do. I'm thankful any way, that I haven't got the heavy heart an' the hard prospect she's got, this Thanksgiving!”

And just here she checked herself quickly, remembering that she had determined not to be thankful for anything, this year!

The little red covered table sat just under the window, and suddenly Miss Hepsy saw a pale, wild-looking face glance by the window, and in a moment came a quick, imperative rap at the door.

“Come in!” she called, and a tall young woman entered, carrying a two-year-old child in her arms, with two more little ones clinging to her thin cotton skirts.

“Miss Hepsy,” said the woman, “Bert's at it again! Somebody gave him a drink today, an' he's come home full as he can be, an' with a lot more whiskey to drink with him! It was pay-day, so he had money enough to buy it! He's ugly, as he always is, an' I'm afraid to stay with him. Can we stay here tonight with you?”

“To be sure, Myra!” said Miss Hepsy, cordially. “Give me the baby, and sit up to the stove and warm your feet! Come honey-bunch! Come to Hepsy! There! There! You all come just in time to get some beans. Come here, Molly, and let me take off your little coat and hood!”

Bert Brown was the village drunkard, and this was only one of his many failures to break the habit which made his wife's life wretched. Some women might have been afraid to take in the desolate little group, lest the husband appear later and make trouble, but Miss Hepsy was not like that. When there was anything to be done which she felt was a duty, she did it, without forecasting possible unpleasant consequences. She made her guests as comfortable as possible and nobody, to have seen her bright, cheery face, and to have heard the inspiring sound of her voice, as she tried to cheer the sad young wife, would have suspected that she was planning a Day of Unthankfulness to replace the national holiday.

Next day was a Sabbath of wild wind and rain, and Hepsy prepared for a day indoor with her charges. The little folks were good children, as children go, but she had little leisure to devote to the dismal musings with which she had meant to employ her time on that day. About dusk that night, Bert appeared.

He had consumed his liquor, had come to himself, and after an afternoon of physical and mental discomfort, had started out to find Myra, and try to persuade her to come home with him. He had visited a number of houses, before finding out where she was, and the shame of it all had bitten deeply. Little was said between husband and wife except the commonplaces. The time for intimate talk between them had not yet come, and Myra quickly made her preparations to go. Hepsy watched the little group as it moved off through the drizzly twilight, the father carrying the baby, his splendid physique a pit-

THANKSGIVING.

BY LALLA MITCHELL.

Thanksgiving days they mean so much
To wanderers such as I,
Who toiling roam afar from home
The while the days go by.
From east to west in eager quest
By phantom Fortune led,
But what delight to sleep at night
Once more on mine own bed.

Thanksgiving days they mean so much
A shaded country road,
With poplars tall o'er cottage small
My childhood's fair abode.
With mother's arms to draw me close
And mother's lips to praise,
When comes again, full soon I ken,
The best of holidays.

iful satire upon his qualities as a protector for his helpless family, and murmured in heart-felt tones, “Thank God, none of our folks ever drank!”

Monday morning she rose early. There was nothing cooked in the house, and the usually neat little dwelling itself was in considerable disorder, owing to the demands upon her time which her charitable impulses had entailed. There was also the washing to do, and she set herself vigorously to work. Some way the dark mood of discontent did not oppress her as it had the week before. Perhaps this was because her attention had been distracted from her own troubles, and fixed upon those of others.

As she worked, her thoughts turned upon the program for Thanksgiving Week in years gone by. The washing and ironing had been hurried out of the way, to make room for the Wednesday's great baking, and the beautifying of the house for the expected Thanksgiving guest. Never before had Hepsy failed to observe at least a portion of the traditional ceremonies of the season. Even when she was to dine elsewhere, she had made chicken-pie and cranberry sauce, and had had flaky mince pies, pumpkin pies, and fat brown doughnuts to give a festive air to her own lonely breakfast and supper on the great day. But she sternly took herself to task for harboring these regrets. She might not

spend her Thanksgiving in repining, she conceded, but she would make no especial preparations for spending it as a holiday.

She was sitting in the cosy little sitting-room, her house in its usual spotless condition, the clothes dry and sprinkled for the next day's ironing, when a quick step on the porch announced the arrival of a stranger. It proved to be Mrs. Dwight, the wife of the poorhouse keeper.

“I have come over,” she said, in her usual downright fashion, when the greetings were over, “to see if you was too busy to help me a while tomorrow. I'm behind with my work this fall, and I just don't see how I'm to get ready for Thanksgiving alone. There ain't a woman on the farm who is able to do much work, an' you know the town provides for a good dinner Thanksgiving to all the inmates.”

“Why, yes, I don't know but I can,” responded Hepsy. “It'd be a pity to disappoint them poor critters, wouldn't it?”

Thus it was that Thanksgiving preparations caught her in their whirl whether she would or not. All the short November day she labored in the big poorhouse kitchen, helping iron, mixing mince meat, stewing pumpkin and squash for pies, chopping raisins for hermits, and later rolling out the rich dark dough and baking it. The chickens for the great chicken-pie were cooked, and the pies made, and much other work was accomplished before Hepsy pinned on her hat in the windy dusk of the evening, and wended her way home.

All day the pitiful inmates of the town farm had gone in and out before her eyes. She knew the story of each one, and how they happened to have come to that sad harborage at the latter end of life's voyage. There was Mother Bates, brought thus low because of the ingratitude of her children, old Miss Varney blind and paralyzed in her chair in the corner, Major Wilkes, a disreputable wreck of the gay young fellow whose misdeeds had sown the seeds of the crop of wild oats which he was now reaping; Jenny, the idiot girl whose drunken father was responsible for her mental condition, and the rest. Miss Hepsy's heart was so full that she spoke aloud and emphatically, “Thank God, I'm not on the town!” And this time she was conscious of her apostasy from her newly adopted Thanksgiving creed, and was brazenly glad of it!

She stopped into the store for the mail, and there she saw Hatty Clark, the hard-worked eldest daughter of the numerous Clark family. She was buying some cheese, and Miss Hepsy paused beside her to inquire after Mrs. Clark and the new baby.

“Oh, she's doing pretty well,” was the reply, “but she isn't strong yet, an' Mis' Brown, the nurse, had to go today. There's so much to do, with such a big family as ours is, but I want her to keep quiet for another week, at least. The worst of it is, she frets so about our not having any Thanksgiving! I simply can't do another extra thing to get ready for it, and she knows it, but it makes her feel bad to think the children'll miss it, an' of course, they don't know any better than to ask questions before her, and all that. It's too bad, for we've got a nice turkey we saved a purpose, and plenty of raw materials of all kinds. Mother hoped she's be able to help, but she won't.”

“Tell her not to fret a mite more,” cheerily chirped Miss Hepsy. “I'll be over bright an' early tomorrow mornin', an' by night we can do wonders about that dinner. I'll get the turkey all ready for the oven the night before, an' by doin' all we can tomorrow, don't you suppose you can manage that day?”

“Oh, Miss Hepsy!” breathed the girl, with shining eyes, “I know I can!”

You ought not to do it, but it'll mean so much to mother!"

"All right. It's settled then," said Miss Hepsy.

That evening Miss Hepsy whisked her ironing out of the way with little ceremony, and the next morning fulfilled her word, and arrived bright and early at the Clark house. It was not so much that the Clarks were poor—they always were well-fed and clothed—but there was always so much to be done, and so many children to look after, that life there was a strenuous thing. Miss Hepsy threw herself wholeheartedly into the work of the day, and spent its hours in an atmosphere of sugar, raisins, spice, and all the other myriad ingredients of a proper Thanksgiving feast, eyeing complacently the triumphs of culinary art which she had evolved from the aforementioned materials.

When she was ready to go home that night, Mrs. Clark wished to force payment upon her, but Miss Hepsy refused it stoutly. Then the pale little woman begged her to share the feast, but again Miss Hepsy declined.

"Thank you just as much," she said, "but I've made other arrangements for the day."

Straight to the store she marched, and entering it, began to order groceries. There was a plump chicken, cranberries, onions, nuts and raisins, and all the rest that goes to make up the traditional feast. When she had exhausted her memory, the storekeeper suggested sweet potatoes, celery, and oranges, and agreed to have the boy take these articles all up with the team, after supper.

Hepsy hurried home on winged feet. Yes, she was going to make Thanksgiving, and she was going to keep it all alone! She felt that the gratitude filling her heart could only be expressed by the medium of an old-time Thanksgiving celebration as complete as she had meant to make her Day of Dole. The sight of the Clark home had recalled her own childhood, and had reminded her of the thousands of happy, loving children, all over the land, and she was thankful that there were such homes, and that she had been brought up in one. What if the parents were gone, and the children scattered? The home had been, its precious memories could never be taken from any of them and she was thankful—thankful!

A tall figure stepped quietly from the shadow of an evergreen by the roadside, and joined her, so unobtrusively that it had been walking there several moments before she noticed it. She raised her eyes to its face with a little start of surprise—and grew so white and faint that the stranger caught her in his arms lest she should fall.

"You know me, then, Hepsy?" he said.

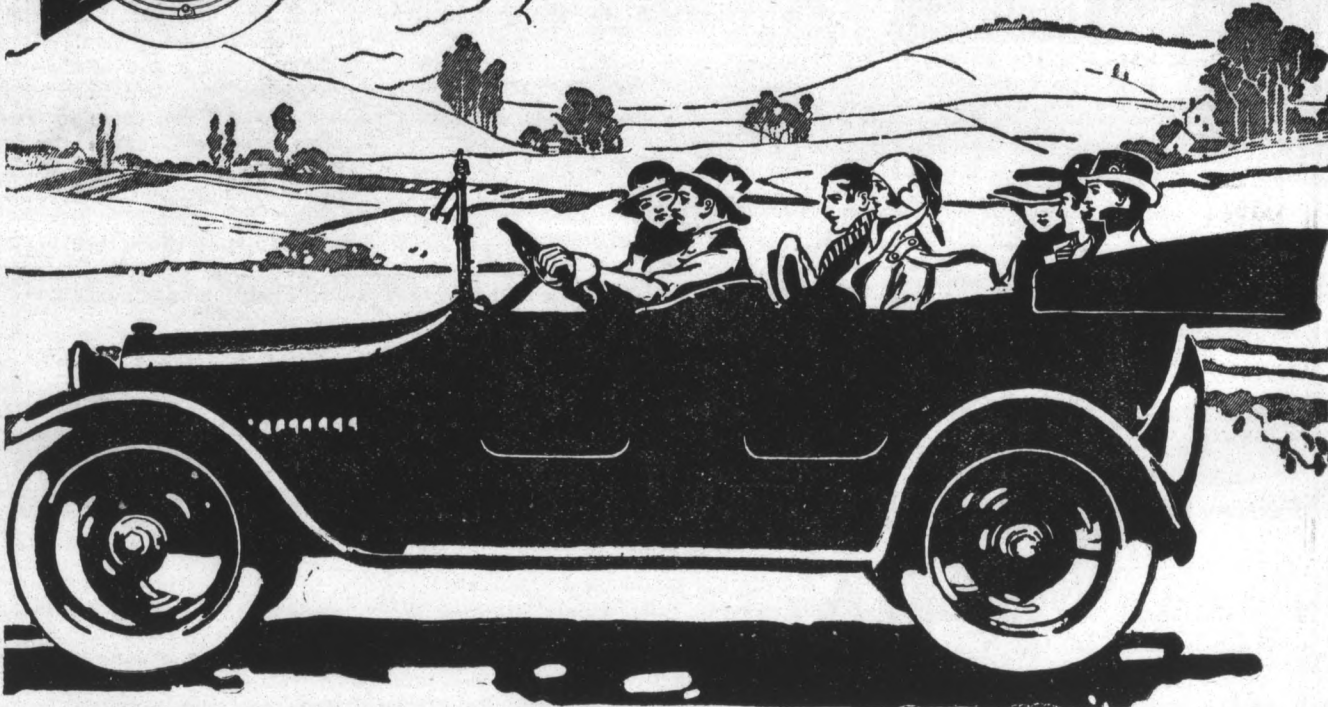
"Seth Danforth!" whispered Hepsy, weakly. "Are you a spirit?"

"Not a bit!" responded Seth cheerily. "You see, after our quarrel long ago (which was all my fault) I flung off to the west, thinking you'd be sorry when I was gone, and that bye and bye I'd come back, when you were sorry enough, and perhaps we could make it up. But time went on, and I heard you were married to Will Loude, and then came that train wreck where I was reported killed, and everybody back here believed it, from what I heard later. Well, I thought, when I knew it, what was the use of undecieving them? There was nobody but you to care if I was dead, and if you'd got married, you wouldn't grieve any over it, so I kept still, and let it go at that.

"But this fall a man stumbled upon me out there who had summered here last summer, and he told me all about you. I dropped everything and started on the very first train I could get, determined to tell you how it all happened just as quick as I could. Is



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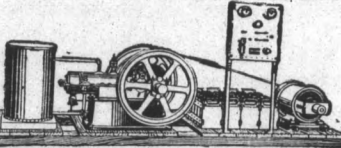
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there any chance of our going back to the old ways, Hepsy?"

Then Hepsy burst into tears, and some way, through her sobs, and in rather an incoherent and breathless fashion, the old engagement between the long-severed lovers was renewed.

Some hours later the minister was coused by a knock at his door, and when it was opened, he nearly fell over backwards at the spectacle of Miss Hepsy, accompanied by a tall, bronzed man whom he recollected as a beardless youth, and whose death had long been considered certain. When he had grasped the fact that Seth was indeed alive, however, it did not take him long to understand the purpose of his call there with Hepsy.

"To be sure!" he said delightedly. "I'll go and call my wife! She's in the

kitchen, looking after some of her Thanksgiving fixings."

When he returned with the excited little woman, he found Miss Hepsy, divested of her wraps, standing dimpling and blushing in a brown silk gown of an old, old fashion—the gown she had had made for this occasion, twenty years before. It was rather a tight fit, but she had got it on and some way it exactly suited her!

After the ceremony, the minister's wife followed her congratulations with the request, "Won't you come to dinner with us tomorrow? For I know Hepsy has been so busy this week that she has had no time for her own preparations."

Hepsy smiled, but shook her head. "Thank you," she replied, "but we have made other arrangements."

Land O' Nod Stories.

By HOWARD T. KNAPP.

Billy and Tinker Pass the City Guards.

AS Billy Be By Bo Bum and Tinker Teedle Tee neared the ants' underground city, the road became more crowded until at last it was covered with a swarm of insects hurrying to and fro, so that Billy and Tinker had a hard time forcing their way through the crowd. The busy little fellows were very good natured, however, although they pushed and shoved and crowded each other at a great rate.

Every now and then an ant, hurrying out to the harvest fields for a load of grain, bumped into one homeward bound, knocking the seed or cookie crumb from its mouth. Instead of getting mad and pitching into the fellow who had jostled him, as some people would have done, the ant merely bowed politely, as much as to say, "that's all right old fellow. I know it was an accident, so don't say any more about it." Then he would pick up his load again and go hurrying on his way.

"Here we are," cried Tinker Teedle Tee a few minutes later, as the road ended abruptly in a broad, open plain. "This is the dooryard of the ants' underground city."

"Well I never," exclaimed Billy, stopping suddenly, and he was so surprised by the sight that stretched before him that he could say nothing else. And, indeed, it was a wonderful sight, for as far as Billy could see the ground was hard and smooth, just as though it had been paved with cement, and although it was right in the middle of the oat forest, not a blade of grass or a spear of grain grew in the clearing, which was shaped like a big saucer and seemed about a half mile across. The oat trees surrounded the plain on every side, but they stopped short at the edge of the clearing as though held back by a stone wall.

But most wonderful of all, a big hill, several hundred feet high arose from the center of the plain. The sides were smooth and steep and as bare of green as the surrounding plain.

"What mountain is that?" asked Billy. "I thought I knew every inch of this farm, but I never saw either this hill or this barren plain."

"They were here all the time just the same," replied the merry little elf. "But before you drank my magic brew you would have called this mountain merely an ant hill, but when you compare it to the size of an ant, it is really as large as a mountain. And the plain is hidden by the oat forest, so unless you happened to walk right into it, you wouldn't notice it."

"But why doesn't anything grow here?" demanded Billy, as they walked across the clearing.

"Because the ants won't let it," replied Tinker. "When they started to build their city here, they cut down all the oat trees and blades of grass and then tramped the earth down hard and smooth. Of course, in those days the plain was not nearly as large as it is now, but as the city grew and the ants needed more room they cut down more and more trees. And the ants never give back the land they steal from the oat forest, for as soon as anything green shows its head above ground in the circle of their dooryard, the Little People attack it and cut it down."

"But how?" demanded Billy. "With their sharp teeth," Tinker replied. "An ant's jaws are really a whole set of carpenter's tools, and their strong teeth serve the purpose of a saw and an axe and pinchers and a shovel and, oh, every kind of tool that anyone could wish."

By this time Billy and Tinker had reached the foot of the hill and started to climb the steep side, but long before the top was reached Billy was puffing and blowing at a great rate. And then, when they did reach the top, they were stopped by a group of soldier ants, big strong fellows, armed with an unusually powerful set of jaws, for their heads were much larger than the heads of the worker ants Billy had met on the road or in the harvest field, and these soldiers refused to let them pass.

But next week I'll tell you how Billy and Tinker got in the city and what they saw there.

AN INDOOR TRACK-MEET.

BY FERN WILCOX.

We had a delightful evening in the church parlors some time ago which we called "An Indoor Track-Meet." The invitations were sent out on slips of paper cut in the shape of tennis rackets. Each miniature racket bore the suggestive jingle:

"Come all you who like football,
To young and old we send our call.
An indoor track meet we have planned,
So come and join our happy band.
A three-inch grin is full qualification
You don't want to miss this jollification."

On the other side of the card we wrote the time and place of meeting.

Our room was decorated with red and white streamers. As the guests arrived they were asked to take either a white or red slip of paper. These slips had been cut in the shape of pennants. The slips were pinned on to each one present, and throughout the evening each player represented the side indicated by the color of his pennant.

At either end of the room were

tacked score cards naming the events:

	Score.	
	Possible points.	Winner.
Qualification test...	10
Foot race.....	15
Relay race (No. 1)...	50
Relay race (No. 2)...	25
Standing high jump (highest total of points).....	30
Tug of war (three out of five).....	50
Foot ball game (two out of three).....	100

Total white
Total Red

When all had assembled the umpire for the evening called the groups to gether with the aid of a basket ball whistle. The events were explained as they appeared on the program. Much fun was afforded in guessing what each event would really be.

To determine which side was the better qualified the mouths were measured with a piece of white string. Each played smiled his broadest as the referees went down the lines. The measurement of the second players' mouths was taken just where the measurement of the first player's mouth left off. And so the referees went down the line with an ever-increasing length of string. The side having the largest string was declared best qualified and scored ten points.

For the foot race the players were lined up heel to toe. Of course, the side having the longest feet were given the honors in this event.

For relay race number one large square crackers were brought in on two plates. At a given signal each leader began eating a cracker. As soon as the leader had swallowed a cracker sufficiently so he could whistle, the next player in his line was given a cracker. He in turn chewed and whistled, allowing the one next to him to have a cracker. The side whose members first ate a cracker apiece, and whistling after each cracker, was awarded the hard-earned score.

The second relay race was equally exciting though not as strenuous. A large handful of clothespins was given to each leader. When the signal was blown the leaders touched the floor with their clothespins and handed them to the next player. Each player in turn was required to touch the floor with the full bunch of pins and hand them on. When the "Whites" succeeded in getting all of their pins back to their leader ahead of the "Reds," they were marked up another 25 points.

For the standing high jump marshmallows had been hung on white string from an archway. The players took turn and turn about, one from each side, jumping to catch the marshmallows in their mouths. When all the marshmallows had been captured the side having taken the largest number were declared victors.

The hammer throw was conducted in much the same way as the jumping contest had been. The players were provided with paper racks which had been blown full of air and tied. The player hurling his bag the farthest from the chalk line won the coveted 30 points for his team.

For the tug-of-war one "White" and one "Red" were given either end of a piece of string. From the middle of the string was fastened a raisin. The players were instructed to reach the raisin by getting the string into their mouths without using their hands. This stunt was tried by five different couples. The "Reds" devoured the largest number of raisins and were awarded 50 points.

Last of all came the football game. This was a splendid climax for all the preceding stunts. Each team was allowed to choose sufficient players to fill one end and the adjacent side of an ordinary table. Each player was instructed to kneel so that his chin was on a level with the table's edge. Then the football was brought in—an egg with the inside blown out.

When the referee blew his whistle the players began to blow the ball. Each side tried to blow it off the table on their opponent's side. After much merriment the "Whites" blew it off on the side of the table guarded by the "Reds." However, the "Reds" were more successful in the last two games and won the points given.

Still the "Whites" were jubilant for without the game they totaled the highest score. A large box of candy was given to the victor.

The Utility of Owls

By DR. L. K. HIRSHBERG

THE wisdom of the owl has been held in little respect by men and that distinguished bird of prey made a target of superstitious destruction as a creature of ill-omen. The fear and uncanny stories told about owls by country people is responsible for the serious reprisals against the farmer's granaries by mice, bats, gophers, snakes, weasels, and all sorts of rodents, reptiles, and insects.

Shakespeare, perhaps, half realized that owls would serve the home better as pets than cats or dogs. While in Love's Labor Lost, there is a song, "Then nightly sings the staring owl, Tu-whit; Tu-who, a merry note,"

Dr. K. S. Lashley has been investigating the behavior of owls, and is convinced that they would make pets in the household, especially in the suburbs and country, much more valuable economically, than any of the usual four-footed friends of man.

The barn or church tower which harbors a pair of owls, or even one owl, should be made most habitable and pleasant for these usually solitary birds. Professor R. Bosworth Smith, of Trinity College, Oxford, says that one pair of owls in a small village is worth more than a whole Army of Pied Pipers and St. Patricks. One barn owl, in brief, will rout out thousands of rats, mice, squirrels, and snakes from granaries and stored food.

There are over two score of different kinds of American owls, all with much in common. The long-eared, eagle, short-eared, and similar species have tufts of feathers on top of their heads, which they raise or depress at will as parrots do. These tufts resemble egrés, horns, or ears. Children recognize owls the first time seen, from pictures previously examined. The round eyes, the circle of feathers around them, and the beaks are very distinctive.

Professors Clarence M. Weed and Ned Dearborn point out that few birds make a stronger appeal to the imagination than do owls. Their nocturnal habits; their grotesque appearance, their weird and unearthly voices, their secluded haunts all combine to visualize as well as impress the ear of lonesome, religious folk with tales of ghosts, spectres, and supernatural phenomena.

Dr. Lashley, of Johns Hopkins University, has finally put an end to the prevalent belief that owls sleep by day or can only see by night. The various species studied by him see very well in broad daylight and sleep much the same as other birds, to wit, whenever opportunity offers.

Their preference for the night and for darkness is a matter of good and self-preservation. Vermin, bats, rodents, and reptiles steal forth in stygian blackness to make their raids on man's hard earned preserves. Then, their depredations are performed—if an owl is not around—with better chances to escape. The owl by habit and by instinct has discovered this.

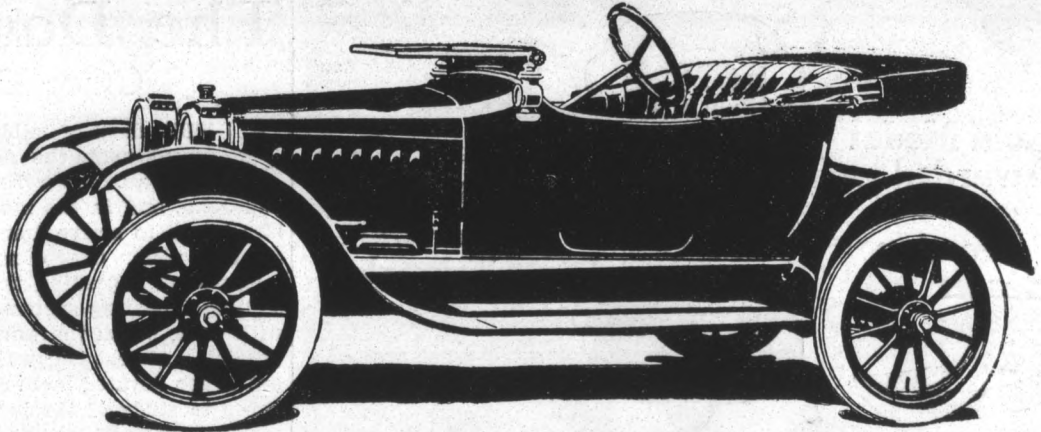
Two to eight whitish eggs are laid by the mother owl. Small animals and insects, frogs, reptiles, birds, gophers, mice, squirrels, prairie dogs, and almost all of the creatures, which eat into the farmer's exchequer are delectable morsels for the owl—one of man's best friends.

Owls hide during the day, as much because of man's ingratitude to them, as from a plethora of the night's chase.

Dr. Fisher examined the stomachs of 39 owls shot, perhaps wantonly by the farmers most benefited and found in them—perhaps one night's adventure—34 mammals, such as mice, shrews, rats, bats, squirrels, and gophers; four birds, one a pigeon, and many insects harmful to plants.

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(216)

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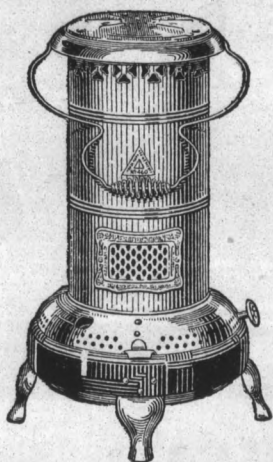
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Woman and Her Needs

The Domestic Crucible—17 Grace Develops Business Instinct.

A FEW days of mild weather followed upon the debate of furnace vs. stove between Grace and John, and in the meantime circulars began to arrive from the various firms to whom Grace had written for information regarding the cost of installing a heating system. John, busy with work which the warm spell made possible, almost forgot the matter, but Grace devoted most of her waking hours to study of the best plan of attack. She was determined not to shiver through all her winters with one hard coal stove to heat an 18x20 living-room, 16x16 dining-room and two bedrooms, each as large as the dining-room.

"It will end by everybody sitting around the kitchen stove nine-tenths of the time, just as they always did at home," she reflected, "for the heat of one stove would be lost in all that space. What's the use of living if you can't have some comfort as you go along? I may die in my early youth and never live to enjoy my savings in my old age. I'd rather have some good of my earnings now. We'll have the furnace."

However, she kept her decision from John until the last stove company was heard from. Then, in the good old way, she set forth a feast for her victim, and when he had eaten to satiation, she led him forth to sacrifice. An easy chair took the place of the ancient sacrificial block, and the fragrant smoke of a Havana arose as incense. John's hand strayed lazily to the table for the daily paper, but encountered instead a large envelope bulging with leaflets.

"What's all this stuff?" he asked, cocking the cigar up towards the ceiling and squinting through the smoke.

"Oh, some circulars that came in the mail," Grace replied. "I thought you would like to look them over. It looks like stoves. Maybe we could get one cheaper at the factory than we could here in town."

"I shouldn't wonder if we could," agreed John. "Anyhow, it won't do any harm to find out. Here's an old codger that looks exactly like dad," he continued, pulling out a leaflet whereon was pictured a jolly old man in shirtsleeves, reading the paper beside a bookstrewn table, while snowstorms raged without. "My, but that looks comfortable."

"Doesn't it?" Grace agreed innocently. "I suppose he's just set up the baseburner and is sitting down to enjoy it."

"Baseburner nothing," sniffed John. "There isn't a stove in that room. See that thing in the floor? That's a register. They've got a furnace."

"Oh, so they have," said Grace. It was an hour later before John finally left the circulars and bethought himself of work. Meantime he had delved into the mysteries and intricacies of boilers and radiators, warm air heaters, fireboxes, coils, flues, pipeless furnaces, cold air intakes and registers of various patterns and patents. He had found that he could buy a furnace warranted to burn hard coal or soft coal, coke or wood, and guaranteed against about everything, even to letting the fire go out in the middle of the night in zero weather. In fact, if he wanted to pay for it, he could have an attachment to open and close checks and drafts automatically, thus keeping the house at an even heat without supervision. He had dipped into prices, minus various per cents

for installing, and though he fully intended to buy one medium-priced coal stove, his mind was sub-consciously figuring out the cost of installing a furnace that would do good work at the least expense.

"They're all very fine for folks with money," he said, as he tossed the last booklet aside and got up to go to work, "but yours truly is not going to sink his money in any such unnecessary luxury. A stove did for us both at home and I guess it is good enough for us yet."

"They still plow in the old-fashioned way at home," said Grace, "But I notice you bought a sulky plow."

"That's economy," John replied. "It saves time, and it's already paid for itself."

"A furnace would save my time," came back Grace. "Every time you touch a stove you leave a pile of ashes for me to clean up, and the dust settles on everything whenever a stove is cleaned out. With a stove I'll be brushing up and cleaning half the time. With a furnace, the dirt is all in the cellar."

"We haven't any money to throw away on tomfoolery this fall," John flung back as he made for the door. "We're lucky to get out without having to borrow."

"Borrow," Grace exploded, as the door banged after John. "And him with \$500 in the bank to make a payment on that other 20 acres he wants to get hold of. What do we want of any more land? It would only mean another hired man for me to cook for, and I'm worked to death now. That's just like a man, though. All he ever thinks about is grubbing away buying more land to make himself and his wife old before their time. What good is land or money if you're too worn out to enjoy it?"

She spent a large part of that forenoon poring over the circulars. "Hot water would really be best for a house this size," she mused, "but it would cost nearly \$400 to put it in. I know he'd never do that unless I went into a decline and the doctor ordered it. But why heat the whole barracks?" she suddenly thought. "Twelve rooms for two people is six or eight too many. I could shut up six rooms right now and never open them until spring and we'd still have more room than we actually need. Then we could put in one of those pipeless furnaces until we tear this thing down and build a bungalow."

"How much are you planning to pay for a stove?" she asked that night at supper.

"Oh, I'll have to pay \$45 or \$50 to get one big enough, I suppose," John answered. "We might as well get a good one while we're about it, and it will need a monster to do any good in these rooms."

"I should say it would," Grace exclaimed. "You might as well set it up in the cellar and expect it to heat the whole house as to put it in the living-room and expect it to warm things up any out here."

"That might not be such a bad idea," John agreed. "That's the theory of a pipeless furnace. You put a huge stove in the basement, brick it around to keep in the heat, connect it with cold air intakes from registers in your floors, heat that cold air in the jacket between the stove and the brick and let it out through a register in the floor directly over your furnace. The warm air rises and spreads

through your rooms and the cold air goes down through the cold air registers to be heated and rise again. You have a continuous current and warm the whole house with the one stove."

"How much would that cost?" asked Grace as innocently as if she had not figured it all out to the last cent that afternoon.

"Oh, they run all the way from \$85 to \$135, depending on the size," John answered. "If I was going to get one I'd get a good big one. It would probably take the highest priced one to warm this house."

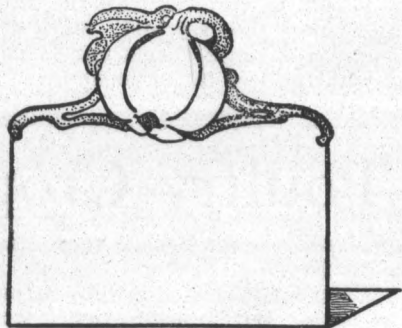
"Why not get it then," Grace asked. "You don't need that 20 acres you're planning to buy, and you certainly need some way of keeping comfortable. You've got more land now than you can work alone, and another 20 acres means another man to pay and feed. How much will you be ahead at the end of the year?"

"Land's going up every month," John demurred. "If I don't take it now I'll not get it at that price in the spring."

"But why get it at all?" argued Grace. "What good will it do you? It only means more work and worry for both of us. If you want to invest your money, why not invest it in farm mortgages at six per cent and let the other fellow do the worrying? We'd have time then for a little pleasure and spirits enough to be decent to one another instead of always being so tired we're ready to snap each other's heads off."

"I had a chance to lend \$300 today at seven per cent," John said, "but I wouldn't promise it because I wanted that land."

"Then call the folks up now and tell them they can have it," Grace urged,



A Suggestion for Thanksgiving Place Cards.

"and invest another \$100 in a pipeless furnace. That will bring you 50 per cent in my increased good temper. Who wanted the money?"

"Stilwell wanted it to make a first payment on the ten acres joining his," said John. "He has 220 acres now. You never go there that they aren't just finishing a scrap, or don't break out while you're there."

"You can't wonder at it," Grace answered. "No one can work beyond the limit all the time and keep even tempered. Do we want to follow in their footsteps, or take life a little easier and keep sweet?"

"Bother the keeping sweet," John replied. "I'd trust you for that. But I don't know but that I'd be as far ahead in the long run to lend my money at seven per cent as to buy land on a contract, pay six per cent on that and then board and pay a hired man to work the extra land. Your muck talk doesn't move me, but your business argument has some weight. I might take a flier in pipeless furnaces and if I come out all right, make a heavier investment in future."

"Good enough," said Grace. "Anything so I get the furnace. And I'll give you my commission for making the sale. That ought to bring the profits up enough to make it pay."

FOR THE THANKSGIVING DINNER.

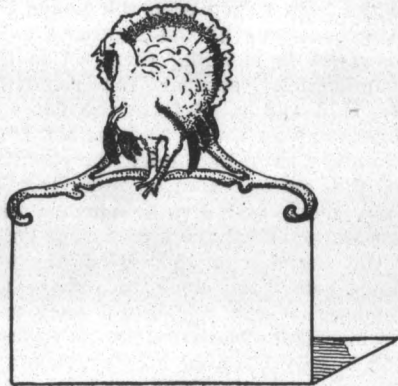
BY N. M. PAIRPOINT.

A set of name cards for the Thanksgiving dinner table, add a most attractive note to the decorations, and

make very pretty little souvenirs, to remember the day by. I like to use a piece of stiff water-color paper, or cardboard with a water-color surface that is quite smooth, what is known among artists as a "hot-pressed" surface.

Mark out spaces three by four and a half inches for each card, and trace or draw the design at one end. If tracing is the method to be used, a piece of regular tracing paper is best, but ordinary tissue paper will do very well.

When the design is traced on the tissue paper, turn it over and blacken the back of it all over with a lead



A Design Emblematic of the Day.

pencil. Now lay the black side down on the card, and go over all the lines of the design with a pencil when the subject will be transferred to the card.

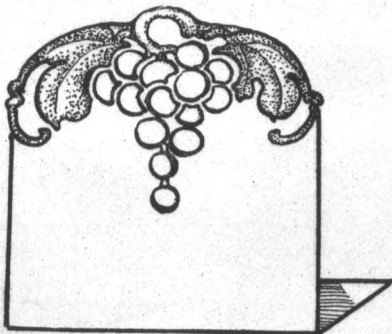
The simplest possible way to finish the design, is to go over all the lines with a pen and good black ink. This is very easy, and makes a nice effective card. Or the cards are more attractive, if colored crayon are used, for the different parts.

When the pumpkin design is traced on the card, if it is to be finished with colored crayon, make the pumpkin itself orange, and the leaves and stems green. Use the dark brown crayon to outline the pumpkin, and to show the divisions, and an outline of brown round the stems and leaves, will clear up any places where the color may have run over the edges.

One and a half inches from the lower edge of the card, place a ruler across, and lightly draw the point of the closed scissors along its edge, so that the card will be indented. This is called "scoring" and makes the card fold and crease very nicely. Bend back this strip, and the card will stand up when placed on the table.

The grape design is pretty, if the grapes are made a red-purple. Use the red crayon first, lightly, then work over it with the purple crayon, and the two will blend. Using one crayon over another in this way, makes the color quite strong, and the crayons should each be used lightly, or the color will become darker than you expect. Make the leaves and stems green, and the whole may be outlined with brown.

The turkey is effective if left white, with red used for the head, and brown for the details. Such an arrangement



The Grape is Suggestive of Festivities. is not quite true to nature, but it makes a very attractive card. Make the scrolls he stands upon green, and outline any parts with brown that need making more distinct.

These little cards can be made whenever there are a few spare moments, and each of those at the dinner will prize a piece of hand-work.



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You profit by the experience of these 300,000 families. You can obtain this same proven satisfactory lighting and cooking service for your home.

PILOT Lighting and Cooking Plant

is different from all other types of private plants for country homes. Beyond question, it makes acetylene the cheapest, safest and most convenient light and cooking fuel now available for every home wherever it is located.

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WRITE for 1916 catalog—see new styles—1916 prices. 300,000 satisfied customers endorse Kalamazoo offer—low wholesale price—30 days' trial—year's test—cash or easy payments—\$100,000 guaranty. We pay freight and start shipment within 24 hours. Mail postal today for catalog—also receive new 1916 souvenir, "Recipes in Rhyme." Both free. Ask for Catalog No. 113

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Farm Commerce.

The Power of the Packer

May Be Modified by a General Revival of Farm Slaughtering to Furnish Local Meat Supply—Suggestions on Butchering Hogs.

GIVE the meat packer more power. That is what we do when we sell to him all the live stock grown in the community. In principle it is like an unconditional auction sale with just one bidder present—that bidder sets the price.

This in substance is the conclusion of an agricultural economist who further reflects that the above is only half the story. The other half is the manner of supplying the same community with meat. After all the animals have been sold on foot, it becomes necessary to go to the packer for a supply of animal carcasses—hundreds and thousands of buyers purchase from the same seller. Then it is that the situation stands reversed. Instead of the bidder saying, "I'll take a hind quarter, please, and pay you so much," the seller says, "No, the price is so and so."

Now in supplying meat to the people of our great cities we admit that the methods employed by the packer enables him to slaughter the animals and distribute the carcasses in a most economical manner, but in getting meat on our own table and on that of our cousin who lives in the home town the supply should come from farm slaughtered animals. We deem it more generous than good sense calls upon one to be, to pay transportation to Chicago and back again, plus the distributors profits on meat consumed in a producing district when the community grows more meat than its people can eat.

We believe a general revival of farm slaughtering to a degree sufficient to supply the wants of the local farmers, and the home town folks, and perhaps some retailers and families in the near-by larger cities, would have a wholesome effect upon the trend of prices for live stock, would save money to the community, give the farmer a larger income and cut down his meat bills.

To assist those who desire to do this and who may have forgotten the method of or never had experience in butchering hogs we give the following directions:

A WELL selected butchering outfit and a convenient place for working are important considerations at hog-killing time. To aid in this work demonstration specialists recommend to farmers as a handy and complete "kit" the equipment shown in the accompanying illustration. This consists of two butcher knives, two "bell" or candlestick scrapers, a meat saw, and a sharpening steel. The meat saw is for sawing down the backbone and cutting up the carcass. The candlestick scrapers have detachable handles, and are used to remove the hair and scurf from the hogs. A long water-proof apron, which will protect the clothing, can be had at a small cost.

Preparation of Animals for Slaughter.

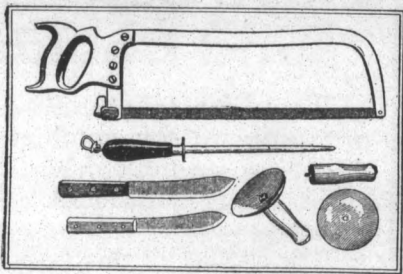
A 24 to 36 hour fast, plenty of water, careful handling, and rest before slaughter are all important in securing meat in the best condition for use, either fresh or for curing purposes. Food in the stomach decomposes very rapidly after slaughter, and where the dressing is slow the gases generated often affect the flavor of the meat. Water should be given freely up to the time of slaughter, as it keeps the temperature normal.

It is highly important that the animals be not excited in any way suffi-

ciently to raise the temperature of the body. If the animal becomes heated, it is better to allow it to rest overnight before killing than to risk spoiling the meat. It is also essential that the hog be carefully handled so as not to bruise its body.

Points on Killing.

It is customary on the farm to stun hogs before sticking them, although in some localities this is not done. Another method is by shooting the hog through the head with a rifle, though extraordinary care should be exercised in using a rifle around farm build-



ings. After stunning by a heavy blow on the center of the forehead immediately above the eyes with a poleax, the eight-inch straight-bladed knife is inserted into the hog's throat in the under portion of the neck, to a point just in front of the chest cavity, but not into this cavity. The knife is given a twist and sideward motion to sever the blood vessels and allow the blood to flow. By laying the hog on one side and elevating the ham end the blood will gravitate freely.

Proper Temperature of Water for Scalding and Scraping.

A barrel is the receptacle commonly used for scalding. If it is set at the proper slant, with the open end against a table or platform of the proper height and the bottom securely fastened, there is little danger of accident. A strong table built for the purpose would be a very desirable thing on which to work, though it is not absolutely necessary. A box often serves very well. The water for scalding should be heated to the boiling point. This will allow for a reduction of temperature when the water is put into a cold barrel, the best temperature for scalding the hogs being from 145 to 150 degrees. Be careful not to have the water so hot as to cook the skin of the hog. If the water is too hot the hair is likely to set. A small shovelful of hardwood ashes added to the water aids materially in removing the scurf from the body, though it has no effect in loosening the hair. A lump of lime, a handful of soft soap, a little pine tar, or a tablespoonful of concentrated lye has the same effect.

How to Scald a Hog.

The hog should not be scalded before life is extinct, or the blood vessels near the surface of the skin will be cooked, giving a reddish tinge to the carcass. While being scalded the hog should be moved constantly to avoid cooking the skin. Occasionally it should be drawn out of the water to air—when the hair may be "tried." As soon as the hair and scurf slip easily from the surface, scalding is complete. If it is suspected that the water is too hot, scald the hind end of the hog first. If the water is too hot and you overscald the head, you will be adding to the trouble of scraping the part most difficult to clean. When the water is about right, begin by scalding the head.

The scraping and cleaning of the hog's skin should be done as soon as possible after removal of the animal

from the scalding vat. Scraping a cold hog is a difficult, if not an impossible, task. Where it is necessary to reverse the position of the hog in the barrel to complete scalding, the portion scalded should be cleaned before attempting to scald the other end of the hog.

When the hair starts readily, remove the animal from the water and begin scraping. The "bell" scraper should be used with a long, sweeping movement over the sides and ends while the hog is still hot. The head and feet should be cleaned first, as they cool quickly. Pull the ears through the hands to remove the bulk of the hair. Grasp with the hands the lower portions of the legs and twist to assist in cleaning them. Use the "candlestick" scraper for removing the skin and scurf from the flat surfaces and as much as possible from the other parts and finish the cleaning of the entire carcass, removing all hair, scurf, and dirt by rinsing with hot water and shaving with large knife.

Cut the skin on the side of the tendons below the hock to expose the tendons so that a gambrel stick may be inserted. The next step is to hang the hog by his hind legs by means of the gambrel stick high enough so that his head clears the ground. Wash down with hot water, shave over any unfinished patches and wash the entire carcass again to remove all loose hair and scurf.

Occasionally a hog is killed that is too large to scald in a barrel. If it is covered thickly with blankets or with sacks containing a little bran, and hot water poured over it, the hair will be loosened readily. In some localities hogs are skinned, but scalding is far more satisfactory.

Directions for Removing Entrails.

In removing the entrails, first split the hog between the hind legs, separating the bones with the knife. This

can easily be done if the cut is made directly through the union of bones between the hams. Run the knife down the center of the belly, shielding the point with the fingers of the left hand and guiding it with the right. There is little danger of cutting the intestines in this way. Split the breastbone with the knife or an ax and cut down through the sticking place to the chin. Cut around the rectum and pull it down until the kidneys are reached, using the knife wherever necessary to sever the cords attaching it to the "bed." Remove the sexual organs, then cut across the artery running down the backbone; cut around the diaphragm (skirt) and remove the intestines, stomach, and "pluck," that is, heart, liver, and lungs, with a backward and downward pull—grasping the mass of organs near the union to the backbone and diaphragm, sever attachments with a knife where necessary. In this operation the windpipe down to the head should be removed with the pluck. Do not disturb the kidneys or the leaf fat in carcasses to be shipped, except in warm weather, when the "leaf" may be removed to allow quicker and more thorough cooling. If the hog is to be cut up on the farm and not intended for shipment in carcass form, it is advisable to loosen the leaf fat from the abdominal wall, allowing it to remain attached to the carcass at the ham end. Open the jaw and insert a small block to allow free drainage; then wash out all blood with cold water and sponge out with a coarse cloth. In hot weather the backbone should be split to facilitate cooling. It is good practice to do this also where the hog is to be cut up on the farm and not intended for shipment. The fat should be removed from the intestines before they get cold. Since it is strong in flavor it should not be mixed with the leaf fat in rendering.

Marketing the Poultry Crop

FROM now until the year-end holiday season Michigan farmers will be marketing large quantities of poultry and a few suggestions on methods of getting the birds to market so as to realize the largest profits will be in order.

It is an easy matter to deliver poultry of any kind to the local buyer, but where the producer consigns to a retailer in some distant city or to a commission house, certain precautions are necessary to insure the safe arrival of the birds.

Shipping Live Poultry.

Coops should be in good condition before using, as the transportation companies handle them roughly and especial care should be taken to have them strongly secured by thorough nailing and re-enforced with wire or metal strips. Have the coops sufficiently high to give the birds needed freedom as low coops cause heavy losses through suffocation. Turkeys

of course, require higher coops than do chickens.

The great tendency is to overcrowd the coops; this probably comes from a desire to cut down transportation charges, but it usually results in a loss through heavy shrinkage and smothered birds before destination is reached. During the colder months the birds, of course, can be crowded a little closer than in hot weather. In cold weather about 120 pounds of old hens can be placed in the regular size coops, while of spring chickens 60 pounds is the maximum for small size, and 90 pounds for the larger birds.

It is desirable where one has a sufficient amount of stock to ship to grade into different classes and ship separately for they can be handled to much better advantage after they reach the market. If the hens, spring chickens, roosters, turkeys, ducks and geese can each be sent in different crates, they will find a better demand



Motor Power is Gaining in popularity as a means of marketing farm crops. Above illustration shows Wm. Neddermeyer, of Wayne County, with his car and trailer loaded with 65 bags of sweet corn weighing 50 pounds each ready for a fourteen-mile trip to market. He has carried the same size load every day for two months.

upon the market in that the needs of buyers can be more easily satisfied. Of course, where a limited amount of stock is to be sent, it will be necessary to send a mixed crate. Where the members of Granges or Farmers' Clubs or other local co-operative societies pool their poultry for shipment, they are enabled to gain the advantage that comes from grading the stock.

Tag the crate carefully with the name and address of the shipper and of the party to whom the shipment is consigned. It is wise to place two tags on the crate, one on each end, so that if one should be pulled off, the other will identify the shipment. Avoid placing the tags on top of the coops, as when piling one on the other in shipping and carting through the streets, the tags are almost certain to be detached.

It would be well to suggest further that the stock be caught the evening before shipment, given a good feeding in the morning and put in the coop without undue excitement. The birds should not be exposed to the extremes of cold and heat while being transported to the station and shipments should be made by express and started in time to reach the market between Tuesday and Friday.

How to Dress Poultry.

Where one's market demands dressed birds, the owner should aim to have the stock in good condition at the time for shipment. The birds should be well fed and well watered up to within from 20 to 24 hours of the time for killing, when they should be fasted. This will clear the crops and entrails of food which would likely sour before reaching the customer.

Chickens.—In killing do not wring the necks, but bleed at the mouth or cut the veins of the neck. Hang by the feet until properly bled. The head and feet should be left on. As scalded chickens sell best, one should scald rather than dry-pick. The water should be near boiling point, or about 170 degrees F. Before scalding pick the legs dry, then by holding the head and legs in the hand, immerse the remainder of the body five or six times. Do not put the head in the water, as it gives the bird a sickly appearance which detracts from its saleability. Remove the feathers immediately without breaking the skin, then dip for about ten seconds in water near the boiling point, after which hang in a cool place or put on shaping shelves until the animal heat has left the body; they will then be ready for packing. Do not remove intestines nor crop.

Turkeys.—Dry-pick while the body is warm to avoid tearing the skin. In pulling the tail feathers, give them a little twist and they will come easily. Market the older turkeys and gobblers before the Christmas holidays, as after that date the demand is for younger stock.

Ducks and Geese.—Feathers are removed by scalding in water of the same temperature as for chickens, but more time will be required for the moisture and heat to penetrate and loosen the feathers. Avoid dry-picking previous to killing to save the feathers, as it inflames the skin and hurts the sale of the bird. Leave the feathers on the head and for two or three inches on the neck. Do not attempt to remove the down or hair from the body by singeing, as it gives an undesirable, oily appearance. After picking scald in water for about ten seconds and then rinse off in clean cold water and allow to cool.

Packing for Shipment.

Be certain that the birds are thoroughly dried and cooled before packing in the container for shipment. Clean boxes or barrels of the proper size, lined with manilla or straw paper are generally used for packing poultry. Straighten out the bodies and legs and pack snugly, filling the box or barrel as full as possible to

prevent the birds shuffling about. If convenient and there is plenty of stock, put only one kind in a box when shipping to commission houses. Mark shipping directions plainly on the cover of the box or barrel, together with the kind and weight of each description so that the receiver will understand quickly what the contents consist of. In addition to the name and address of the receiver put your own address and name on the box as the shipper.

Crop and Market Notes.

Michigan.

Isabella Co., Nov. 10.—The average acreage of wheat and rye have been sown. Corn about half a normal crop; potatoes 40 per cent of a crop and rotting badly. The usual amount of feeding stock on hand. Wheat 98c; oats 32c; beans \$2.90; potatoes 35c; eggs 25c; butter 23c; cream 26c; fowls 10c.

Lapeer Co., Nov. 9.—There is an increased acreage of wheat and less rye sown than usual. Corn did not mature well. Blight affected the potatoes seriously and the largest yields are 85 bushels per acre, while some fields are a failure. Very few good beans this year. Big shipments of sugar beets are being made. Potatoes 50¢@60¢; apples 50¢@75¢; wheat \$1; rye 69c; oats 38c; beans \$2.50; hay \$10@12.

Washtenaw Co., Nov. 8.—About half the usual acreage of wheat and rye sown. There is a yield of about 75 per cent of a normal crop and not up to the average in quality. Potatoes are of very poor quality and about 25 per cent of a crop. Very little feeding stock on hand. Farmers generally have enough feed for their own use. Wheat sells at \$1.02; corn 35c; beans \$3; hay \$13.50; potatoes 75c.

New York.

Columbia Co., Nov. 8.—Beautiful fall weather, some rain and very little frost. The usual amount of rye sown, this being the leading rye county of the state. Corn about half a crop. Potatoes in good demand with the price around \$1 per bushel. Many farmers will be short of feed on account of the poor corn crop and poor yield of hay. Oats 50c per bushel; hay \$20 per ton; apples \$2 per bbl; butter 35c; eggs 40c per dozen.

Orleans Co., Nov. 9.—The acreage of wheat and rye sown is large. The yield of corn was good; potatoes very light. Very little stock on hand. The farmers generally have plenty of feed for own use. Apples all sold or in storage, bringing \$2.25@2.35; potatoes 75c@81; wheat \$1.04; beans \$3; hay \$15@18; no corn to sell.

New Jersey.

Morris Co., Nov. 8.—Winter wheat and rye have made a fine growth. The corn crop was a disappointment, only about half the usual yield. Corn husking slow on account of scarcity of help. Apples about half a crop. Potatoes \$1; onions \$1.10 per bushel; apples 80c@81 per bu; eggs 40c; butter 35c; buckwheat 85c per bushel.

Ohio.

Fairfield Co., Nov. 9.—An increase in acreage of wheat sown, and is looking well, though rain is needed. The yield of corn was very irregular, being from 20 to 60 bushels per acre, and not of the best quality. Potatoes medium yield and quality good, but there has been some complaint of rot. Amount of feeding cattle not up to average, but an increased number of hogs. Farmers will have plenty of feed. Wheat \$1.05; corn, new 50c; hay \$15 per ton; potatoes 75c; apples 50¢@75¢; milk 12¢@14¢ per gallon.

Hardin Co., Nov. 8.—Weather fine and farm work progressing nicely. Clover seed a poor yield. Corn a good crop but quality not very good. Potatoes poor. About the usual acreage of wheat sown. Apples splendid crop and of good quality, bringing around 50c per bushel. New corn 50c; potatoes 75c; hogs \$6.35; clover hay \$6@12 per ton.

Madison Co., Nov. 9.—Corn is drying nicely. Acreage of wheat is small and in need of moisture. Clover seed a failure. Apples are plentiful. Many potatoes rotted before digging; the price is 50¢@75¢; wheat \$1.05; apples 50¢@75¢. Horses plentiful and sales slow. Cattle and sheep scarce and high. Hogs in slow demand and much cholera prevails.

Indiana.

Wells Co., Nov. 9.—Corn is being harvested and shredded and seems of good quality. Wheat all sown, but dry weather is not favorable for its growth. Clover looks good. Not much clover seed; plenty of feed on hand. There is a lot of hogs, and some cholera is reported. Quite a number of cattle being fed. Wheat

(Continued on page 462).



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Markets.

GRAINS AND SEEDS.

November 16, 1915.

Wheat.—The slight depression noted in the wheat trade last week, due to record-breaking primary receipts, has been overcome by a revival of buying by both domestic and foreign agents and now the trade is again looking upward. Certainly a market that can stand the stress of such tremendous receipts as the northwestern states and provinces have been putting into circulation, has much native strength, and most growers who are not obliged to sell feel that there will be higher prices ruling when winter weather cuts off the northwestern marketing. Then, too, good winter wheat is not going to be so plentiful for, while the yield was large the estimated amount of high-grade wheat is shrinking, as a large portion of one holdings in the central states will have to be fed to stock instead of going to the elevators. The reduction of stocks in Great Britain and the announcement that much buying by her agents would be necessary to supply the required stores for winter, is also encouraging to believers in higher values. The United States visible supply increased 5,124,000 bushels last week. One year ago the local price for No. 2 red wheat was \$1.12 per bushel. Last week's quotations were:

	Red. No. 2	White. No. 1	Dec.
Wednesday	1.12½	1.09½	1.14½
Thursday	1.12½	1.09½	1.14½
Friday	1.13	1.10	1.14½
Saturday	1.13½	1.10½	1.15
Monday	1.13½	1.10½	1.15
Tuesday	1.13	1.10	1.14½

Chicago.—December wheat \$1.04½; May \$1.06½ per bushel.

Corn.—Expecting that with the first cold weather the deliveries of corn will suddenly increase to considerable volume, dealers take hold of the trade with caution, but notwithstanding this hesitancy corn values went up the past week, and there is every reason to believe that the conditions which have held wheat prices on so high a level during the trying days of heavy delivery will do the same with corn. Reports of corn moulding in the shock are numerous. United States visible supply increased 78,000 bushels. Price for No. 3 corn a year ago was 75c. Quotations for the week are:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	67½	68½
Thursday	67½	68½
Friday	67½	68½
Saturday	68½	69½
Monday	68½	69½
Tuesday	68½	69½

Chicago.—December corn 60.6c per bu; May 64.2c.

Oats.—Steady prices, a fairly good demand, limited receipts at local elevators and a comparatively small volume of the grain in commercial storehouses characterize the oat situation at present. One year ago the local price for standard oats was 49½c per bushel. Last weeks Detroit prices were:

	No. 3 Standard.	White.
Wednesday	40	38
Thursday	40	38
Friday	40	38
Saturday	40	38½
Monday	40	38½
Tuesday	40	38½

Chicago.—December oats 38.5c per bu; May 40.1c.

Rye.—Market quiet and lower with cash No. 2 quoted at 99c per bushel. **Barley.**—Malting grades are higher at Milwaukee at 56¢65c per bushel, and at Chicago 55¢65c is being paid.

Peas.—Market is firm with offerings small. New crop quoted at Chicago at \$2.35@2.50 per bushel, sacks included.

Beans.—Values are higher. Offerings are small. Farmers are confident that prices will be more favorable later as good beans are very scarce. Cash beans are quoted at Detroit at \$3.50, November \$3.40 per bushel. At Chicago stocks are small and prices are advanced. Producers should not become scared at any attempt by dealers to bear the market. Pea beans, hand-picked, new, are quoted at \$3.90 @4 per bushel for choice. Prime at \$3.70@3.80; red kidneys \$4.50@4.75 per bushel. At Greenville the farmers are offered \$3 per bushel.

Clover Seed.—Trade inactive; cash, December and March quoted at \$12 per bushel; prime alsike at \$10.20. At Toledo prime cash \$11.85; March at \$11.80; prime alsike \$10.35.

Timothy Seed.—Market rules steady at \$5.65 for prime spot.

DAIRY AND POULTRY PRODUCTS.

Butter.—Fancy grades of creamery are scarce; prices have advanced 1c. Ordinary stock quoted easy. Extra creamery 30c; firsts 29c; dairy 21c; packing stock 19c.

Eggs.—The scarcity of fancy goods caused an increase in price of 1c; demand is moderate at the advance. Storage stock is being drawn on to fill demand. The price, based on sales, is 30c.

Chicago.—The advance in price caused by light receipts have made buyers conservative. Storage stock in better demand on account of the advance. Extra creamery 30½c; extra firsts 29@29½c; firsts 26@28c; extra dairies 29c; packing 19½@20½c per pound.

Eggs.—Offerings of good eggs are very light. Prices remain unchanged. Market is firm. Current receipts are quoted at 30c; candled firsts 31c.

Chicago.—A steady feeling exists for fresh stock at advanced prices. Refrigerator stock is easy and lower. Firsts 30@30½c; ordinary firsts 27@28c; miscellaneous lots, cases included, 20@30c; refrigerator Aprils 21½c.

Poultry.—Supply is good and prices for hens and springs are lower. The market is quiet. Turkeys 14@15c; spring turkeys 19@20c; fowls 8@12c according to quality; spring chickens 11½@13c; ducks 14@15c; geese 13@13½c.

Chicago.—Market is quiet with turkeys in fair demand. Spring turkeys and fowls are lower. Light weight young turkeys not wanted. Turkeys 12@16c; spring turkeys 17@17½c; fowls 9@12½c; springs 13c; ducks 12@13½c; geese 10@13½c.

FRUITS AND VEGETABLES.

Apples.—Are in good supply and active. The market is steady. Fancy \$3@3.50 a bbl.; common \$1.25@1.50. At Chicago trading in small lots is good. Choice goods held steady. Offerings of bulk stock moderate and only fair quality. The Michigan pack brings above country pack prices. No. 1 Greenings \$2.50@3; Jonathans No. 1, \$3@3.25; Baldwins \$1.50@2.25; Wageners \$2@2.50; Spies \$1.75@3; bulk apples \$1.25@2 per car, depending on quality.

Potatoes.—Receipts are ample and demand moderate. Many off-grade potatoes being received. Minnesotas are quoted at 65¢70c; Michigan 60¢65c per bu. At Chicago the market is active and prices ruled strong. Michigans are quoted at 43¢50c; quality poor. Other prices range from 42¢58c. At Greenville 45c per bushel is offered. The receipts are normal.

WOOL.

Boston.—The trade is strong and prices are advancing. The seller of wool dictates the price today as the evident shortage of the world supply is being more and more impressed upon users. For some time manufacturers were scouting about, taking all the wools they could secure from producing sections, but these stocks have been well cleaned up and now they must go to the dealers, who are not at all anxious to let go. Improvement in domestic business conditions is stimulating the demand for manufactured wools. Michigan unwashed delaines are quoted at Boston at 28¢29c; do. combing 32¢37c; do. clothing 24¢30c per pound.

DETROIT EASTERN MARKET.

Short crops, especially of potatoes and apples, and the cold weather at the beginning of the week cut down the volume of business Tuesday, and the farmers were sold out early. Apples ruled between 50c and \$1 for the bulk of the sales, while some hand-picked offerings went at \$1.50 per bu. Potatoes were offered in small quantities at around 90c for fair quality. Cabbage 60c; turnips 50c; chickens 75c each; pork \$11.50 per cwt; loose hay is coming slowly, with inquiry only fair at quotations ruling from \$18 @22 per ton.

GRAND RAPIDS.

The potato market shows no special change, but is stronger if anything, with Greenville quoting at 45c; though at other places there has been buying at 35¢40c; sales on Grand Rapids city market are reported at 50c. Beans have also recovered somewhat from the recent setback, with quotations for farmers for white pea at \$2.80@3, red kidneys \$3.25@3.50. Turkeys are in demand for Thanksgiving trade, with dealers offering 16@17c live weight and chickens 9@11c. Fresh eggs are firm at 33c and No. 1 dairy butter is steady at 24c. Grain prices at the mills are as follows: No. 2 red wheat \$1.06; oats 37c; corn 70c; buckwheat 75c; rye 90c.

LIVE STOCK MARKETS.

Buffalo.

November 15, 1915.

(Special Report of Dunning and Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle 285 cars; hogs 175 d. d.; sheep and lambs 75 d. d.; calves 1200 head.

With 285 cars of cattle on the market here today, the strictly prime cattle sold from 15¢25c higher; the common and medium cows were a strong quarter lower than last week; handy butcher cattle of the best quality sold steady with last week's prices; stockers and feeders were 10¢15c lower than last week, and the common kind of light stockers were 25c lower. There are a few loads of cattle left over tonight unsold.

We had an excessive supply of hogs today, footing up a total of 175 double decks, and with liberal runs all over the west and lower prices, our market was forced in line with other points, showing a loss from Saturday's best time of 15¢25c per ct. on all but pigs, this class sold generally steady. A few selected lots of hogs sold from \$7.10@7.25, latter sales very scarce; bulk of the yorkers and light mixed generally 7c per lb; pigs \$6.10; roughs \$5.75@6; stags \$5@5.50. About everything sold that was yarded in time, but with a fair supply in sight for tomorrow we do not look for much if any improvement in the market.

The lamb market was active today, prices a quarter lower than close of last week. All sold and we look for about steady prices balance of the week.

We quote: Lambs \$9@9.10; cull to fair \$7@8.85; yearlings \$6.75@7.50; bucks \$4@5; handy ewes \$5.25@5.35; heavy ewes \$5@5.25; wethers \$5.75@6; cull sheep \$3.50@4.25; veals good to choice \$10.75@11; common to fair \$8.50@10.50; heavy calves \$6@9.

Chicago.

November 15, 1915.

Cattle. Hogs. Sheep. Receipts today..23,000 45,000 40,000 Same day 1914..1,392 17,514 21,472 Last week.....51,589 169,178 82,237 Same week last year, stockyards quarantined. No shipments.

Shipments from here last week were only 4,520 cattle, 14,740 hogs and 1,663 sheep. Hogs received for the week averaged but 193 lbs. in weight.

Extremely large receipts today caused a general break in prices, cattle below the choice class averaging at least 10¢15c lower, while hogs showed a similar break, and sheep and lambs were off 25¢40c. Top lambs sold around \$9, and the best hogs sold around \$7.05. Only 1000 western range cattle arrived.

Cattle were marketed liberally last week. The early market was a bad one for sellers of cheap and medium grades, with a Monday run of 22,616 head, and there were many of the \$6.50@8.35 steers that failed to get bids, the market breaking in many cases 25¢35c. By the middle of the week the market became active and stronger for fat beefs, and in some instances \$8.25@8.75 kinds went a shade better than the mean close of Monday, while for right good to choice steers that had a good corn finish buyers paid 10¢15c higher, with the rise in isolated instances 25¢35c by Thursday. The choicer class of steers were quotable at \$9.50@10.50, while the inferior to fair class of light weight grass-feds went at \$4.25@6.45, with warmed-ups at \$6.50@7.45, short-feds at \$7.50@8.50 and pretty good lots at \$8.75 and upward, although no really good cattle were offered below \$9. Yearlings of prime quality were scarce and nominal much of the time, good to prime yearlings being worth \$9@10.50. Prime heavy steers sold up to \$10.40, and prime to extra yearling heifers brought \$8@9.50 in limited numbers, with sales all the way down to \$4.35@5.25 for grass-fed heifers, while cows brought \$4.60@7.25. Cutters sold at \$4.10@4.50, canners at \$2.50@4 and bulls at \$4@7.50. Calves were taken on the basis of \$4@11 for coarse heavy to prime light vealers, while western range cattle were in good demand, steers going at \$6.75@8.50 and cows and heifers at \$3.75@7.35. During the week the bulk of the native steers from feeding districts brought \$7.25@9.50.

Hogs continued to pursue a downward course of prices for still another week, with greatly increased receipts of hogs of light weight and pigs. These kinds sold at a large discount. The highest sellers were prime hogs of rather heavy weight, while choice heavy packers sold at the usual large discount from prices paid for the best matured barrows on the shipping order. Only limited numbers of hogs were purchased for eastern shipment, and most of the buying was left to local packers and smaller butchers.

Packers claimed that the thin, light hogs were dressing very poorly. At the week's close hogs brought \$6.20@7.25, comparing with \$6.25@7.55 a week earlier, while top pigs brought \$6.25. Mixed packing hogs brought \$6.20@6.70, medium weights \$6.75@7, selected butchers \$7.05@7.25 and pigs \$4@6.25. Prime 314-lb. hogs sold close to top prices.

Sheep and lambs made extremely high price records last week at the best time, with light receipts, offerings falling far short of former years. Fed flocks comprised most of the offerings, although a few big bunches of Montana range wethers and lambs showed up and sold well. At the high time of the week prime lambs brought \$9.35, and prices throughout the list were far above those paid in former years. Lambs and yearlings closed largely 15¢25c higher than a week earlier and matured sheep 10¢15c higher, closing prices being as follows: Lambs \$6.50@9.25; heavy lambs \$7.75@9.10; wethers \$5.75@6.40; ewes \$3@5.65; bucks \$4.25@4.75; yearlings \$5.75@7.60.

(Continued from page 461).

\$1; corn 85c; oats 30c; rye 75c; eggs 30c; butter 20c; clover seed \$10 Illinois.

Marion Co., Nov. 9.—About half the usual acreage of wheat and rye sown. Corn will average about 25 bushels per acre, mostly well matured. Yield and quality of potatoes fair. No feeding stock on hand except a few hogs. Farmers have plenty of feed for own use. The apple crop is all harvested. Apples, barrel stock, 50c per bushel; cider 20c per cwt; wheat \$1@1.05; corn 65c; hay \$7@10; potatoes 50c; butter-fat 27c; butter 25c.

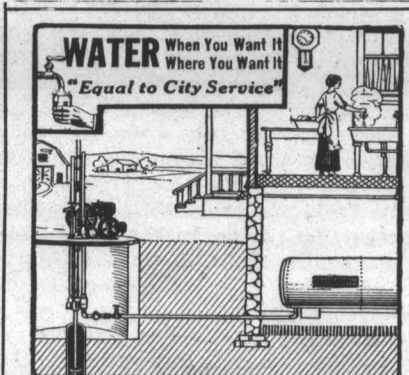
Wisconsin.

Polk Co., Nov. 8.—Wheat and rye have made a good growth so should stand the winter well. Corn is of poor quality. Potatoes a good yield and quality good, but bringing the farmers only 25c per bushel. Stock is plentiful and very cheap at auctions. Wheat 95c; oats 32c; barley 45c; hay \$5; butter-fat 30c; eggs 28c.

Waushara Co., Nov. 9.—No heavy frosts yet, and potatoes all dug, with the yield lower than last year, while there is much rot. About half the corn is soft. The usual acreage of rye sown. Plenty of roughage. Potatoes 35c; wheat 90c; rye 93c; beans \$2.75; Greening apples 50c per bushel.

PURE-BRED CATTLE SALE POSTPONED.

The sale of pure-bred Galloway and Red Polled cattle at the Kolb-Gotfredson Barns, 1093 Gratiot avenue, Detroit, advertised in our last issue for Thursday, November 18th, has been postponed until Saturday forenoon, November 20. Owing to a car shortage which delayed shipments, Messrs. Roberts & Roberts, who are offering these cattle found it necessary to postpone the sale as above noted.



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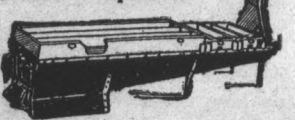
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DETROIT LIVE STOCK MARKETS.

Thursday's Market.

November 11, 1915.
Cattle.

Receipts 2758. The market at the local stock yards this week was the worst seen here in a very long time. The service given by the various railroads was far from being satisfactory, and live stock that should have been unloaded early Wednesday morning did not reach the yards in time to unload until long after dark and a large portion of it was not yarded until midnight. It looked as though every shipper in Michigan tried to get here at once and late Wednesday night the Michigan Central put out an embargo on cattle, which will stop shipments here until the accumulation is cleared up. Other grades of stock may come as usual.

The cattle trade was a dull draggy affair, with prices on all grades full 25c lower than they were a week ago. The demand from the country was fair but hardly as good as it was a week ago. A good many healthy stockers are arriving that have not been dehorned and there is fully 50c difference in the price of them and the dehorned stuff. The quality was common, even so with stockers and the close was decidedly dull at the decline. Best heavy steers \$7.25@7.75; best heavy weight butcher steers \$6@7; mixed steers and heifers \$5.50@6; handy light butchers \$5.25@5.75; light butchers \$4.50@5.25; best cows \$5@5.50; butcher cows \$4@4.75; common cows \$3.75@4; canners \$2.50@3.50; best heavy bulls \$5.25@5.50; bologna bulls \$4@5.25; stock bulls \$4@4.50; feeders \$6@6.75; stockers \$5@5.50; milkers and springers \$4@8.50.

Roe Com. Co. sold Sullivan P. Co. 1 cow wgh 1090 at \$4.50, 8 butchers av 671 at \$5.25; to Mason B. Co. 17 do av 810 at \$6, 2 do av 655 at \$5.50, 11 do av 909 at \$6.85; to Parker, W. & Co. 1 cow wgh 1100 at \$4.25, 3 do av 840 at \$3.75; to Applebaum 9 butchers av 680 at \$4.70; to Newton B. Co. 14 do av 787 at \$5.85, 1 cow wgh 1090 at \$4.50.

Haley & M. sold Kamman B. Co. 1 steer wgh 1320 at \$7.25, 1 cow wgh 900 at \$5, 2 heifers av 925 at \$6; to Applebaum 2 bulls av 820 at \$4.25, 3 butchers av 640 at \$4; to Sullivan P. Co. 2 do av 765 at \$5.75, 11 cows av 915 at \$4.35, 2 do av 935 at \$3.75; to Schroeder 3 steers av 770 at \$6.50, 1 do wgh 1090 at \$6.75, 1 bull wgh 1320 at \$5.50; to Sullivan P. Co. 19 butchers av 762 at \$5.50, 3 steers av 1162 at \$7.10, 1 do wgh 1260 at \$6.25, 2 cows av 990 at \$4.25; to Heeney 12 feeders av 737 at \$5.50; to Kelly 7 stockers av 630 at \$5.25; to Hinkley 7 do av 600 at \$4.75; to Newton B. Co. 4 cows av 1137 at \$4.60.

Reason & S. sold Hammond, S. & Co. 2 steers av 975 at \$6, 7 do av 991 at \$7, 1 bull wgh 1520 at \$5.75, 10 butchers av 859 at \$6.35, 2 steers av 1050 at \$7.50; to Sullivan P. Co. 2 bulls av 1410 at \$5.50; to Fish 3 stockers av 810 at \$6; to Schroeder 8 steers av 840 at \$6.25.

Veal Calves. The veal calf trade was full 50c lower than last week and would have been very dull had it not been for eastern orders. Best grades sold at \$9.50@10, and medium and heavy \$6@9.

Sandel, S. B. & G. sold Bernfret 10 av 167 at \$9.50, 2 av 170 at \$10; to Sullivan P. Co. 1 wgh 140 at \$10, 2 av 180 at \$10, 11 av 135 at \$9, 12 av 180 at \$8.25, 3 av 180 at \$10, 2 av 150 at \$9.50, 4 av 145 at \$10; to Burnstine 5 av 165 at \$10, 2 av 180 at \$10.

Sheep and Lambs. Receipts 12,667. The sheep and lamb trade was active and on Wednesday top lambs brought \$9; on Thursday the general market was 10c lower but active at the decline. Prices dropped in sympathy with other markets, which were all lower. Best lambs \$8.80@8.90; fair do \$8@8.50; light to common lambs \$6.50@7.50; fair to good sheep \$4.50@5.25; culls and common \$3@4.

Sandel, S. B. & G. sold Sullivan P. Co. 40 lambs av 80 at \$8.50, 78 do av 77 at \$8.20, 21 do av 75 at \$8.20, 20 sheep av 135 at \$5, 89 lambs av 75 at \$8.60, 23 sheep av 125 at \$5, 42 do av 95 at \$4.65, 65 lambs av 77 at \$8.65.

Haley & M. sold Newton B. Co. 20 sheep av 110 at \$5.50, 63 lambs av 75 at \$8.90, 9 do av 55 at \$7.50; to Nagle P. Co. 79 lambs av 75 at \$8.50.

Hogs. Receipts 12,119. In the hog department the trade was the worst seen here this season and was 15@30c lower than on Tuesday, pigs bringing \$6@6.25 and yorkers and mixed \$6.25@6.60; closed very dull at the decline.

NATIONAL CROP REPORT.

(Continued from page 446).

weather in Michigan, Wisconsin and Minnesota.

Potatoes.—The estimates of potato yield show a decline of 2.3 bushels per acre from the promise of a month ago. The estimated yield of 96.3 bushels indicates a total crop of 359,000,000 bushels, 47,000,000 bushels less than the large crop of last year, and 3,000,000 bushels greater than the five-year average. The heavy damage from rot during September apparently ceased with the coming of favorable weather during October. While yields are seriously lowered in Maine, New York, Michigan, and Wisconsin, they are good in Virginia, Indiana, Illinois, and in most of the important potato states west of the Mississippi. The western crop is average or above, except in Utah and Idaho. The quality of potatoes, 85.3 per cent, is the lowest since 1904, except for the crop of 1911 which was the same. Quality is particularly low in New York and Michigan, due to blight and rot, and in the northern potato producing states generally, they are undersized. In the middle and southern belts and in the western states they are generally of good quality.

Apples.—The apple production for local and farm as well as commercial consumption as reported November 1, 76,670,000 barrels, more than confirms the earlier promise of a large crop. The crop is approximately 8,000,000 barrels less than last year's bumper crop, but 18,000,000 barrels above the five-year average. The production is particularly large in the north central states, being more than double the 10-year average in Ohio, Indiana, Illinois, and Iowa, and almost double in Wisconsin, Missouri, Nebraska, Kansas, and Kentucky. In Indiana and Illinois the crop exceeds the full normal by four and eight per cent, respectively. The total production, however, is exceeded in recent years not only by that of last year but by the crops of 1912 and 1906. The crop is below average in New England, New York, Michigan, Montana, Colorado, Washington, Oregon and California. The quality, 84.8 per cent, is high, being in comparison with 83.6 last year and an average of 76.1 per cent for the past six years. It is better than the average in all important states, except Michigan and the Rocky Mountain and Pacific coast states.

Clover Seed.—The clover seed yield reported is 1.7 bushels per acre, against 1.9 last year, which was an average yield. The yields were better than average in the Atlantic coast states, but very much below in the important clover states of the north central group, and slightly below average in the western states. The low yields were due to the continued moist weather conditions over much of the principal clover producing belt, which prevented fertilization by insects, caused rank growth, and created conditions favorable for blighting of the clover heads. The total production is estimated at 67.6 per cent against a 10-year average of 69.3 per cent, the heavy loss reported in most of the north central states being partly offset by the favorable crops in Missouri, Kansas, Kentucky, Tennessee, Montana and Idaho, and by the rapid increase of acreage in the western states, as well as the recovery of acreage lost in the central states from the droughts of the past few years. However, the acreage harvested was not as large as expected to be on September 1, when it was estimated as 14 per cent larger than last year's acreage. Instead of 14 per cent increase, the increase was probably only seven per cent.

Grapes.—The total production of grapes is estimated at 86.6 per cent, compared with the 10-year average of 81.3 per cent, the production having been generally favorable in the grape sections of the Mississippi Valley and California, but poor in New York, Pennsylvania and Michigan, owing principally to early frost damage. The quality of the grapes, 87.7, is several per cent below average, being particularly low in New York and Michigan, and only average in California. The sugar content in the northern belt appears to be low.

Pears.—The production of pears, 66.8 per cent, is slightly above the average, but poor in New York, New Jersey, Michigan and Colorado. Blight damage is complained of in practically all sections of the country. Quality is slightly above average.

Sugar Beets.—Sugar beet condition is reported at 92.3 per cent, compared with an average of 91.4 per cent, the crop being six per cent under the average in Michigan, 12 per cent below in Utah, six per cent above in Nebraska and Kansas, and near the average elsewhere. The crop in Michigan is good, except where destroyed on flooded lowlands. The Kansas and Nebraska crop is exceptionally good.



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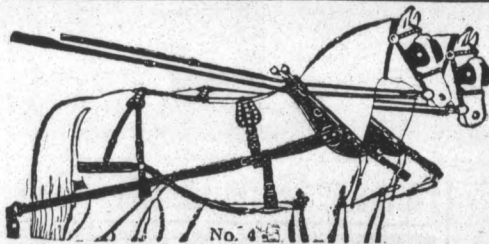
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R. C. and S. C. RHODE ISLAND REDS from prize R strains, fine layers with long bodies and rich red color. JENNIE BUELL, Ann Arbor, Michigan.

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White P. Rocks. Pekin and white runner ducks, White guineas, eggs and day old ducks and chicks, H. V. HOSTETLER, St. Johns, Michigan.

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HOUNDS FOR HUNTING—Fox, Coon and Rabbits, all ages. 500 ferrets, send 2 cent stamp. W. E. LECKY, Holmesville, Ohio

Remodeling Poultry Houses

By R. G. KIRBY.

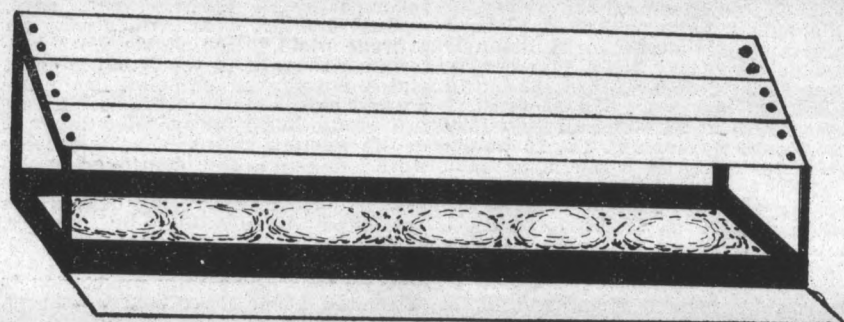
THE investment in poultry houses on the average farm is not large and where there is no intention of going into the poultry business on a large scale the farmer can hardly afford to invest much money in buildings. During a recent experience in remodeling a small poultry house I visited several farms where they are raising poultry in the right manner and I picked up many ideas that might be of interest to the prospective poultry farmer who desires to give his farm flock better accommodations during the coming winter.

The old-fashioned poultry house did not have an open front and much of the disease that occurred in the ill-ventilated houses was laid to everything but a lack of fresh air. An open front house is necessary to the health of the farm flock and any poultry houses built of substantial material can be made into the open front style by removing the old windows or cutting larger ones and covering the space with a fine mesh poultry wire. Curtains must be provided for stormy weather and these can be made by tacking muslin or canvas on light frames and hinging them to the wall above the windows. When these curtains are not in use they may be fastened with hooks close to the ceiling of the house and they should always be hooked close enough to the ceiling to prevent the birds from roosting on them when it is not necessary to have them down. It might be said that the curtains are never necessary except during very stormy weather, as the hen is well protected from the cold although she cannot stand dampness and draughts.

The roost in the hen house deserves considerable study as the hen spends many hours there and the right kind

once each week during the winter when the house is thoroughly sprayed with the carbolic acid and kerosene. Many commercial poultry men object to the roosts being too long as they maintain that it causes overcrowding and overheating. Probably twelve feet is about the proper length for the roost in the average house.

While recently visiting the home of a successful poultry breeder he told me of a new style nest which I immediately constructed in one of my poultry houses and it is proving first-class. Possibly it is not a new idea but it was new to me. The usual way of building poultry nests is to divide the nests into sections about twelve inches wide. This takes considerable extra lumber plus the time of cutting and placing the sections. In the new system illustrated in the drawing the nest boxes are built under the windows or on the sides of the walls in the usual manner but there are no sections. The nests are filled with a liberal quantity of clean straw and the hens build their own nests side by side down the entire length of the box. The advantage of such a system is due to the fact that the poultryman can scarcely furnish enough nests for his birds in the spring when they are usually laying above fifty per cent and this results in possibly two or three hens trying to crowd on the nest at the same time and this is often responsible for broken eggs. I have found by observation when many of the hens were laying at the same time that they seem to place themselves side by side in as contented a manner as if they all had an individual section. After a few days a regular number of hen-built nests will be found in the long laying box. In an open system nest of this kind



A New But Practical Nest Arrangement.

of a roost cannot fail to be of great benefit. The hen that is allowed to select her own roost will probably choose the smooth round limb of a tree and a two-by-four with the upper edges rounded smoothly makes a strong substantial substitute for the hen's natural roosting place. There are two methods of attaching the roosts which I have observed in commercial plants. The first is to have the roosts fit into sockets either in the partitions or the sides of the wall. They can easily be removed and thoroughly sprayed to kill all of the mites that may hide beneath them. Another method in quite general use is to attach the roosts together with a cross-piece and then hinge them to the wall above the droppings board. When cleaning or spraying the house the roosts can be hooked to the ceiling. I installed such a roosting system in a coop which I have been remodeling which contained many mites when I took charge of it. I filled a potato sprayer with a solution of three parts kerosene to one part of crude carbolic acid and left it in the poultry house. Every morning for a week I raised up the roosts and hooked them to the ceiling and then sprayed them thoroughly underneath with the solution. At this date there is not a mite to be found in the house and the handy method of hinging up the roosts will prove economical at least

there are few cracks where lice and mites can hide and the nest can be cleaned very easily. If the bottom is placed on hinges, at any time they can be emptied out and sprayed with a minimum amount of work. If the bottoms are also constructed on a slat system or with fine mesh poultry wire, the place for mites and lice to hide are greatly reduced. In building such nests the roofs must be quite steep to prevent the birds spending too much time upon them during the day or roosting on them at night. After the roost and the nest, the dropping board is doubtless of greatest importance. It may be constructed of scrap lumber if such material can be placed together without cracks as the surface of the board does not show. It should be covered at all times with clean dry soil which will fix the nitrogen in the manure and make it much easier to handle while being carried from the house to the garden. During the past summer I have frequently cleaned the dropping board by raking the material into a bushel basket, the material has been liberally mixed with good garden soil and sprinkled on a badly run-down strawberry bed. Cleaning the poultry houses is not a difficult job if the hen house has been modernized and the work is done regularly at frequent intervals.

(Continued on page 467).

Grange.

The 43rd session of Michigan State Grange will be held in the Hill Auditorium, U. of M., Ann Arbor, December 14-17, 1915.

THE GRANGE AND THE PROBLEM OF DISTRIBUTION.

There is much talk about "The Problem of Distribution" of late, and properly so too, for it is indeed a great and important matter. Distribution of the necessities of life often has as much to do with their ultimate cost as the production of them.

It is not strange that people are waking up to a knowledge of this fact, nor need we wonder that now and then we find a man who says, "So much talk about co-operation as a better means of distribution is getting on my nerves. Why don't the people who are talking about this matter all the time, show us some real co-operation?"

It is quite true that a practical demonstration of any theory is many times more effective than simply talking about it, and it is not best to tie up too closely to the fellow with a new idea, who has not prepared himself to demonstrate its worth.

What we need most in every Grange community is a few men who realize the possibilities that lie along the line of neighborhood co-operation, and realizing them, lead out in a practical way so that the largest possible number of people may get the benefits.

Our Grange contract system is old. It is one of the strong factors in real Grange growth. This system is not perfect, because it was originated by human beings, and human beings are not perfect. In the past it has served a useful purpose. There is no reason in the world why it is not as much needed today as ever, unless it is that this plan of direct selling has been taken up by so many private companies that opportunities for direct buying are now on every hand.

But the Grange contract system will always possess advantages over the ordinary catalogue house—at least so long as our Grange contracts are properly supervised and the interests of our Grange members who buy goods in this way are watched with care.

As we look back, it seems a long time since Past Master Horton first submitted "The Michigan Plan" of direct buying to the State Grange. Since that time the system has been broadened and expanded until it is now serving a large number of people each year. Our success in handling wire fence, fertilizers and twine has been the wonder of private dealers everywhere. And yet, in these lines, we have not done more than a small part of what might have been accomplished.

In addition to these things, the Grange should assist its members in the purchase of flour and feed stuffs, in spraying materials of all kinds, and in the near future we should be able to distribute a large share of our groceries by means of this system of buying.

But we must not ignore the problem of co-operative selling. To be sure, we have talked about it a lot, but here again, our friends are waiting for an exhibition of some real business. They are not content with reading of some neighborhood quite remote, where practically everybody sells his fruits and grains through a co-operative association. They want to see a little of this thing right at home, and just about the only way to interest them so that they will help, is to actually co-operate and sell something to the advantage of the consumer and the producer alike.

(Continued next week).

Farmers' Clubs

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

Associational Motto:

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

Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

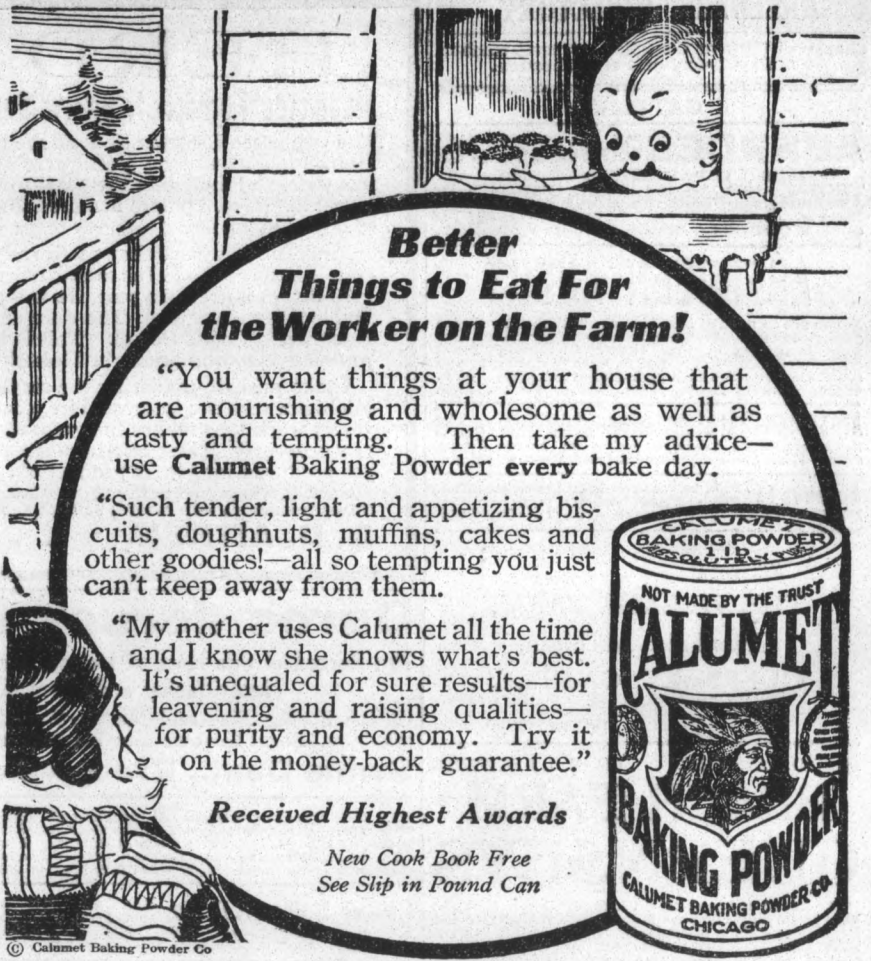
CLUB DISCUSSIONS.

Roads and Their Care.—A very successful meeting of the Arbor Farmers' Club was held at the spacious farm home of Mr. and Mrs. Charles Freeman. After a social hour and a chicken dinner, served by the committee, President Chester Martin called the meeting to order and an interesting musical and literary program was rendered, of which music by the Arbor Orchestra was a feature. The topic, "Roads and their Care," was very ably discussed by Mr. Ehnis Twist, who is one of the commissioners of the Washtenaw good roads district system. A vote of thanks was given Mr. Twist for his talk. The meeting adjourned to meet in December with Mr. and Mrs. Jacob Schieff. —Ida B. Haas, Sec.

Favor Good Stock.—At the last meeting of the Conway Union Farmers' Club held at the home of Mrs. James Grant on October 29, the question, "Which is the better investment for the beginner, grade or pure-bred stock, and which are the best breeds to start with, considering future prospects?" was discussed. Mr. J. Snyder who opened the question, would choose pure-bred stock, either cattle, sheep or hogs, as the beginner might prefer, as it pays to get the best and keep the best. The best breeds to start with will depend upon location. Demand makes the price, and stock that is suited to a locality and generally kept in that locality, will be in better demand there. He also made the point that one must like the breed he works with in order to meet with the greatest success. Others who followed in discussion emphasized the point that pure-bred stock is all right for the man who likes it, but for others grade stock would be preferable. The question, "Which is the greater influence to our development, the church or the school?" was opened by Rev. Clay, who thought people are negligent in their duty to both. Ordinarily they are too busy in their everyday work to visit the place where their children spend most of the time. He thought the school and church should go hand in hand, and that all should improve the opportunity to get acquainted with the young people by going to the school, and with the older people by going to church. Examples of social work being done by churches and schools of cities were mentioned by others who discussed the topic, the consensus of opinion being that if the church lived up to its opportunities it would have the greater social influence in the community. The question of the desirability of extending the workmen's compensation law to include farmers was discussed, but without action by the Club. The next meeting of the Club will be held on November 26, with W. E. Stow.

Question Box Important Factor.

At the November meeting of the Howell Farmer's Club, held with Mr. and Mrs. Herbert Beebe, Mr. and Mrs. J. S. Brown gave an interesting description of their western trip. Mrs. Brown gave a fine description of the many things she saw, particularly at the Panama-Pacific Exposition at San Francisco. Mr. and Mrs. Howard Reed were elected delegates to the State Association of Farmers' Clubs, and were instructed to vote to continue holding the state meeting at Lansing. The question box was an important factor in the program of this meeting, several questions of general interest being included. Several of the questions touched on the problem of national defense, one such being, "Are military training camps for citizens desirable?" The discussion showed the members to be pacifists rather than militarists, the trend of opinion being that before the great European war is over there will be a general disgust with militarism. Following the discussion and transaction of routine business the Club adjourned to meet with Mr. and Mrs. E. E. Latson, December 2.



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Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels. Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. There is no war tax on land and no conscription.

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due March and April.
Comprising the blood
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A few young boars. M. T. STORY, Lowell, Mich.

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Durocs of the best of breeding. April farrow either
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DUROC JERSEY BOARS a choice lot of spring boars.
Fall pigs, pairs and trios
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Big Heavy Boned Duroc Jerseys for sale of all ages.
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Perfect belt. Sired by Tolby
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O. I. C's STRICTLY BIG TYPE.
March, April and May pigs sired by Lengthy Prince,
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Boars that have not been beat at the big state fairs
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Six State fairs, choice boars and gilts for sale. Write.
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Bred sows and gilts. Have several 1000 lb. boar pro-
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Big Type POLAND CHINA all ages. Herd boar
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Spring pigs that are beauties. Bred gilts are all sold
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First order gets first choice. Priced to sell. Sired
by two largest boars in State. Free Livery to visitors.
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LARGE TYPE P. C. Some very choice April and May
Boars for sale. Brood Sow Sale
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BIG Type Poland Chinas, boars as big, as good as grow
in Iowa with quality to please you.
ROBERT MARTIN, R. F. D. No. 7, Hastings, Mich.

Breeders' Directory—Continued on page 467.

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REMODELING POULTRY HOUSES.

(Continued from page 464).

The old poultry house on the average farm never boasted of a cement foundation and yet it is the best insurance against rats which steal feed from the hoppers and eggs from the nests and often kill the young stock. If the old poultry house can be moved to a well drained site and placed on a cement foundation the business of making hens pay a profit will be greatly simplified.

Many old houses will be found so full of mites that it will require a long battle to overcome them. The walls are full of cracks and crevices where the mites can hide away from the spray dope and even after the living mites have all been killed the large supply of eggs in the cracks serve to replenish the supply. Frequently such a house may be protected by covering the walls with tar paper, making the surface as smooth as possible. Another method is to thoroughly whitewash the wall so that the cracks are all sealed. However, many experienced poultry breeders object to whitewash as they claim that it holds the dampness and they prefer to depend on spraying thoroughly to eradicate the mites, lice and disease germs.

A metal sanitary drinking foundation is a good investment, especially during the winter when the birds are confined and ordinary pans and pails are soon scratched full of straw. There are many such devices on the market and some of them are constructed along the lines of the fireless cooker and they will keep the water warm on the coldest winter days. The feed hoppers should be constructed so that they will hold a good supply of oyster shells, dry mash or grit as frequently other farm duties prevent filling them more than once a week. In building a hopper for dry mash the opening for the mash to fall through must be large enough to prevent clogging or the birds will frequently not receive the balanced ration of dry mash which is their due. During damp weather a dry mash containing a large per cent of bran will sometimes clog in the hopper.

It does not cost a great deal of money to remodel an old poultry house and make it entirely suitable for the farm flock. The hen is not an aristocratic bird in her demands and she is willing to pay well for a clean, well-ventilated house. The open front house equipped with the simple conveniences mentioned seems to be sufficient on many of the best managed commercial poultry plants and the farm hen is certainly earning the same equipment.

VETERINARY.

Fungus—Cut by Harrow.—Last August my horse stepped on harrow, cutting hind leg near hock; wound healed fairly well, but proud flesh filled gap and even with help of local Vet. we fail to clean his leg. L. H. N. Orono, Mich.—Apply tincture iodine three times a week. It is not bad practice to leave such bunches alone. In my practice I either cut or burn off such bunches or leave them alone.

Bursal Swelling.—Four months ago I bought a four-year-old mare with soft flabby bunch on fore part of stifle joint which seems to affect her only when turning. P. P., Mesick, Mich.—Clip hair off and apply one part powdered cantharides and four parts lard every two weeks. If you are anxious to keep her at work apply equal parts tincture iodine and camphorated oil daily.

Impaction.—I have a good cow that had a sick spell some time ago; her bowels were blocked and after they moved she seemed better. When sick she breathed hard and grunted some as if in pain. Since having first severe attack she had mild one but soon recovered. W. T. M., Marshall, Mich.—You should feed her carefully and on food which is laxative and easily digested. Give her ½ oz. of hyposulphite soda at a dose in soft feed three times a day. She should be exercised some every day.



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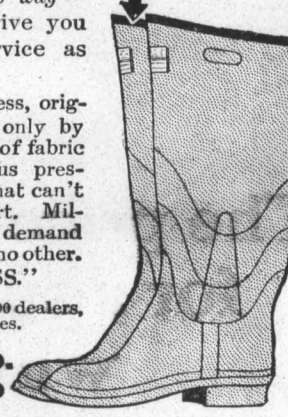
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Big type Poland Chinas with quality bred right, B feed right, and priced right to their new homes and do right. A. D. GREGORY, Ionia, Mich.

For Sale Poland Chinas of Merit. Ayreshire Bull. B. M. WING & SON, Sheridan, Mich.

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To advertise our herd, and get you started right, we offer a few **BIG TYPE POLAND CHINA** pigs, at weaning time, (either sex) from 1000 pound sires and great big stretchy sows, of best breeding, for \$10.00 each, if ordered at once, offer withdrawn soon. Extra good spring boars and gilts for sale.
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Big Type Poland China—Western bred extra large not akin. Satisfaction guaranteed. Stock for sale. Pairs W. BREWBAKER & SONS, Elsie, Mich. R. No. 5.

POLAND CHINA Spring Pigs from heavy boned prolific stock. Also, Oxford Sheep, both sex at bargain prices. ROBERT NEVE, Pearson, Michigan

Poland Chinas. Spring Pigs either sex, both medium and big type from large litters. Prices right. L. W. Barnes & Son, Bryon, Michigan.

25 BIG TYPE POLAND CHINA boars sired by Big Smooth Jumbo 810 lbs. at 20 mos. and Giant Des Moines 743 lbs. at 17 mos. At farmers' prices. \$ Sent C. O. D. Write or come and see 130 head of good big types. Wm. Waffle, Coldwater, Michigan.

For Sale Poland Chinas either sex, all ages. Something good at a low price. P. D. Long, R. F. D. No. 8. Grand Rapids, Mich.

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Big Robust Wool-Mutton Shropshire Rams
Priced right and satisfaction guaranteed or money back. Write today for Special Price List 24. A. H. FOSTER, Allegan, Michigan.

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