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The Hen as a Factor In Farm Profits

By C. B. COOK

THE possibilities of the hen are infinite. As a factor among domestic animals she takes first rank in many ways. It is conceded by all students of this class of stock that poultry is the most neglected and misused of all domesticated animals. Naturally, living close to humanity as she does, the hen endures or responds to her lot patiently, accepting misuse as a part of the game and in turn measuring up to her full capabilities when given an opportunity to expand. It goes without saying that all can not be commercial poultry keepers. Other lines of stock are also important as factors in the great game of production and must have their maintenance. However, in discussing this subject, it is desired to treat the hen as she would naturally perform under careful and studied methods, for only in efficient hands does she rise to her opportunities.

Few lines of stock figure out better on paper, or naturally appeal so emphatically to the casual stock keeper as does poultry. Probably no line of stock husbandry has carried with it more disappointments and complete failures than has hen farming. Mechanical execution goes a long way and usually makes good dairymen or stock feeders, but something more is required if we would get the best out of "old biddy." As one recounts the number of attempts that have been made to score a success with poultry and note the number of poultry raisers that have found poultry culture a profitable and attractive enterprise, we must admit that there is something in the business that proves a stumbling block for the many who make failures.

The success of the few, however, is indicated by the fact that some time ago a leading farm journal published a challenge from the poultrymen to the dairymen of America to match ten hens against any cow in the land for a year's products at market rates, both kinds of stock to go to the winner. Whether the dairymen failed to respond because they did not wish to humiliate the conceited little fellow with a few paltry "chix," or whether he did not quite like the looks of those ten sprightly, hustling little pullets, we are not advised. Surely the thousand pound cow, with her splendid record for efficiency, ought to be game. However, we must not overlook the fact that the possibilities of

a few quality birds in skilled hands become tremendous.

Thus as a farm factor the hen stands ready to do honor to any place in the farm economy in which we choose to place her, with honor to herself and credit to the operator. She demands one thing unqualifiedly, which is, that the operator pay the price of success. Any half-way grounds are unsatisfactory and must sooner or later lead to disappointment. The person who must deal in cold realities and has no use for sentiment, had better let the hen, as a farm factor, alone. She will probably bring him little but indifferent returns. On the other hand, anyone that finds more pleasure in caring for a fine bunch of poultry than most any other enterprise, and never goes among his or her flock of carefully bred and well kept birds without feeling that the

believes that no stock on the farm can be kept at such a good margin of profit as can laying strains of the non-setting type. We have evidence on all hands to show that the poultry market does not have the quantity or quality of its products that the consumer is glad to pay for and really needs. True, we must put up a better class of stock and market it to better advantage or we do not measure up to the exigencies of the opportunity. About the last thing needed today is a heavier run of common eggs and poultry when the market is flooded and all stock moves at a close margin. Such methods do not speak for efficiency in the poultry field and can win but indifferent results.

A lot of mixed fowls laying all kinds of eggs and retained on the farm because they "lay better," is a miss-shot. If the hen is going to have her

Again, the farm factor hen must produce sterile eggs for market and be so handled that they reach the consumer in the pink of condition. Otherwise the hen products must have a low value, and we generally get about what a thing is worth in the long run.

As eggs are saved and sold the ordinary egg dealer is up against a hard problem when it comes to quality stock and the wonder is that he does so well. If one would get a fair price for quality eggs he must develop a better outlet, for a few such eggs massed with a large common stock carry no particular value.

There was never a time when producers and consumers were so closely watching every leak in our industrial life as they are today. We are convinced our system is wrong and all hands are out for a remedy. Last year the farmers of America received nine billions of dollars for farm produce that went to the consumer at a

cost of twenty seven billions in round numbers. Here is a text for a whole sermon on this most vital issue. In Denmark the farmers receive about 80 per cent of the consumer's dollar.

In the hen business the stockman can get in the Denmark class if he wishes. In such a case only can he hope to realize what he should from the hen as a farm factor. The writer is sure of his grounds on this point. For years we have sold the egg crop from a large flock of Leghorns to a special trade. It is needless for me to add that the net returns under this system have been largely increased. We go to the consumer with this slogan, "A

little less to the consumer and a little more to the producer." Do not mistake the spirit of this case. We are not by any means cutting out the middleman, for him we must always have. However, we must emphasize this point: Like men in all other lines of business the middleman is coming more and more to be in the game, for the service he can render his community. As such a citizen when he has given what service he can, he must retire. He has no more claims on the producer or consumer for business than has the doctor who complains because his community does not get sick to give him more work. Like all others he must adjust his life and his work to the vital needs of his fellows if he plays the

(Continued on page 440).



Well Housed, Well Fed and Well Bred, the Farm Flock Becomes a Large Factor in Farm Profits.

hen is still queen of the farm stock, and finds life a little richer and fuller as a result of the inspiration such an attractive bunch of birds bring him, is in a frame of mind or attitude to interpret closely their needs and requirements. Nor will he rest content until his birds have been made contented and happy in their surroundings. In the last analysis the only hen that pays an attractive profit is the bird bursting with song and the joy of a vigorous, active life. Pretty strong logic but doubtless no small feature in the hen as a farm factor.

Our personal observation leads us to believe that many women and some men would find a good business in a commercial flock of poultry if they went after the prize. The writer be-

place as a farm factor she should be bred to type and uniformity, with special attention paid to her ancestors, for blood is half when we deal with any highly specialized class of animals, like the 200-egg hen or the 1,000-pound dairy cow. They are abnormal creatures developed a long way from what nature intended. They represent hundreds of years of careful selection and breeding, and in this short life a person simply misses success at the very first stages of the game if he fails to provide blood from some of the best producers in the land. Like every other line of progressive agriculture, the hen rapidly deteriorates when skill and management fail to guide her steps ahead to still greater productiveness.

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DETROIT, NOV. 13, 1915

CURRENT COMMENT.

Misleading Information. Since the final release from quarantine of the Michigan contingent of the show cattle quarantined at Chicago at the close of the National Dairy Show last year, press items relating to this event which were grossly misleading in the information implied have been widely published. Built around the fact that these valuable dairy animals had suffered from foot-and-mouth disease but had entirely recovered from same, was a story told or implied that these cattle had been cured by some method of treatment which the readers might believe could easily be applied in any case where valuable animals were affected with this disease.

Perhaps a large proportion of Michigan Farmer readers are already somewhat familiar with the history of the quarantine following the Dairy Show last year when it became known that foot-and-mouth disease had made its appearance among the show cattle. The cattle exhibited at the National Dairy Show numbered more than 800 head; they were quarantined in the second story of a large brick block of stables where perfect quarantine regulations could be imposed both as to the excluding of the public and the disinfection of everything removed from the stable, including the attendants and all persons who left the building at any time during the quarantine. Owing to this peculiarly favorable situation and the great financial and constructive value of the individuals quarantined, the federal and state authorities were appealed to so strongly by those interested in the upbuilding of our dairy industry that it was determined to undertake to save these cattle by the quarantine and disinfection method. The adoption of this plan resulted in demonstrating the extremely contagious nature of this disease. Within a month from the time the disease made its appearance and the animals were quarantined, all of the animals under quarantine had been attacked by the disease with the exception of five.

Strict quarantine and the most skillful attendance, together with thorough disinfection, resulted in the eradication of the disease from these cattle, which after several months were removed to a farm adjacent to Chicago where the quarantine was continued until late summer, when they were allowed to be shipped to the farms of their owners, which were all placed under rigid quarantine until every possible danger of a recurrence of the disease seemed to have been passed. While these valuable cattle were saved to a degree of use-

fulness which is yet to be demonstrated, they were so saved at a cost which would be wholly prohibitive with ordinary cattle.

The fact that these cattle were saved by the quarantine and disinfection method is not a valid argument against the slaughter method of controlling the disease wherever it may appear under farm conditions, since the maintenance of an adequate quarantine for the control and safe eradication of the disease under farm conditions would be quite impossible, as has been recently demonstrated in Illinois.

The careless dissemination of misleading information above referred to might result in great harm should the disease again make its appearance in Michigan. For this reason Michigan farmers are cautioned against accepting such information save at its face value.

Share vs. Cash Rentals. An interesting farm management survey of 669 farms in Missouri was recently made by the experiment station of that state. This survey showed that the average share tenant farmer in the area surveyed made \$138 greater net income than the cash tenant farmer, also land owner's share of the crops grown returned 1.3 per cent higher interest on his investment than was received by the average owner in the same district who rented his land for cash. Expressed in terms of income, the total net income of the average share tenant farmer was \$548 as compared with a labor income of \$410 for the average cash renter. The owners of the farms rented on the share basis received an interest income of 4.9 per cent as compared with an income of 3.6 per cent enjoyed by the cash renters. It was also developed by the inquiry that the tenant who rented his crop land for a share and his grass land for cash made a net income of \$907, while the owner received 5.9 per cent on his investment.

Undoubtedly the peculiar situation brought out by these figures is due to the fact that in Missouri as elsewhere the farm that is rented for cash becomes more quickly depleted of its humus and fertility than does land rented on the share basis and a corresponding decrease in crop yields makes the renting of this land unprofitable to the renter as well as to the owner. Contrasting this condition with that which prevails in England where long time leases are used and where cash rental at a relatively low interest rate is the rule, it would appear that we yet have much to learn regarding the development of a tenant system which will not result in soil robbery. But better than any tenant system is that where the owner works his own land, which is still the rule rather than the exception, in Michigan, a condition which we hope may long continue to obtain.

The Book Agent. A number of complaints have been received from one of central Michigan's prosperous agricultural counties regarding the operations of book agents representing the publishers of a county atlas. The claim is made by our informants that questionable methods were used by the sleek agents to secure orders for an expensive atlas and that the publishers did not live up to the representations of the agents with regard to matter, particularly illustrations, which they expected to have published in same. We have been asked to give publicity to this case with a view of protecting farmers of other localities from similar operations.

As a matter of fact, there can be no protection against dissatisfaction from transactions of this kind except through the ordinary business precautions taken by the person who signs

an order for books or other goods for future delivery. He should always have a duplicate of this order stating plainly the terms of same which will enable him to refuse payment without fear of successful prosecution should the terms of the contract be violated by the seller or the person for whom he may act as agent.

Unprincipled agents of unreliable concerns are less frequently found soliciting farmer's business than in former years because their operations have become more difficult and less profitable, but there still remain a few of this kind, and no chance should be lost of making an example of any such who lay themselves liable to legal action on the part of the victim.

MICHIGAN CROP REPORT.

Wheat.—The final estimated yield of wheat in the state is 19.91, in the southern counties 20.54, in the central counties 18.23, in the northern counties 17.48 and in the upper peninsula 21.36 bushels per acre. The estimated total yield for the state is 15,494,517 bushels. The condition of growing wheat as compared with an average per cent is 83 in the state, 80 in the southern counties, 82 in the central counties, 91 in the northern counties and 88 in the upper peninsula.

The total number of bushels of wheat marketed by farmers in October at 78 flouring mills is 187,701 and at 79 elevators and to grain dealers 217,452 or a total of 405,153 bushels. Of this amount 271,859 bushels were marketed in the southern four tiers of counties, 115,573 in the central counties and 17,721 in the northern counties and upper peninsula.

The estimated total number of bushels of wheat marketed in the three months August-October is 3,000,000. Forty mills, elevators and grain dealers report no wheat marketed in October.

Corn.—The estimated average yield per acre of corn, in bushels is 26.32 in the state, 28.29 in the southern counties, 22.47 in the central counties, 15.89 in the northern counties and 11.68 in the upper peninsula.

Clover Seed.—The per cent of acreage of clover seed harvested as compared with average years is 64 in the state, 56 in the southern counties, 71 in the central counties, 83 in the northern counties and 100 in the upper peninsula.

The average yield per acre in bushels is 1.41 in the state, 1.18 in the southern counties, 1.50 in the central counties, 2.06 in the northern counties and 3.17 in the upper peninsula.

Beans.—The final estimated average yield per acre, in bushels, is 8.66 in the state, 8.61 in the southern counties, 8.79 in the central counties, 8.15 in the northern counties and 8.12 in the upper peninsula.

Potatoes.—The estimated average yield per acre, in bushels is 54.11 in the state, 52.01 in the southern counties, 57.69 in the central counties, 53.42 in the northern counties and 60.88 in the upper peninsula.

Commercial Fertilizers.—The per cent of farmers who have used commercial fertilizers on their wheat this fall is 38 in the state, 40 in the southern and central counties and 18 in the northern counties.

Live Stock.—The average condition in the state of horses, cattle and sheep is 97 and swine 94.

Farm Products.	Estimated acreage.	Total yield, bushels.	Yield per acre, bushels.
Wheat ...	778,273	15,494,517	19.91
Corn	1,907,747	50,208,723	26.32
Oats	1,685,526	67,781,363	40.21
Barley ...	79,095	2,236,178	28.27
Rye	393,817	5,717,480	14.52
B'ckw'ht .	55,964	804,781	14.38
Potatoes .	363,754	19,681,859	54.11
Beans ...	442,574	3,824,714	8.66
Peas	64,153	1,193,170	18.60
Clover Sd.	110,000	155,100	1.41
Apples ...	227,635	10,202,601	44.82
Peaches ..	23,254	2,506,316	107.78
Pears ...	9,092	583,979	64.23
Plums ...	3,720	324,012	87.10
Cherries .	7,601	1,091,960	143.66
Stw'b'ries	8,434	348,071	41.27
Raspb'ries and b'ks	9,086	543,979	59.87
		Tons.	Tons.
Sugar bts.	77,372	769,765	9.95
Hay & for.	2,160,471	2,666,030	1.23

The yield of corn is 19 per cent, potatoes 40 per cent, and beans 32 per cent, less than the 10 years' average, from 1905 to 1914 inclusive, and the quality the poorest during this period. Corn did not ripen; potatoes rotted

badly and beans were seriously affected by anthracnose and excessive moisture.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—No general change has occurred in the European war situation except that affairs in the Balkan district seem to be approaching a crisis. The Austro-German forces are steadily pushing forward and have already taken considerable territory and affected a juncture with the Bulgarian troops. This enables the Teutons to deliver war munitions to the Turks and thereby aid in the defense of the Dardanelles and Constantinople. The latest reports indicate that Lord Kitchener has left England to take general charge of the campaign in the east. Large numbers of troops are being landed at Saloniki, Greece, while the Russians who have been refused passage through Roumania, are making a landing on the Black Sea coast of Bulgaria. The French forces aided by the British have had further success in southern Bulgaria where they are carrying out an aggressive campaign. It is expected that violent fighting will occur in this region shortly. The Montenegrins are successfully opposing the Austrian advance on their frontier. The Italian offensive continues and some further advantages are reported to have been gained by them. In the Dardanelles the Allies are keeping up an incessant fire upon the positions of the Turks. While the movement of troops on the Russian battle front has been interfered with by colder weather, the Czar's forces have thus far not only been successful in defending Riga and Dvinsk but have also taken the offensive along almost the entire line. Berlin admits that in certain sections in the region of Lake Sventer the Russians have advanced. On the western front artillery duels have been numerous, but no important advantages are known to have been gained by either side. Enlistment in England seems to be progressing with better results in that the London trade unions are co-operating in the campaign. A Japanese steamer was sunk by a German submarine in the Mediterranean last week.

British interference with American trade since the beginning of the European war was the subject of a recent exhaustive note by Secretary of State Lansing in which he declared the so-called blockade instituted by the Allies against enemy countries is "ineffective, illegal and indefensible." Notice is served that the American government cannot further submit to the further subordination of its interests. The note insists that the relations between the two countries should be governed not by policy of expediency but by established rules of international conduct.

The Mexican situation is little changed from last week except that the forces of General Villa have been defeated by the Constitutionalists at Agua Preita and are now making their way across the arid region for some Pacific coast port where they may secure needed supplies.

The Swedish government has decided to distribute the Nobel prizes as follows: Physics, Thomas A. Edison and Nikola Tesla; literature, Romain Roland, French, Hendrik Pontoppidan and Troels Lund, Danes, and Verner Von Heidenstan, Swede; chemistry, Prof. Theodore Svendberg.

The Greek government has selected a new cabinet with M. Skouloudis as premier.

In the elections recently held in South Africa Premier Botha won an important political victory in the triumph of his policy of imperialism.

National.

The defense program of the federal government has been published in detail. It provides for an organization of 500,000 men to be at the nation's command.

The movement which is undertaking to lay before the public the need of adequate and scientific national defense is meeting with success throughout the country. Michigan's contribution in the way of moral support is active and large.

The strike of Michigan Central Railway clerks has ended and many of the strikers have returned to their positions.

General interest is being taken in the rural credit program which Congress will undoubtedly consider at the coming session. Careful investigation of foreign schemes for financing agricultural operations has been made.

The Dairy and Food Department at Lansing is warning purchasers of fruits and vegetables to make sure that measures used in the sale of these products are of the size guaranteed. Short measures appear to be commonly used by peddlers in the large cities.

A Garage and Workshop

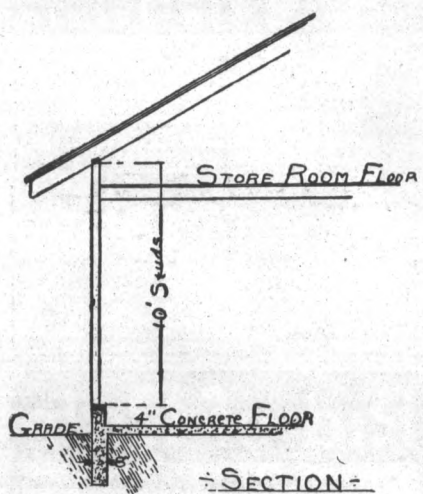
OFTEN expensive garages are built but give poor satisfaction to the owner, merely because of the lack of floor space and storing facilities. The building here described has storage along the sides with an abundance of spare room at the ends. Cars with a wheel base of 132 inches have been stored here without trouble as has been illustrated by the dotted lines on the floor plan drawing on this page. A cupboard and a work bench built in one corner of the house gives the farmer an opportunity to keep his repairs and supplies in a safe place when he has any repair work to do he knows just where everything is. The cars are driven in through



the eight-foot openings which are closed by sliding doors. A concrete floor keeps the room clean and free from dirt, while the floor is sloped to the rear and drains all wash water out of the garage. This neatly constructed frame building is made of the common 2x4 construction, covered with an eight-inch ship lap over which is placed a four-inch basswood or pine siding material. The gable ends are covered with shingles, as is the roof. Verge boards of two by eight material, and heavy brackets are shown in the photograph and add much to the attractiveness of the building while the small sash in the gable not only improves the appearance but also affords light for the second floor store room. To gain access to the store room from the ground floor, a ladder has been hinged near the edge of the opening of the attic floor, so that when not needed the ladder can be raised up out of the way.

An abundance of light and ventilation are always needed in the garage when the machine is to be repaired or washing or cleaning is necessary. Six good-sized windows and the small lights in the two sliding doors all help to fill this room with light at all times. Sliding doors have been found to be much more desirable than those of the hinged type in the increased durability and the ease of opening.

Store room is provided for near the work bench. In case a stove is to be



installed a chimney will be built in at the end of the room. Many who drive cars find it economy to buy gasoline in fifty gallon lots or more, since a saving of from three to four cents a gallon is effected in so doing. In such cases it is economy to put the tank underground so as to prevent any loss from evaporation and to lessen the fire danger. A home-made pumping

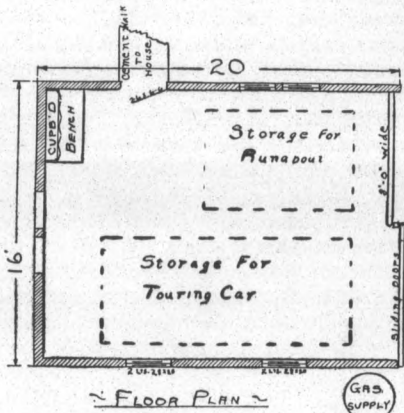
system can be made to fill the tanks of the car. An ordinary lift pump piped to the underground tank and with a rubber hose attached to the pump makes filling the tanks of the automobile an easy task.

The ceiling is eight feet from the concrete floor. The 10-foot 2x4 studs are placed on top of the concrete foundation wall which was built one foot above the grade line. The 2x6 attic floor joists are placed high enough so as to be just above the eight-foot sliding doors. C. M. F.

TOWNSHIP ROAD BUILDING.

In an article contributed to these columns, some months ago the writer gave some facts in regard to township stone roads in Hillsdale county. During the season that is about to close, some splendid work has been done in the northwest corner of the county, notably, in Fayette, Litchfield and Allen townships. In Fayette, the pioneer in stone road building in southern Michigan, 11 miles of state reward road have been constructed. So satisfactory have the work and the system proved in this township, that the voters have backed up the movement on each succeeding election day, with increased enthusiasm and zeal. In Fayette, at least, it seems doubtful if better results could have been realized under the contract system now much talked about in many quarters.

In the light of the new road law which gives taxpayers the privilege of petitioning for trunk-line roads, the



wisdom of Fayette's course during the last few years, becomes apparent. In some of the townships of the county, practically no permanent road improvement has been accomplished. With the advent of the new law, petitions and counter petitions are being circulated. A bitter rivalry has sprung up in some quarters over proposed routes, and a general condition of unrest prevails. Petitions have been circulated in Moscow and Somerset townships, for better than 15 miles of trunk-line road to be constructed on the Detroit and Chicago pike. Already, Fayette, which is also traversed by the pike, has built her share of this much traveled highway, with the exception of about one mile and a half, which will doubtless be completed next year. Contented with her system and far in advance of her sister townships, no petitions are being circulated in Fayette, and the work promises to go on under the same system as formerly.

In this contrast of townships that join each other, may be found some practical hints on the good roads question. Fayette realized early, that some form of permanent road improvement must come, and taking the initiative, she is now miles ahead in permanent road construction. Good roads must come, are coming, to Michigan. The man or the community who fights the movement, is fighting a losing fight. He who fails to grasp the situation and who will not favor better roads, must be labeled a back number. The automobile has come to stay, and the automobile has

Heat all rooms with one fire

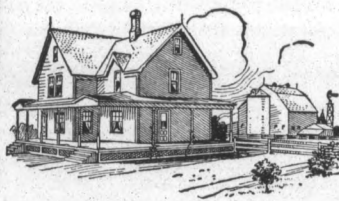


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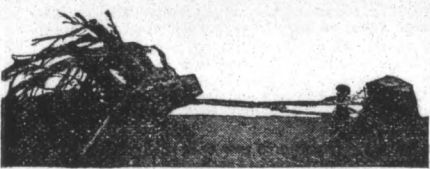
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The Letz uses 25 per cent less power—One set buhrs grinds 1000 to 3000 bu. Grinds all kinds of feed—wet, dry or oily—oat hulls, snapped corn, coobs, husks and all—also alfalfa. Force feed—can't clog.

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Pull out stumps and get all the virgin land at work making money for you. It's the best land you have. Work can be done in Winter and early Spring. Stumps pulled at 3c to 5c each. An acre or more a day.

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When Writing to Advertisers Please Mention The Michigan Farmer.

made gravel and stone roads an absolute necessity. The automobile tax is a just one, and its framers took into account the fact that the machine which renders road improvement essential, must help pay the bills. Communities in which the situation was grasped early, now enjoy the good roads for which the more backward ones must fight and wait.

In every community may be found a few who cling desperately to the past; who talk of the good old days of the stage coach; who deplore the arrival of the automobile, and who lament the passing of the dirt road. The wheels of progress are not to be clogged. Our main highways will not, can not longer remain dirt roads. It is the tendency of taxes in any civilized country to increase with increased advantages and improvements and with ever increasing complexity of affairs. It is more than likely that the road-building system of Fayette township will give way in a few years to something better. But the roads built under it and the influence exerted by it, on a vital question, will remain.

Hillsdale Co. J. A. KAISER.

LILLIE FARMSTEAD NOTES.

Our crops are all secured except the clover seed and we are waiting for a machine to do that job. The weather is ideal for hulling clover and if we can only get it done before rain the season will wind up not so bad after all.

In the meantime we are fall plowing and working out our road work drawing gravel. The ground is packed down hard from so much rain and it is now getting dry. The tractor works fine and though the ground is so hard we can only use four plows this is better than plowing with oxen. It is easier for the horses and we can use them at other work. We are, however, keeping one team (three horses) plowing on a field where a side hill will not work well with the tractor. I have 150 acres that I would like to plow if I can before the season closes. Some, of course, could be plowed in the spring for beans and corn, but I will plow this fall if possible. It is not reasonable to think that we will be enabled to do all this plowing this fall.

I am interested in J. A. Kaiser's article on "The Farm Labor Problem." This problem probably never will be completely solved, or if solved once it must be solved again with new conditions coming up. So far as the system is concerned I am satisfied I have solved it, for my system of farming, and it is proper to say that the system of farming was arranged to solve the labor problem. Mr. Kaiser is correct when he says that we should arrange our business so we can employ labor continuously, that is the year round. Men can not afford to work for the farmer just through the hurrying time of the year. They can get jobs in commercial lines that last continuously. The laborer with a family can not live unless he has this kind of a job. The farmer must have work in winter as well as in summer if he holds this kind of labor, and it is this kind of labor only that can be depended on at this time. You cannot run a business very successfully with transient labor. Labor that is here today and there tomorrow. You must have labor that can be depended upon to stay with you for the job right through. If you can furnish labor in the winter as well as in the summer you can get good labor that can be depended upon.

How can the farmer furnish employment for his men during the winter? Live stock husbandry is the only system of farming that I can figure out that will do it, and of live stock husbandry dairying best meets the requirements. That is the reason why we keep 50 or more cows. It is to furnish work for men who want

employment during the entire year.

This system of employing men by the year necessitates an extra investment in tenant houses. Each man must have a house of his own. He must live by himself. There are some drawbacks to be sure, but one must put up with them. He never will overcome all of them.

Then you must pay a price so the best men can live, bring up their families and save a little besides. It takes about all the profit in farming to do this. But it must be done and can be done. The labor bill, however, is large compared with the proceeds.

COLON C. LILLIE.

POTATO SHOW AT MARQUETTE.

The second annual upper peninsula potato show was held at Marquette, October 27-29, proving very successful in every way. Five hundred exhibits were made, all potatoes being shown in half bushel containers, and the quality of the tubers was ahead of last year's show at Menominee. Educational displays were made, showing potatoes affected with rhizoctonia, late blight, black leg, scab, etc., also of the biggest tubers to be found, regardless of shape and quality, an illustration of the wrong way to make an exhibit.

In awarding prizes the judges considered five essential qualities, namely: Trueness to type; uniformity as to size, shape and color; freedom from scab, black scurf and other external discolorations; smoothness of skin, shallow eye, maturity and freedom from bruises. The awards were made as follows: Peter Yestman, of Daggett, Menominee county, won the sweepstakes prize, first in the seed potato contest and first in class one, Rurals. Chas. Salensky, of Menominee, won first in "to consumer direct" contest, first in class one, Irish Cobblers, second in class one, Rurals, third in best graded table stock. Clifford Bordeaux, of Marquette, won first in class one, Green Mountain, second in table stock. E. E. Steinbricker, of Swanson, Menominee county, first in Burbanks. Joseph Duffrin, of Stephenson, Menominee county, in Early Ohio. Jens Peterson, of Iron River, Iron county, first in graded table stock. In the county association contest Marquette was awarded first, Iron second, and Dickinson third. In the boys' and girls' club, Iron Mountain club, of Dickinson first, Loretta of Dickinson second, and the Elch club of Dickinson third prize. Other prize winners included Wm. Christenson, of Menominee, Soren Miller, of Marquette, A. J. Menhennick, of Marquette, A. W. Thompson, of Dickinson, George Basal, of Marquette, the Northland Orchard Co., of Marquette, W. E. Wickert, of Escanaba, F. W. Miller, of Manistique.


Prize winning potatoes will be exhibited at the national and state meeting, to be held at Grand Rapids on December 1-3. A banquet was held at the close of the show with Frank W. Vandenoorn as toastmaster and the speakers included Mayor Begole, Dean Shaw, of the M. A. C., J. W. Hicks, president of the Wisconsin Potato Growers' Association, and others.

Kent Co. ALMOND GRIFFEN.

STATE AND NATIONAL POTATO MEETING.

There will be a joint meeting of the National Potato Association and the Michigan State Potato Association held at Grand Rapids, Mich., December 1-2-3. The program and premium list can be secured by writing C. W. Waid, secretary of the Michigan State Potato Association, at East Lansing, Mich. This meeting promises to be one of the largest potato shows and most enthusiastic meetings ever held. All potato growers who are interested should make an effort to attend if possible.

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Insects Hibernate In Brush Piles

TWO students at the M. A. C. took time one year to examine old rubbish heaps and brush piles about fields and gardens, with a view to discovering what harmful insects, if any, winter in such places. Their report was a revelation in that it showed that a score or more of harmful insects sought refuge in old brush and litter.

Among the insects known to hibernate in such places are the plum curculio, squash bug, striped cucumber beetle, tarnished plant bug, army worm, clover hay worm, asparagus beetle, grape leaf hopper, apple leaf roller.

It is evident that the destruction of old litter in the garden will remove large numbers of these insects hibernating in the dead vines, leaves, and rubbish. If the garden has not been raked over and burned, the first opportunity when the open winter permits should be taken to do this work of cleaning up and destroying the enemies lurking in such places. The same argument holds for the brush piles in the orchard, harboring as they do, many of the orchard insects.

The Beneficial Insects.

Some beneficial insects, such as the lady bug, might be destroyed along with the harmful ones. As a rule, however, according to the entomologists, the lady bugs, which eat scale insects and plant lice, pass the winter in colonies in pockets on rough land. In California these masses of hibernating lady bugs are sought out by the citrus growers and taken from their winter mountain side quarters to the orchards below, so that they may offer protection to the orchard. Similar masses of lady bugs have been found in Michigan, according to Prof. Pettitt.

Not all the insects mentioned as hibernating in rubbish, in the above paragraph, are to be found in every accumulation of litter; some of them prefer a more natural environment as to food supply, and merit special mention. The clover hay worm, for instance, may sometimes get into the mow or stack, spinning up webs about the hay, eating some, but doing most of its damaging from the farmer's standpoint by making the hay unfit for stock, even though not eaten by the worms—the presence of the webs makes it unacceptable to stock. The winter is passed by larvae or adults of this insect in the bottom of the mow or stack. If all the hay is fed out before spring, and the worm has bothered, the bottom of the mow should be cleaned out and burned.

The Grape Leaf Hopper.

The army worm winters as a larva in rubbish in low wet ground, and it would therefore seem advisable to burn any brush in such places and plow meadows and pastures before spring. Frequently a January thaw makes this latter work possible, and old meadows which are to be cropped next year will be less liable to harbor cutworms and wireworms and white grubs and army worms if they are broken up before or during the winter, thus exposing the insects to the weather, birds, mice, and skunks.

J. P. Munson, of Grand Rapids, found that in his own vineyard the most trouble from grape leaf hoppers occurred at the edges of the planting, provided the litter was cleaned up in the rows themselves. This indicates that the hoppers pass the winter in rubbish, and that an effective means of control is clean culture, burning all prunings and rubbish.

The same points might be made for the cucumber grower, the melon grower, the asparagus grower. Let us take the advice of those who have studied insect life histories as well as those who have succeeded in combating insects on the farm, and burn up all litter at the earliest opportunity, for

when the warm spring days come the insects will thaw out and leave for their feeding grounds, while we ourselves will be too busy with the rush of work to pay any attention to their winter homes or their destruction.

Benzie Co. E. H. BROWN.

TROUBLE DEPARTMENT.

Unhealthy Peach Trees.

I find several of my peach trees in an orchard three years old that are not doing as well as the rest of the trees. The leaves are lighter colored and sometimes have reddish spots on them.

Kent Co. A. N.

Two common causes of individual trees not doing well are black peach aphid and soil conditions. The trees may also have early symptoms of the little or yellows. If the leaves are not abnormally placed, that is, in bunches, the trouble is probably not either one of the two common peach diseases.

The light colored foliage with reddish spots on them may be caused by acid soil conditions. There may also be hard pan under the trees which would also prevent the trees from growing normally. If the trouble is from soil conditions it will undoubtedly affect several trees in certain parts of the orchard, but if a tree here and there is not up to normal the cause is undoubtedly the black peach aphid.

This insect is most commonly found on the roots of the tree, and it is there that it also does its greatest damage. There is a winged form which is found on tops but usually does little injury. The root form is a shiny black louse which saps the tree. It is more serious on trees in light soils as it spreads more quickly and such soils do not have an over-amount of plant food to keep the tree nourished to normal condition with the drain the aphid makes on it.

The use of tobacco dust and manure makes a good method of treatment. The earth around the tree should be dug away to the roots and a liberal amount of tobacco dust spread around. The earth should then be drawn back. The tobacco should be applied this fall yet, if possible. If not, early in spring will do. The nicotine in the tobacco will have a detrimental effect on the aphid. The tobacco is also a good nitrogenous fertilizer.

In addition the tree should be fertilized with well rotted manure. This is for the purpose of giving the tree enough available plant food to grow normally and also take care of the drain the aphid makes on the tree.

If properly taken care of, trees will outgrow the effects of the aphid after they are about four years old as then when the root systems become larger the aphid infestation can not have as serious an effect and the trees have a larger soil surface from which to get their plant food.

TO OWNERS OF NUT TREES.

The Department of Agriculture desires to secure information concerning individual nut trees, either native or introduced, which bear nuts of such superior excellence as to justify special consideration.

To be worthy of the attention of the department, trees must be hardy in the section where found, vigorous, prolific, and bear annually: nuts of medium size or above; uniform in size and shape; thin-shelled, easily cracked; kernels plump, rich in quality, pleasant and agreeable in flavor, and easily removed from the broken shells in unbroken halves.

If you are the owner of such tree or trees and are willing to co-operate in this inventory of nut trees the undersigned will be glad to send franked packing boxes in which to forward samples of the mature nuts from trees considered worthy of record.

C. A. REED,
Nut Culturist, U. S. Dept. of Agriculture, Washington, D. C.



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Sears, Roebuck and Co., Chicago, Ill. Urbana, Illinois, August 28, 1914.

Gentlemen:-

In accordance with your request, the undersigned visited your engine factory at Evansville, Indiana, and tested for brake horse power and fuel consumption the different sizes of your engines after same had been passed by your testing and inspection departments, and we submit a full report under separate cover.

In regard to the rating of these engines, while the relation of rated load to maximum load for gasoline engines has not been standardized, the best authorities seem to agree that an overload capacity of 15 percent is sufficient. We understand that you wish to give an overload capacity that cannot be questioned. We have therefore recommended the following ratings which will, in all but one case, give a much larger overload capacity as may be seen by referring to the table enclosed.

As to the fuel used, you will find on referring to our report that when running at half, full or maximum load the fuel consumption of the several engines was very satisfactory.

Yours very truly,

J. W. Wickerson
Associate Farm Power Machinery University of Illinois.

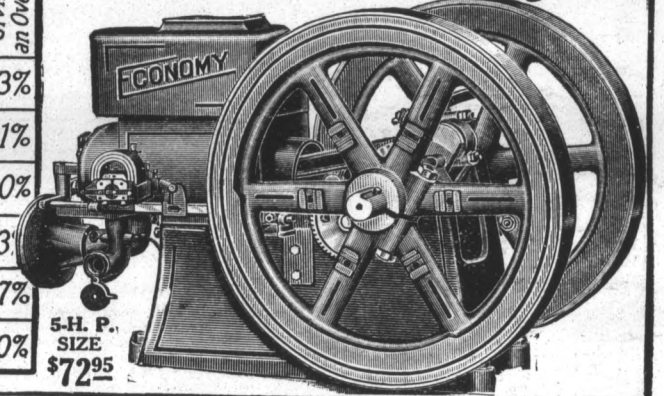
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You get 100 gallons of rich milk feed from 100 pounds of Blatchford's Calf Meal, and it costs you only one-fourth as much. It will make your calf grow fast and well. Blatchford's Calf Meal is composed of the elements the young calf needs in the most trying period of its life; is thoroughly steam cooked—prevents bowel troubles and other ills due to improper milk substitutes. Blatchford's Calf Meal insures quick, sturdy growth of young pigs at weaning time, without setback or falling off.

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Lewis Mfg. Co., 64-78 Oswego St., Cortland, N. Y.

Feeders' Problems

Rye for Fattening Hogs.

Would like to know if rye can be fed to hogs which are being fattened with good results, and if so, how to make balanced ration by using tankage? Could rye be fed with safety in a self-feeder?

Oakland Co. W. B.
 Comparative results from a large number of experiment station trials show very little difference in the feeding value of rye as compared with corn for fattening hogs, rye not being quite as efficient on the average.

The chemical composition of the two feeds is not greatly different, and about the same quantity of tankage or about ten per cent of the ration should be added to make a balanced feed for growing pigs. Rye should be ground and soaked for best results in pig feeding, and there would undoubtedly be considerable loss in feeding a dry, hard small grain like rye in a self-feeder without grinding.

At present values as compared with corn and other feeds, rye would be an expensive feed for fattening hogs.

Compounding a Ration for Pigs.

What will make the cheapest feed for pigs, good cull beans at \$1.25 per cwt. or tankage at present prices; wheat at 95c per bu; rye at 90c per bu; corn at 35c per bu; oats at 30c per bu; middlings at \$1.50 per cwt.; feeding molasses at 17c per gallon? Or will it pay to sell them at eight weeks old for \$2 per head?

Gladwin Co. O. M.
 Much will depend upon the age of the pigs in question as to which will be the cheapest and best feed which might be compounded for them from the variety given in this inquiry. If only a few weeks old—as it would seem this inquiry suggests—middlings will be the best adapted for the basis of the ration, and some wheat might be added with profit, also some ground oats with the hulls sifted out, until the pigs get a little more age. Cull beans would not be a good feed for very young pigs, but when cooked and fed with other grains make an excellent addition to the ration of growing pigs, and on account of the fact that beans contain nearly twice the protein of other available feeds and at the price mentioned can be economically used. Wheat and rye cannot be profitably used in any considerable quantity at the prices mentioned as compared with corn. Tankage at available prices is an economical source of protein with which to balance the ration where corn is fed, provided not more than ten per cent of the ration is composed of this feed.

Molasses will add palatability to the ration and has a food value equal to corn.

The Feeding Value of Peas for Hogs.

What is the feeding value of mature Alaska peas for hogs? Would they make a good ration if fed in combination with potatoes.—Sub.

Peas are a valuable addition to the ration for pigs, especially growing pigs, being comparatively rich in protein, of which their content is about twice that of the ordinary cereal grains. On this account they do not make as economical a ration when fed alone as when fed in combination with some other carbonaceous feed as a means of balancing up the ration. Fed with potatoes as suggested, this desirable end would be attained, and the feeding value of the peas could under these conditions be estimated as greater than an equal amount of corn or other similar grain.

Manistee Co. W. T. DANVILLE.
 Rape pasture will impart a disagreeable odor and flavor to both milk and cream where same is made the exclusive forage. Probably a considerable degree of this difficulty will be experienced where rape is made any considerable factor in the feed of milch cows.—Eds.

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The following explains itself: "Don't do it, whatever you do. Don't discontinue my advertisement. It gives me pleasure to state that during the last ten years I have sold more than 1,000 Poland Chinas through my advertisement in the Michigan Farmer."—J. C. Butler,

Illinois. W. M. HARDY.
EXPERIENCE WITH RAPE PASTURE.

With reference to C. C. Lillie's article on rape as a hog pasture, would like to relate my experience with rape. In the spring of 1914 I turned down a sod on which sows with their pigs were pasturing, and sowed rape. The pigs never were taken out of the field. They were there when seed was sowed and it being a large field, they could not keep it down when it came up. I turned in cattle to help them. There were no bad results in the way of sore ears, shoulders, etc., from this pasturing.

This spring (1915) I put out a field with oats, peas and rape, and put in spring pigs, when they were eight weeks old. The peas and oats were eight to 10 inches high and the rape four to five inches high. Shortly I noticed sore ears and backs. But did not lay the cause to rape, so did not take them from the pasture. As time went on it grew worse, until the ears on several pigs dried up and fell off, and their backs dried up and skin cracked and came off. Now, I do not say that the rape was the cause. Neither do I know what was the cause. The pasture was well shaded and no foreign weed in it.

I would like to ask if milch cows pastured on rape would be all right? Would the rape taint the cream so that it could not be sold? I think that it is a good pasture for cattle. I have a piece of ground just cleared, that is light sand land and real rough that I want to put into some pasture crop for my cows and thought of rape.

On the average farm there are many things that at a small cost and a little thought can be made to make the work of caring for the stock far easier. Often the feeding arrangements are in such a shape that it takes twice as long to feed the stock as it ought to. By building a chute or two the feed could be put almost where it is wanted to feed and it would not have to be carried a hun-

dred yards or so and through two or three doors, thus causing much waste in both time and feed. Where it is possible it is best to build the chute straight up and down but if this is impracticable owing to it obstructing the mow too much, or for some other reason it can be built on the following plan:

Suppose the top of the chute is 20 feet or more above the ceiling of the feed alley in the stable below. The first ten feet may be directly down and from this point it should slope directly to the emptying point. If properly made, with plenty of room at the elbow or turn, it will work as well as if it were straight down, provided the feed is put down in rather small quantities so as not to choke it.

Where there is a silo one should have a feed carrier with a track running in front of each row of mangers instead of carrying the silage around in a basket or wheeling it around in a wheelbarrow. I have used one two years and it has repaid its cost many times over. The cost of a good one is not great and once installed it will always be ready to use and will last a lifetime. They can be bought direct from the manufacturers and erected by anyone.

In barns with a basement it is seldom that the delivery of grain to the feeding floor below is as convenient as it might easily be. With a hopper or two in the granary, with pipes attached the grain can easily be delivered into small bins below, thus saving a great deal of heavy carrying down a flight of steps.

Capable Common Cows

As a whole, the "natives," or common cows, are inferior in the milk giving property to any of the dairy breeds; but there are remarkable exceptions. My father had a native cow that, when fresh, and well fed, would give about 24 quarts of milk in 24 hours. She was a large cow, but had no distinguishing marks by which experts think they can determine a great milker. She was not wedge shaped. She did not have a small neck, nor the nervous temperament. Her head and horns were large, and resembled those of an ox. The only dairy marks she had were large milk veins and a capacious udder.

An Exception to the Rule.

I have owned several remarkably good common cows. The best one resembled my father's prodigy in everything but color, and was almost her equal in milk production. She was a voracious eater, and not at all particular about what she ate. She devoured whatever decent feed was placed before her. When turned into the pasture she did not follow the example of the other cows, and run all over the field before commencing to eat, but began feeding as soon as through the gate. She was not a bright cow. On the contrary, she was stupid, and stolid. When turned into the stable through the door which the herd usually entered, she would find her place every time; but when let in at the opposite door she was sure to make a mistake, and take possession

of another cow's stall on the opposite side of the stable from her own.

I had a full blood Holstein-Friesian about the equal of my native, as a milk producer, but not quite her peer as a butter maker. Naturally she was of a suspicious disposition, apparently always expecting some treachery, or breach of faith on the part of her owner, and no amount of kindness would make her a confiding animal to her feeder or milker. I bought her when full grown. I think she must have inherited her suspicious disposition from some near ancestor that had been abused. She must have known that the removal of the milk from a full bag made her feel more comfortable, and yet at night when her bag was very full it was a hard matter to milk her without kicking. Like all uncommonly good cows at the pail, she was a hearty eater, and had room to store a large amount of food while undergoing the process of milk manufacture. No cow in the world is capable of extracting a large quantity of milk from a small amount of material. They must have milk producing feed and a plentiful supply of it.

Cow Peculiarities.

I have had cows that were naturally very friendly—would follow me when I crossed the pasture field, although they could see I had no feed or salt for them, and happened there on other business. One of our cows would bawl to be milked if neglected when her turn came. Several of us had been

milking one night, and she was skipped by mistake, and we were all leaving the barn when she commenced bawling and I went back and milked her.

Cows have their likes and dislikes. The hired man had been milking one of the cows for a long time. One night he being busy with the horses, I sat down to milk the cow. She offered no resistance, but would not "give down" her milk for me. As soon as the hired man came and took the pail, she gave down the milk.

Pennsylvania. J. W. INGHAM.

CABBAGE FOR SILAGE.

Will you please inform me whether cabbage makes good ensilage, and what feeding qualities it has as compared to corn silage?

Lake Co. J. B.
Yes, cabbage makes good silage, but you must slice them so they will pack closely. If you don't, you will have a lot of waste on top.

Cabbage is richer in protein than corn silage and must be considered more valuable, as our common foods are apt to be deficient in protein. Corn silage is richer in carbohydrates. They have the following food analysis:

Corn silage, digestible protein, 1.0 per cent; carbohydrates, 11.9 per cent; fat, 0.4 per cent. Cabbage, digestible protein, 2.3 per cent; carbohydrates, 5.9 per cent; fat, 0.1 per cent.

Cabbage silage would be a better



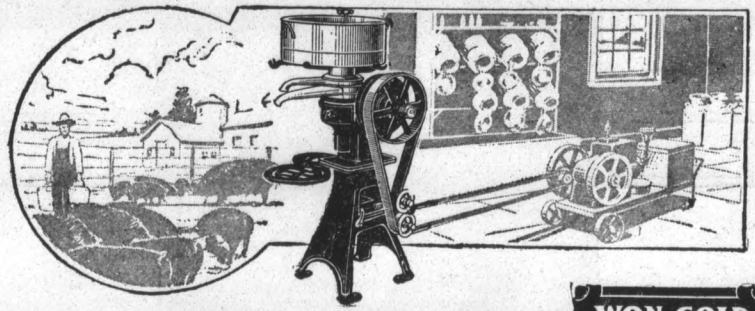
The Grade Cow is Greatly Improved by Proper Breeding.

food to feed with cornstalks or timothy hay than corn silage would because of its greater amount of protein. If you feed cabbage silage with clover or alfalfa hay, the grain ration need not be as rich in protein as if you fed corn silage with these legume hays.

WORLD CHAMPION BLOOD FOR MICHIGAN.

The recent purchase by Hon. D. D. Aitken, of Genesee county, of the Holstein-Friesian bull, FINDERNE Pontiac Korndyke, and the offer of his service to Michigan breeders who are striving for good yearly records, is a matter for congratulation to the Holstein breeders of the state. This bull's dam, FINDERNE Pride Johanna Rue, holds the world's butter record for all breeds, 1,470.59 pounds in one year, while his sire's grand dam was a former world champion with a year's record of 1,271.60 pounds of butter, and high producing cows are numerous in his pedigree. There is no better way to insure to Michigan an enviable reputation for the production of the best cows of the dairy breeds, than to bring into the state sires of the best breeding.

The Iowa Beef Producers' Association is starting a campaign throughout that state for the conservation of calves as a means of conserving the beef supply. Premiums are to be offered for young cattle shown in local and county fairs.



WON GOLD MEDAL AT SAN FRANCISCO EXPOSITION

International Harvester Cream Separators

THERE is a cream separator price that is right—the price of a Lily or Primrose. But here are three more important separator features.

The first is Cleanliness: A separator that cannot be kept scrupulously clean, inside and out, is dear at any price. Buy no separator that cannot be cleaned easily as well as thoroughly. Five minutes' work cleans a Lily or Primrose.

Second—Close Skimming: The separator that does not skim closely is wasteful. A Lily or Primrose leaves only a drop of cream in a gallon of milk. Insist on this standard.

Third—Simplicity: Buy a separator that needs so few and such simple adjustments that you or your wife can make them. Be sure to get one with a single automatic oiling arrangement which takes care of every bearing and avoid trouble.

When you buy a Lily or Primrose cream separator, you get these features, and pay the right price.

"Facts and Figures on Dairying," will help you choose right. You will be less liable to make dairy mistakes after you have read it. We send it free. Write for it.

International Harvester Company of America



CHICAGO

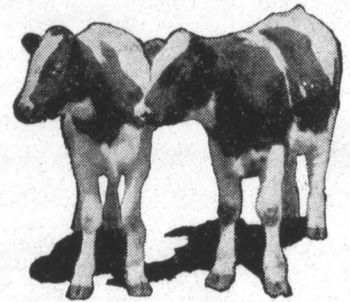
Champion Deering McCormick Milwaukee Osborne Plano

(Incorporated)

USA



The Dreaded Scours Lead Direct to Calf Cholera



And Calf Cholera kills thousands of calves. The digestive organs are paralyzed; food lies in an undigested mass in the stomach; it sours and ferments and sickens. Do you wonder that so many calves die in a few hours after cholera strikes?

Dr. David Roberts' CALF CHOLERA REMEDY

overcomes the trouble by righting the digestive organs. It regulates the flow of gastric juice and soothes and heals the sore mucous membrane. It liquefies the poisonous gases already formed in the stomach and prevents fermentation. Digestion becomes normal and the disease is ended. Don't let the trouble go too far. Begin with Calf Cholera Remedy right away when scours appear. Disease is highly contagious.

Cow Cleaner helps cows at calving time. Cleans and removes the afterbirth naturally; leaves organs in healthy breeding condition. Use Antisepto to soothe and heal soreness.

Cow Tonic aids digestion, tones and conditions the cow system, keeps up appetite and prevents falling off of milk.

Breeding Tonic prepares and conditions for breeding. Calves are dropped naturally, complications are avoided. Use also for breeding mares, ewes and sows.

Calf Meal, Diolice, Badger Balm, Laxotonic and Stokvigor are Dr. Roberts' Prescriptions which mean better live stock.

Special Sample Offer—Stokvigor, 10c

Enough to feed a cow or horse two weeks. Aids digestion, tones the system, makes animals grow faster and develop better. Send 10c and we will send Special Sample Package to test on your own stock. Don't fail—don't wait. Enclose dime or stamps.

Get Dr. Roberts' Live Stock Prescriptions at your drug store—nearly 4000 dealers in United States. If you do not have Dr. Roberts' 184-page "Practical Home Veterinarian," treating all diseases of all live stock, enclose 25c and receive copy by mail. Address

DR. DAVID ROBERTS VETERINARY CO.
960 Wisconsin Ave. Waukesha, Wis.



MITCHELL CARRIERS

Water Bowls, Cow, Calf and Bull Pens, Steel Horse Stalls Stanchions and Steel Stalls

You get the best and save money by getting Mitchell Barn Equipment. Don't buy before getting full description of our New Model Big 4 Carrier—26 styles to select from. Write for free catalogue and prices. Mitchell Mfg. Co., 3100 Forest Home Ave., Milwaukee, Wis.

When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.



After a painting by G. P. A. Healey in the Museum of the Brooklyn Institute of Art and Science

Charles Goodyear

An Accounting to the American People

THIS MONTH marks the fiscal close of the most phenomenal year The Goodyear Tire & Rubber Company has ever known.

Goodyear tire sales were far, far greater than in any previous year.

They were far greater than the sales of any other tire in the world. Other Goodyear products registered an equally enormous gain.

It seems to us a fitting time to render an accounting to the American people, to whom we are indebted for this unprecedented prosperity.

And it also seems to us a propitious time to acknowledge another debt to one of the world's great industrial geniuses, who spent almost his last days in a debtor's prison.

What this business is, in its first and last essence, it owes to Charles Goodyear.

It was not founded by the man whose honored name it bears.

But it has brought to that name, at last, the world-wide eminence which was denied him during his life.

His indomitable spirit has been a never-failing source of inspiration — in every branch of its thousandfold activities "his soul goes marching on."

Charles Goodyear was a man with a fixed idea — pre-destined, almost by reason of that fact, to disappointment, disaster and seeming disgrace.

His fixed idea was the vulcanization of rubber — and on this bed-rock idea there rests today that mighty industrial structure, the rubber business of the world.

In the remotest corners of the globe, wherever civilization pierces its way into the wilderness; in the jungles, and on the plantations, where millions of black men toil to satisfy the world's supply—*Goodyear means rubber and rubber means Goodyear.*

By right of inheritance, by right of adoption, by right of devotion to his high ideals, not merely the tire supremacy of the world, but the rubber supremacy of the world belongs to the Goodyear Tire & Rubber Company.

And so this business which perpetuates his name is also animated by a fixed idea.

And that fixed idea is that The Goodyear Tire & Rubber Company is bound to win the world-wide rubber supremacy if it simply upholds and maintains the goodness of Goodyear.

We believe firmly in the ultimate triumph of manufactured goodness.

We believe that the American people are everlastingly on the alert to find that which is worthy.

We believe they have awarded first prize to Goodyear because they believe in Goodyear.

We are convinced that no one can take that place away from us as long as we are true to them, and true to ourselves.

And because we prize this good will as the most precious asset of this business, nothing unworthy shall go out into the world under the brand of Goodyear.

The spirit of Charles Goodyear stands guard over every operation and every department in these great factories.

It says to every man on the Goodyear payroll, from the highest to the lowest: "Protect my good name."

Wherever, and whenever, man, woman, or child, thinks of aught that is made of rubber — we want their second thoughts to be of Goodyear.

And to the end, we repeat — nothing unworthy shall ever go out of these great factories under the brand of Goodyear.

The Goodyear Tire & Rubber Company

AKRON, OHIO

F. A. Seiberling, President



Leading Goodyear Akron Products

Fabric and Cord Automobile Tires
Laminated Tubes for Automobile
Tires
Automobile Tire Accessories
Repair Materials
Automobile Rims
Pneumatic Tires for Trucks
Solid Motor Truck Tires
Tires for Fire Apparatus
Carriage Tires
Motorcycle and Cycle Car Tires
Motorcycle Tubes
Bicycle Tires and Tubes
Aeroplane Tires, Springs and Fabric
Military and Other Balloons

Rubber Soles for Shoes
Wingfoot Heels for Shoes
Lawn Hose
Radiator Hose
Kantkink Garage Hose
Steam Hose
Suction and Miscellaneous
Hose
Goodyearite Packing
Conveyor Belts
Transmission Belts
Rubber Bands
Molded Goods
Offset Blankets
Rubber Specialties

GOODYEAR TIRES

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

Water for Industrial and Domestic Purposes

By FLOYD W. ROBISON.

PROBABLY the most important item of consideration in any community, urban or rural, is the question of the water supply, and we have heretofore given consideration to this subject mainly from the standpoint of its use for drinking purposes for, of course, in farm life as well as in city life, the articles intended for human consumption are the items which should be given first consideration. We know that the importance of the water supply on the farm for drinking purposes alone warrants

the most careful scrutiny into the conditions surrounding it. Strange as it may seem, however, the drinking water supply is not given very serious thought in the average farm home.

Taste Not a Reliable Guide to Purity.

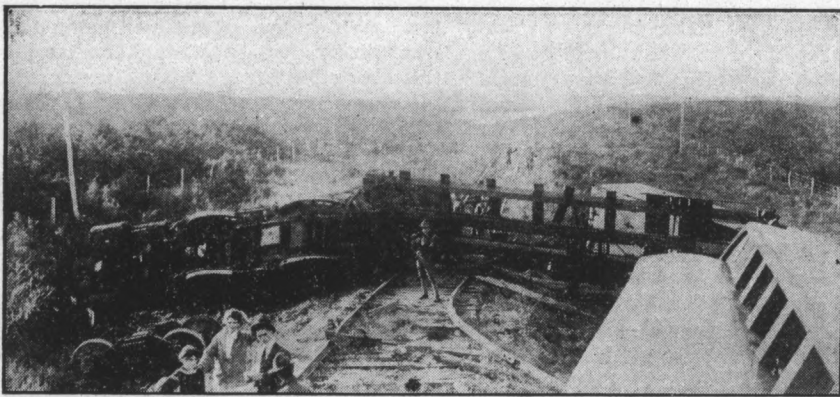
The adaptability of one's taste to the commodities with which he comes in contact every day is such that an impure water supply which, because of a peculiar taste would be discovered by one not familiar with it, is pass-

ed over without scrutiny by those who are in the habit of drinking that particular water. But aside from the considerations involved in the composition of the water for drinking purposes we find there are many other items which should come in for serious consideration in providing the home water supply.

One does not realize until his mind has been directed specifically to it what an important influence water,

used for domestic purposes, exerts in the home. Upon its composition depends directly every single cooking operation in the home. Is the water a hard water or a soft water, the time of cooking various food products is very materially influenced thereby and not only is the time element a factor of great consideration but the quality of the food prepared is very materially influenced by the composition of the water in which it is cooked. It is quite well known in dietetic circles that the use of a hard water

WORLD EVENTS IN PICTURES



Mexican Bandits Wreck Train and Kill and Rob the Passengers within the Texas Border.



A British Machine Gun Squad Protected Against Gas Clouds while Waiting for the Enemy.



German "War Dog," French Prisoner, Prefers the Fighting Line.



This Picture Graphically Portrays a Dramatic Contest Between a German Aeroplane and a French Airship Among the Clouds.



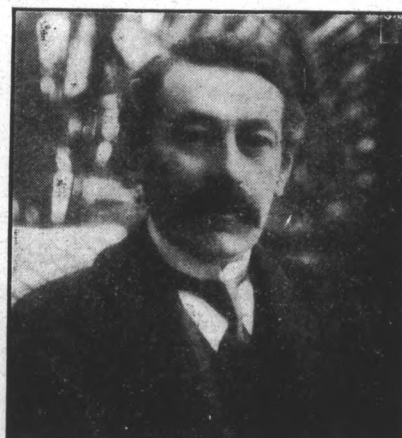
Austrians Loading Big Mortar; Inoculating Troops Against Typhus.



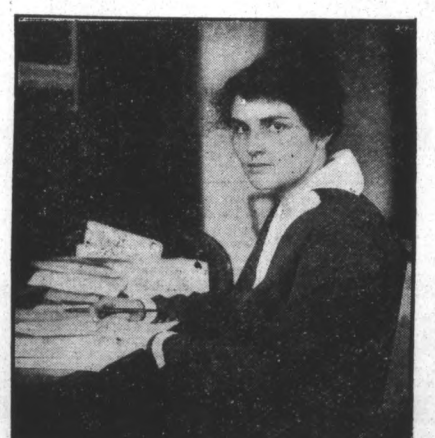
Dr. Koo, New Chinese Minister to the United States.



Prime Minister Zaimis, of Greece, and his Neutral Cabinet.



Aristide Briand has been Made Premier of France.



Mrs. Whitehouse led the Suffrage Campaign in New York State.



Good Measure

Giving extra-good value to the buyer pays the farmer and it pays the store that sells men's clothes.

That's why we want you to drop in next time you're in town and try on a Clothcraft suit or overcoat.

We personally stand back of the maker's guaranty—we know it represents 69 years of effort to put more and more long-wear value into medium-priced clothes for men and young men, by scientific factory methods.

There are many fabrics to choose from, and we want especially to show you the Clothcraft Blue Serge Specials "4130" at \$18.50, and "5130" at \$15.

The Clothcraft Store

(IN YOUR TOWN)

CLOTHCRAFT ALL WOOL CLOTHES
\$10 to \$25 Ready to Wear

Made by The Joseph & Feiss Company, Cleveland



DON'T Pay Two PRICES HOOSIER Stoves & Ranges FREE

To try in your own home for 30 days. Show your friends. Freight paid by us. Send it back at our expense if you do not want to keep it. You can buy the best at Actual Factory Prices. Our new improvements absolutely surpass anything ever produced. Save enough on a single stove to buy your winter's fuel. All HOOSIER STOVES Guaranteed for Years. Send postal today for large FREE Catalogue, showing large assortment to select from. No Obligations.

HOOSIER STOVE CO.
131 State St., Marion, Ind.

AGENTS WANTED
for independent hollow-wire lighting systems for homes, stores, etc.; also complete line of lanterns and portable and street lamps. Use common gasoline.

AKRON GAS LAMPS
are most improved, simplest and safest of all. Best and cheapest illumination known. Shed a clear, soft, bright, white light of high candle power. Fully Guaranteed. Handy demonstration outfit. Our Agency Proposition cannot be beat. Exclusive territory. Write quick for Catalog and Terms.

Akron Gas Lamp Co., 635 So. Main St., Akron, O.

Don't Fail to mention the Michigan Farmer when you are writing to advertisers.

in the cooking of certain vegetables, such as peas, for instance, may entirely change a very nutritious and palatable article of food to one which is decidedly inferior as an article of diet.

Rain Water the Purest Form Available.

Water is pure water only as it falls in the form of rain and then, of course, it takes up on its way to the earth, by absorption, certain gases which modify to some degree its effects. But for practical purposes rain water may be considered to be pure water and it has been used for certain domestic purposes from time immemorial because practical experience has shown there is a very important difference in the effect of water from different sources used for the various domestic purposes. Rain water has found employment because it seems to be most free from the objections of well water and because, besides, it is decidedly more uniform in its action.

Absolutely pure water will evaporate to dryness without leaving any residue whatsoever but we are accustomed to see vast quantities of residue, scale and the like, that which is left in the evaporation of water as ordinarily used in the various domestic purposes in the home.

Water Contains Many Dissolved Salts.

Most women are familiar with the enormous amount of residue left in the tea kettle. This utensil represents the concentrates of a considerable period of time from water which has been boiled for household purposes and depending upon the character of the water used the amount of cake or residue will form rapidly or slowly as the case may be. The greatest influence of the composition of water in the home is noticeable in the laundry where the dissolved salts which are in the water influence very materially the washing operations in the laundry. So important an item is this that there have appeared upon the market various materials to be used in the home for correcting or softening the waters to be used in the laundry. One of the most common agents for this purpose is ammonia. Soda is also used for the same purpose and, of course, one knows how important an influence the character of the water exerts over the amount of soap which it is necessary to use in the washing of clothes.

Effect of Hard Water on Soap.

A so-called hard water antagonizes at the start the first effects of soap. Of course, we know that soap is a combination of fatty acids and alkali and as such the presence of notable quantities of hardening agents in the water, such as calcium carbonate, calcium sulphate, etc., immediately precipitates into a form of curd the soap which is added to the water and before the desired effects can be produced, the effects which are necessary in the cleaning operation, enough soap must be added to over-balance the hardening salts which are present in the water. In the use of softening agents, such as ammonia, soda or the like, it is planned to add a sufficient amount of these materials to over-balance the hardening agents, before the soap is added, and thus remove the necessity of the use of such a great amount of soap which is usually more expensive. It is simply a case of substitution of ammonia or soda for soap because if a sufficient amount of soap is added the same result in the end will be accomplished. In rain water, or soft water as it is called, there are scarcely any hardening salts present unless the rain water is in a cistern which will give up to the water some of the salts which are present in the cistern wall. If the water is soft water, as pure rain water is, then there is no especial advantage in the use of ammonia or soda. In fact, being strongly alkaline they work injury to the delicate clothes which are being washed. With no hardening agents present the soap is able to ex-

ert its cleansing properties at once and this explains the very great favor with which rain water is welcomed in the home.

If one would stop to inquire into and attempt to calculate the very great advantage of a desirable water supply for domestic purposes, such as we have described, he would be surprised to find how great an influence it exerts in the way of modifying the work in the home and on the farm and in adding very materially to the pleasure and comfort of farm life.

Character of Water Directly Affects the Efficiency of a Boiler.

In certain industrial enterprises the necessity for a study of the composition of the water has been forced to the front. It has been found that the efficiency of a boiler or of a locomotive bears a very direct ratio to the composition of the water used for steam generation and on several of the railroads which run through the western states where it is difficult to get water which is not heavily impregnated with certain alkaline salts the water supply for boiler purposes is one of the most serious problems with which they have to deal. There are certain ingredients in a water which cause the formation of boiler scale, we call them incrusting solids. When the water is heated and partially evaporated these scale-forming salts, or incrusting solids deposit themselves in a coating around the boiler tubes and on the interior surface of the boiler and almost as effectively insulate these tubes as if they were wrapped with a thin sheet of asbestos. Of course, when these incrusting solids deposit themselves rapidly the efficiency of a boiler or locomotive is cut down very markedly.

Some Water Must be Softened.

It is not always possible to select an ideal water for industrial purposes. It is very frequently a case of taking the least objectionable of a number of sources, all of which are far from ideal. In this case it becomes necessary to attempt to soften the water. Some waters contain calcium carbon-

ate, calcium sulphate, and some contain large quantities of sodium chloride, magnesium sulphite, magnesium chloride. While some waters contain large quantities of incrusting solids others may contain large quantities of non-incrusting solids but which solids are very corrosive in their action on the boiler tubes. It would be a simple matter to remove the so-called non-incrusting solids if they were the only item we need consider in studying the water for industrial and domestic purposes. A hard water may be materially softened by the addition of lime and by the addition of sodium carbonate, but usually for boiler purposes it becomes necessary to keep down the content of free alkali, otherwise foaming or priming results. It is considered that when you exceed 50 grains per gallon of alkaline salts in a boiler you have passed the point of safety as far as foaming and priming are concerned in the water. Consequently in correcting for industrial purposes a water which is hard and corrosive it becomes necessary to keep the treatment below the danger mark as far as the addition of alkaline salts is concerned.

Water May be too Hard to Drink.

We say that water is a very variable product. It is difficult to impress upon the reader the very great influence which it may exert on practically all domestic operations on the farm. Its influence upon the health of the stock is materially affected by the soluble mineral constituents in the water. We know of many instances where it has been necessary to change the character of a drinking water to eliminate certain physiological disturbances, and when we pay so much attention to the character of our food for this very purpose, when one stops to think of it, it is not strange that there should be given very serious consideration to the character of the water used for dieting purposes as well, for, of course, water is used in much greater quantities than food. It is the medium through which food nutrients are taken into the body.

Land O' Nod Stories.

By HOWARD T. KNAPP.

Who Teaches the Ants?

AS Billy Be By Bo Bum and his little friend Tinker Teedle Tee trudged along the broad highway the ants had built from the harvest fields to their underground city, they met hundreds of the Little People hurrying along in the opposite direction, while whole troops of workers constantly passed them, homeward bound, with seeds, or cookie crumbs clutched tightly in their jaws or slung across their backs. Several were staggering under loads that weighed a great deal more than themselves.

"These little chaps are the strongest fellows alive," said Tinker. "A horse or an elephant is weak compared with a full grown ant, when you consider the load each can carry in comparison to their sizes. Why, Billy Boy, I have seen an ant dragging a pebble that was as heavy a load for it as a ton of coal would be for a man. I don't know what under the sun it was going to do with the pebble, but he had found it in the harvest fields and was dragging it home. It was just as though your father walked ten miles with a two thousand pound load on his back. Do you think he could do that?"

"I'm sure he couldn't," replied Billy, looking at the little insects with new interest. "I don't believe he could carry a hundred pounds that far, let alone two thousand pounds."

"Then, according to that, an ant is

at least twenty times as strong as a man, when you consider the difference in their sizes, but when you reach their underground city, you will see that they possess many traits much more wonderful than their great strength. Strength alone, Billy Boy, never carried either an ant or an elephant or a man very far in this world. It's brains that count, and when you get to know them you will find that the ants are mighty smart fellows.

"And as I told you before, they do do their work without being told. No one directs their labors and there is no boss over them to see that they do their work right. Each ant has its own task and goes ahead and does it without paying any attention to the others."

"But Tiker, if there is no one to direct them, I don't see how they know what to do," said Billy Be By Bo Bum, who had no idea the ants were such wise little people. "Who shows them how to do all these wonderful things? Who teaches them how to build roads and lay out a city and harvest grain?"

"Old Mother Nature, who is the greatest teacher in all the world," replied the merry little elf. "She tells the Little People who make their homes in the woods and fields lots of secrets she hides from men."

"God has given men wonderful brains so they can think things out

(Continued on page 433).

The Traveling Mail Box

By C. N. FOGG.

THE ingenious boy will delight in erecting and equipping a traveling mail box line from the residence to the road where the rural carrier passes. Not only will this work exercise the wits of the young mechanic, but when done he will enjoy the satisfaction of having constructed something that will save time every day in the year, especially iron in a manner to permit the wheel of the car to pass over without being thrown from the wire. These arms should be braced to the pole from above to avoid interference with the moving of the car. These braces may be made either of wood or of metal. Three courses of wire will be required. The carrying wire which is to constitute the track for the car should

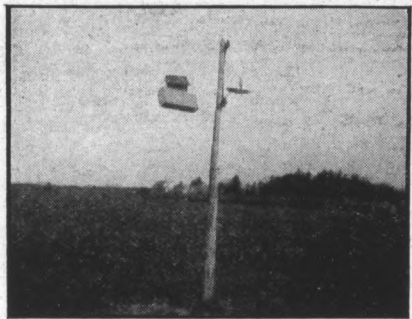


The Road Terminal Placed Convenient to Highway Illustrating Important Features of Construction.

where the home is on a side road some distance from the rural line route.

These mail boxes can be successfully operated up to a half mile in length. Where necessary curves of fifteen to twenty degrees in the course of the lines may be made and will not impair their practicability.

Most of the material required will be found on the ordinary farm or may be purchased at the local hardware.



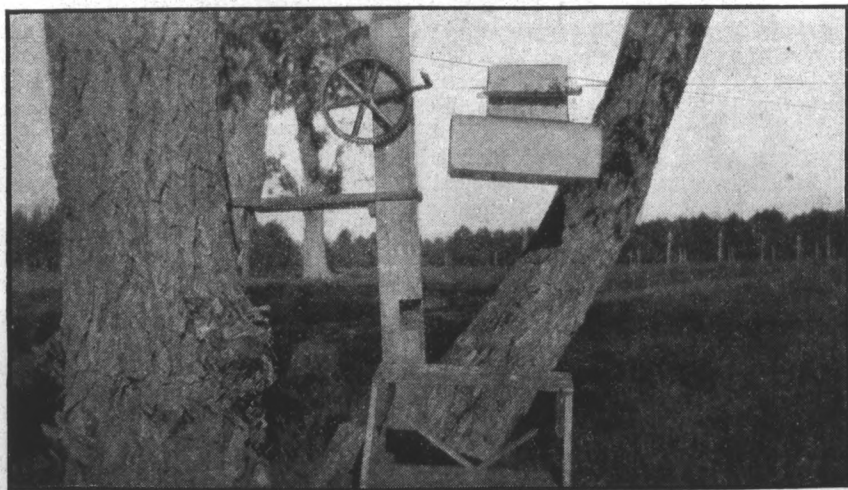
The Mail Box on its Journey, Showing Post with Metal Bracket Attached.

Posts will be needed upon which to stretch the carrying wire. These posts should be about the same distance apart as in a telephone line. Like the construction of a fence it will be necessary to have the end posts anchored firmly, as the carrying wire must be stretched from them. On all excepting these end posts brackets will be required. These may be specially constructed of metal or consist of wooden arms extending out from the posts a foot or sixteen inches with some metal clip at the extreme outer end arranged so as to carry the wire above the edge of the

be about No. 10 size and long enough to cover the course of the line. This wire is passed through the post at the home end and attached to a ratchet for tightening. At the opposite end two posts are erected about three feet apart and a two-by-four nailed from one to the other at a height to allow easy access to the mail box when suspended below. The carrying wire should pass through this two-by-four midway between the posts and attached to another ratchet for tightening if the line be a long one.

The operating wire is made twice the length of the carrying wire and need not be so heavy as the other. At the road terminal this wire passes over a sheave or grooved pulley, while at the opposite end it goes once around a grooved pinion which is operated by a gear. This gear arrangement, illustrated in the accompanying cuts, may be secured from dealers in machinery or an old fanning mill gear will serve equally well. The pinion carrying the wire is attached to the shaft of the small cog wheel. This pinion should be about eight or ten inches in diameter. By cranking the large cog wheel, one will be able to move the operating wire at the rate of about a rod for each turn of the handle.

The illustrations show the construction of the car and the method of attaching the mail box thereto. To hold the car securely two wheels are best. These should be grooved so as to pass over the wire and bracket attachments freely. The wheels used for roller doors may be easily adapted to this purpose. The mail box is suspended from the wheels. The ends of



The Residence Terminal of Traveling Mail Box Showing the Gearing, Car and Mail Box.

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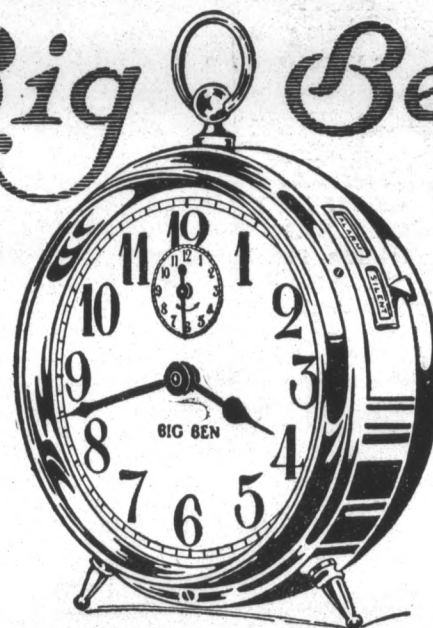
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Pneumatic Tires, Truck Tires, Pleasure Electric Tires, Carriage Tires, Motorcycle Tires, Fire Apparatus Tires, Rims, Tire Accessories, etc.

Firestone Net Prices to Car Owners

	Case Round Tread	Case Non-Skid	Grey Tube	Red Tube
30x3	\$ 9.40	\$10.55	\$2.20	\$2.50
30x3½	11.90	13.35	2.60	2.90
32x3½	13.75	15.40	2.70	3.05
34x4	19.90	22.30	3.90	4.40
34x4½	27.30	30.55	4.80	5.40
36x4½	28.70	32.15	5.00	5.65
37x5	35.55	39.80	5.95	6.70

Firestone

Big Ben



At Home on the Farm

In your room, or son's, or beside the hired man's bed. It's all the same to Big Ben for he's right at home. He knows it's his business to be first one up and to wake the others in time for morning chores.

Leave it to him to rouse the heavy sleepers — men who work long hard days and sleep like logs at night.

He's at home on the farm and earns his keep the very first day, same as he's doing on thousands of farms.

If your dealer hasn't him, a money order addressed to his makers, Westclox, La Salle, Illinois, will bring him postpaid. \$2.50 in the States — in Canada, \$3.00.

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the operating wire are attached to the car so as to permit its being pulled close to the terminal sheave wheel. From the construction of this device it will be observed that by turning the gear in one direction the car will be pulled by the operating wire toward the road, and by cranking in the opposite direction it is returned to the house. The bearings of the gear and pinions should be properly lubricated to reduce friction.

It is hardly necessary to state that the road terminal should be placed so

as to be readily accessible to the postman, in fact this is a government requirement. If the posts there are arranged as stated above, the mail box will extend a few inches beyond the two-by-four cross-piece, where it will be easy for the postman to remove and deposit mail. If the distance is far a signal can be arranged so that the mailman can easily indicate by it if mail matter has been left in the box, thus avoiding the necessity of returning the box to the house to learn if there is any mail for the day.

The First Thanksgiving

By K. T. HOWARD.

BIBBITY BOB had eaten so much turkey and cranberry sauce and other "fixings" of a real old-fashioned Thanksgiving dinner that he had to refuse a second piece of pumpkin pie, and no one in all the world could make pumpkin pie like Grandmother Hawkins.

"What's the matter Bibbity Boy?" asked Grandma, her kindly eyes twinkling. "Didn't you like my pie?"

"It was the best I ever tasted," answered Bobby smacking his lips, "but I am full up to the neck. I could chew another piece all right, but I'm afraid I couldn't swallow it."

"Maybe if you took a little walk you could work up another appetite," suggested Grandma.

"I believe I'll try it," said Bibbity Bob, so he slid off his chair and started out to explore the quaint old farmhouse. As he climbed the broad stairs he made up his mind to see what he could find in the garret, but by the time he reached the second floor he was so tired he sat down on the cozy window seat to rest. Now, Bibbity Bob was not sleepy, no sir, not a bit of it, but all at once his eyelids felt as though they were made of lead, and in spite of all he could do they would droop shut. So he sat up very straight and stared at the painting of Great-great-great-great-great-great Grandfather White, who came over with the Pilgrims in the Mayflower, which hung above the big fireplace.

"Hi ho hum but I'm tired," said Bobby, yawning until his jaws ached.

"So am I," answered a deep, bass voice that seemed to come from the wall above the fire place, and the next minute Grandfather White stepped down out of the picture frame.

"It certainly does feel good to stretch your legs after standing up in a picture frame all these years," said the old gentleman as he took a turn or two up and down the hall to take the kinks out of his joints and then sat down beside Bibbity Bob on the window seat. The little fellow was rather frightened at first, but Grandfather's eyes twinkled so merrily, such a kindly smile wreathed his face, that they were soon chatting away as though they had been friends for years.

"The smell of that roast turkey recalls to my mind the first Thanksgiving Day that was ever observed, just 293 years ago," said Grandfather White.

"Why, I thought people had always observed Thanksgiving just the same as Christmas," said Bibbity Bob in surprise.

"No, siree," replied Grandfather. "Such a thing had never been thought of until Governor Bradford, the first governor of Massachusetts, established the custom in 1621."

"It's a mighty good custom," said Bibbity Bob, thinking of the roast turkey and Grandmother Hawkins' pumpkin pies. "But how did Governor Bradford come to think of it?"

"Well, Bibbity Bob, if you have studied your history lessons you will remember that the Pilgrims landed at Plymouth Rock in 1620. The new country they had picked out for their

future home was a barren wilderness inhabited only by Indians and wild animals. But they made the best of things, and pitching in with a right good will, they soon built enough rough log cabins to shelter the little colony from the winter storms.

"That first winter was terrible. The settlers ran short of provisions and had to live almost entirely on deer and other game shot in the woods. Then, to make matters worse, a dreadful sickness broke out and before spring came about half of the Pilgrims had died. They were not discouraged, however, and as soon as the frost was out of the ground, they started plowing the land they had cleared during the winter.

"Old Mother Nature was kind to the brave Pilgrims that summer, and their crops grew and flourished wonderfully well. So when harvest time rolled around they gathered in more than enough grain and vegetables to last them through the winter. When the last shock of corn was stowed safely away in the barn, Governor Bradford issued a proclamation calling on the Pilgrims to prepare a big feast when they would all unite in thanking the Heavenly Father for the bountiful harvest and the other blessings He had showered on them during their first year in the New World.

"For days and days the women and girls worked like beavers baking pies and cakes and other good things for the feast. Chief Massasoit and a big party of his Indian braves were invited to attend and help the pale face observe the day in a fitting manner.

"Early on the morning of the first Thanksgiving Day the Indians arrived at the settlement dressed up in their finest blankets and bonnets of feathers. All was ready for the feast—except one thing—the Pilgrims had no fresh meat. The day before a party of hunters had gone out into the woods to shoot some game. Now it was nearly dinner time and they had not yet returned. But at last they trudged back, each man carrying a pair of immense turkeys on his back. It was all the game they had been able to find but I tell you it was not many minutes before those turkeys were picked and in the oven roasting. Then they all sat down to the long tables, and after the minister had offered thanks to God for his many blessings, it would have surprised you to see the way the great, heaping platters of good things disappeared down the 'little red lane.' It was the best dinner they had ever eaten, and there has never been another like it.

"Ugh—heap good turkey," said old Chief Massasoit as he passed up his plate for the third time. Everyone else said the same thing, and that is why no Thanksgiving dinner since has been complete without a big roast turkey for father to carve."

Just then someone opened the hall door and called, "Bibbity Bob, oh, Bibbity Bob."

"Run along to your mother, Bobby Boy," said Grandfather White, jumping up from the window seat, and the next minute the old gentleman was back in the picture frame above the

fireplace where he had stood so many, many years. But as Bibbity Bob ran down the stairs to his mother, he was sure Grandfather waved his hand goodbye.

A GREAT SHOWER OF STARS.

BY DR. L. K. HIRSBERG.

THE fighting men in all parts of Europe and the "neutral" peace-at-present Americans will be startled and perhaps superstitiously awed on the nights of Friday, November 12, and Sunday, November 14, in 1915. There will be displayed in the heavens a most wonderful and historic shower of stars.

On those nights, the earth will cut the orbits of myriads of blazing meteors. Shooting stars will fly like fireworks and sky-rockets, and the soldiers in the European battlefields will fire wildly at what may be mistaken for enemy attacks.

The earth will enter the belt of the flaming meteors almost at its maximum of density and brilliancy of display about this time, near the middle of November. It will be veritably a rain of fire.

Humboldt, the great savant of the period of the American revolution, on November 12, 1799, at Cumona, described this as the "Fire-storm of the Skies." He pointed out that three times in every hundred years, this terrific, awe-inspiring conflagration of the heavens will be visible from the earth.

According to the ancient dates, on the night of October 19, 902, over a thousand years ago, there occurred an all-night shower of burning stars, when Ibrahim, the Aglabid II, lay dying before Cossnza, awaiting the coming of Charon to take him over the Styx, as punishment for his misdeeds.

Almost 1000 years further back, or to be exact, 126 A. D., the planet Uranus seized a comet that was passing through space and chained it to our solar system as a crushed up mass of shooting stars. Its orbit around the sun is 33 years longer than that of the earth.

Part of these meteors come to the earth in France on April 4, 905. The Saxon chronicle records that one of the eye witnesses "cast water upon it, which was raised into steam with a great noise of boiling."

It was observed again as landing in part on the earth in 1885. A ball of fire "struck the ground and was discovered to be about eight pounds of graphite and iron."

This Leonid stream of fiery balls and shooting stars, if it were a solid planet, would come between Uranus and Neptune. It swings close to the sun and allows the earth to cross its ellipse and anon swing away out beyond Uranus. Its stream of fire is about 100,000 miles thick, a mere trifle compared to its length. The earth hastens through this fire and brimstone stream in about five hours these November nights. It is the disintegration of the great planet-comet, which Uranus seized in the year 126 A. D.

Planets and stars which break loose from one star system, only to rush madly through space, finally to be grabbed up by some other one, sooner or later come to such grief as this one. Like the pitcher that goes once too often to the well, it cracks itself literally into blazing smithereens.

True enough, the fragments do not become inflammatory unless they strike the atmosphere of some other body such as the earth, but as they come within the realm of the magnetic attraction—gravitation—of huge planets like the earth, they are gobbled up by and incorporated with them. It has been computed that 4115 or some two thousand years hence, this so-called Leonid shower of true sky-rockets will have entirely disappeared. rockets will have entirely disappeared.

WHO TEACHES THE ANTS?

(Continued from page 430).
for themselves, and by study and thought learn how to do things. Now while the Little People, the birds and animals and insects, do a lot more thinking than men give them credit for, they are also endowed with a gift Mother Nature has denied to men. It is called instinct and tells the Little People what to do and how to do it without knowing just why and without having to stop and think about it.

"As soon as Mother Nature's children come into the world they know just exactly what to do to take care of themselves. Of course, while they are still very young, their fathers and mothers take care of them, feeding them and seeing that they keep out of danger. And then, when they get a little older, father and mother show them how to do things, but it is easy work, for instinct tells the babies what to do.

All this while Billy and the elf had been trudging steadily along the road, which every minute became wider and wider and more crowded with ants which constantly emerged from the oat forest, staggering under heavy loads of grain, and joining the throng hurrying along the road to the city.

"Gee whiz, Tinker, how much farther do we have to walk?" asked Billy at last. "My legs feel as though we had been marching at least a hundred miles."

"And yet these little ants run back and forth the entire length of the road a dozen times a day," replied the elf. "But cheer up, Billy Boy, we are almost there."

And next week I'll tell you how they came to Antland.

A PASSERBY.

BY ARTHUR W. PEACH.

Down the road he comes each day
With whistle piping all the way;
His tunes are crude and simple things,
But through each halting strain there
sings
The joyous music of a heart
That knows song's worth if not it's
art.

He's kin to happy rills and brooks
That sing in hidden forest nooks;
He's brother to the joyous birds,
And in each tune that has no words
He phrases perfectly the joy
That thrills the heart of bird and boy.

I hope he'll whistle down the years,
And brighten hearts as mine he
cheers,

Until his whistle's merry note
Shall in the heart, a memory, float,
Like friendly laughter faint and low
From some dim, cherished long ago.

Down the road he comes each day
Whether skies be bright or gray;
High and sweet, his whistle clear
Sends its echoing note of cheer,
And I'm sure that other hearts
Are cheered before its sound departs!

After he has gone along,
Like lingering echoes of a song,
His whistled music follows me
With tune of rollic joy and glee:
I know he's just a happy lad,
But God made him to make hearts
glad!

WHAT WISE MEN HAVE SAID.

The very word "education" is a standing protest against dogmatic teaching.—E. W. Eliot.

It is when tomorrow's burden is added to the burden of today that the weight is more than a man can bear.—MacDonald.

To know what you prefer instead of humbly saying "Amen" to what the world tells you you ought to prefer, is to have kept your soul alive.—Stevenson.

If men are to wait for liberty till they become wise and good in slavery, they may indeed wait forever.—Macaulay.

There is a time in every man's education when he arrives at the conviction that envy is ignorance, that imitation is suicide.—Emerson.

I believe it is by persons believing themselves in the right that nine-tenths of the tyranny of the world of this world has been perpetrated.—Thackeray.

Electric Light for Your Home

Have Electricity in your home this winter

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The Uni-Lectric Lighting, Cooking and Power System

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Generates standard 110-volt direct current and runs from one to 50 lights of different sizes and standard makes. Also operates electric motor, electric iron, vacuum cleaner, force pump, churn, washing machine, etc.

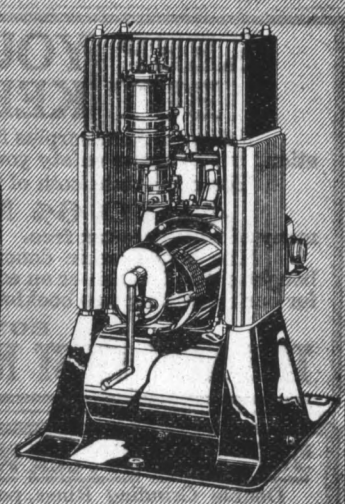
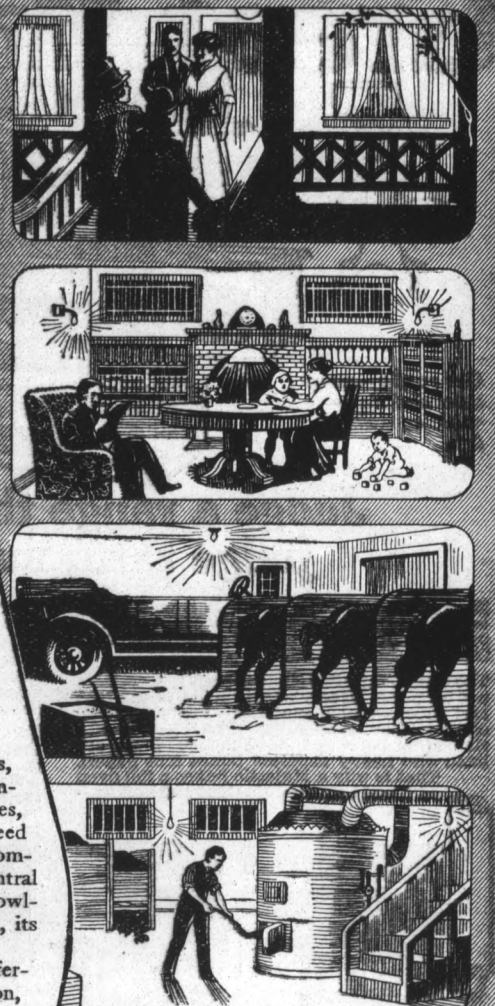
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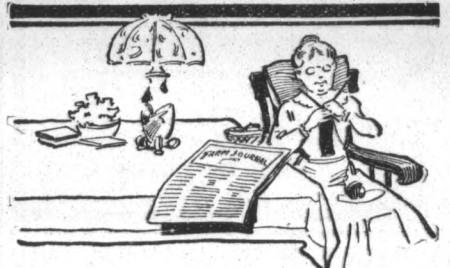
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182 Washington Square, Philadelphia

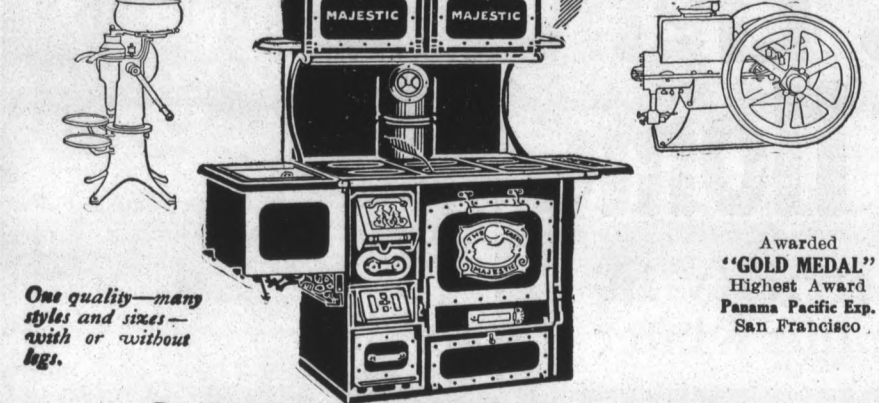
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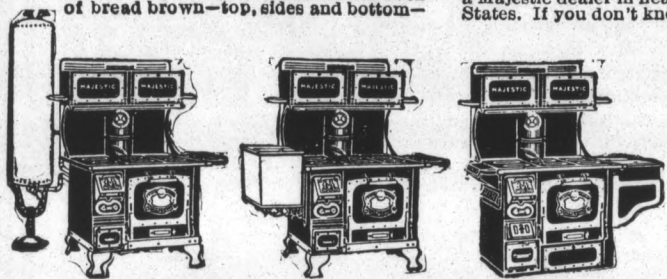
How well will it do its work? Is it built right, and of the right material? How economical to operate? Judged by these standards, the best is always the cheapest.

The Great Majestic Range is built for service—not for price. Every part is made of the best and most durable material—malleable iron, charcoal iron, copper, etc. Put together with rivets (not bolts and stove putty). Flues are lined with heavy asbestos board (not paper). That is why a Majestic bakes a full oven of bread brown—top, sides and bottom—

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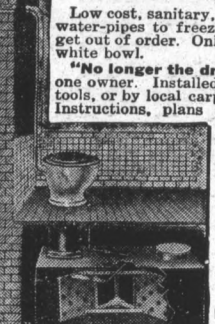
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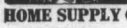
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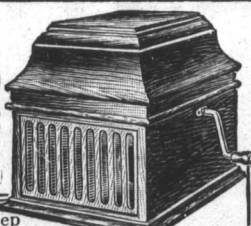
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Woman and Her Needs

The Domestic Crucible—16 Grace Decides Comfort Isn't a Luxury.

THE chill November wind was wildly flapping the muslin curtains of the bedroom window as Grace Ludlow, yawning broadly, finally rubbed the sleep out of her eyes and awoke to the fact that the alarm had rung at least a half hour before. John was already at the barn, and a hardwood fire was snapping briskly in the kitchen stove. But two rooms with closed doors intervened between her and the fire. With an anticipatory shiver she thrust one foot tentatively out from underneath the comforts, only to draw it back quickly, as the chill breeze struck her warm flesh, and burrow again beneath the blankets.

"My, I hate winter," she groaned audibly, "Climbing out of bed in the dark and dressing in a room so cold the thermometer won't register! Winter may be all right for hunters and trappers, but it has no place in the home. Though, come to think about it, if it stayed outdoors I wouldn't object to it. Winter wasn't half bad last year in town, where they had furnace heat. I didn't mind getting up and

utes. Go on in the dining-room out of my way."

"But it's cold in the dining-room," objected John.

"It was cold in my room, too, but I had to dress there," said Grace. "I can't cook with men in the kitchen, so if you expect breakfast this morning, march."

The men marched without further argument, and true to her promise, breakfast was on the table in exactly fifteen minutes. The cereal, cooked all night in the fireless cooker, was quickly reheated, and coffee, toast, fried potatoes and scrambled eggs took little time to prepare. In Grace's home half the work of preparing breakfast was always done the night before, for Grace insisted that the last half hour's sleep did more to preserve her temper and complexion than four hours before midnight.

The dining-room was cold, and though John, big and hearty, did not seem to mind it, Grace shivered through the meal and glowered disgustedly at the food which chilled before she had a chance to taste it. John, noticing her shiver, awoke to the fact that winter was really upon them.

"I'll have to drive in and buy a stove," he remarked between swallows of coffee. "It is getting cold at last."

"Stove," Grace echoed in a dismayed tone. "Why, it would take three at least to warm this house. We ought to have one in the living-room, one out here and one upstairs."

"Three," bellowed John. "Do you hold stock in a stove company, or just get a commission on what stoves you sell? We'll be lucky to get one this fall with potatoes and beans smitten with blight. Do you think I'm a millionaire?"

"Three stoves couldn't warm this barn," Grace went on, ignoring John's remarks. "What we really need is a furnace. I can feel a cold coming on now just from getting chilled this morning. We ought to have the bedroom heated as well as the living-room, and the heat from a stove in that living-room would hardly keep it warm, say nothing about warming three other rooms. I don't know why people ever wanted to build such enormous houses anyway, unless it was to kill women. There's enough floor space in the living-room and dining-room alone to make a fair-sized bungalow."

"Nevertheless, one stove has got to do us this year and for many years to come," John reiterated, sticking to the main point with masculine perverseness. "So, if you've got a commission promised on stoves or furnace sales, forget 'em," and pushing back his chair he departed.

"For many years to come," Grace repeated musingly, after the men left. "That's just it. If we get a stove now I'm stuck with it for life and I'll shiver and freeze from now until I die. So long as we are just starting, we might as well start right. And I can't start any day right by dressing in the cold. I'll be ugly and snappy every breakfast, and it certainly ought to be worth money to John to have a good-natured wife. I need a furnace to keep me sweet, so I vote for a furnace. Do I hear any 'nays?' The 'ayes' have it."

With Grace, to decide was to act, and clearing off a place in front of her, she brought from the living-room all the magazines she could find and looked through them for advertise-



First Prize Michigan State Fair Baby.

Small daughter of Mr. and Mrs. J. W. Phillips, of Orion, Mich. She took the prize in the Better Babies' Contest for one to two years, scoring 97.6.

ments for all sorts of heating plants. "I might as well write for information about all of them," she decided judiciously, "and then we can pick out the best for the money. Besides, if John sees a lot of pictures of pretty women sitting around, snug and warm in lingerie waists while the 'blizzards bliz' outside, he'll get interested right away. Men are just like children, you have to teach them by pictures." The mail man carried away with him half a dozen postcards to as

many firms manufacturing furnaces of various sorts, pipeless, hot air and hot water steam heating plants. "Now I'll pray for it to warm up a little so John will forget about the stove until the circulars begin to arrive," said Grace. "A furnace is a real necessity in the home where there's a delicate woman like me," and Grace looked sympathetically at the reflection of her health-flushed cheeks in the mirror, and pityingly rubbed her plump arms. DEBORAH.

The November Festival

By JULIA R. DAVIS'

TRADITION has so long set aside Thanksgiving, as a day for the gathering together of relatives from far and near, that, unless for the sake of sweet charity, it seems a pity to invite mere outsiders. At this time the relatives indulge in reminiscences, and the presence of strangers is apt to cause restraint in discussing strictly family affairs, births, deaths and marriages, prosperities and adversities. Decorations suggestive of the season are so easily obtained that no one need fail to have the house prettily decorated. Crimson, yellow and bronze autumn leaves, golden grain, palms, ferns, chrysanthemums and asters, and any crimson, autumn berries may be used with charming effect. The farmer's wife especially has unlimited means at hand to make her house and table attractive.

There is nothing more appropriate for the Thanksgiving anniversary table than a fruit centerpiece, the apples, pears and nuts wiped with a flannel cloth until they reflect one's face, and the whole massed in a basket or on a platter surrounded by grain.

If you wish the predominant color to be yellow, spread your lace centerpiece over yellow canton flannel cloth and have a pumpkin to occupy the middle of this. Take a long pumpkin, cut a big slice from side, scoop out the seeds and membrane, then heap it with fruit, or vegetables, and sprigs of bright berries. Trail wild clematis or other late November products of the woods around it after it is set in place.

The large harvest apples and pears, beautifully tinted in yellow and red, are appropriate souvenirs. These can be bought in papier-mache, with a plug in one side allowing them to be filled with home-made candies.

Of course, at this feast there must be turkey, roasted deliciously brown and juicy. The "stuffing" can be varied to taste. The regulation bread dressing may be used, or take your choice of oyster, mushroom, sausage, boiled chestnuts or boiled rice. If bread is used the platter of turkey can be garnished with links of home-made sausage, curled parsley, sweet potato croquettes, or rice balls. But as dressing for turkey, the best prepared sausage meat mixed with double the amount of bread crumbs, highly seasoned, can not be excelled. No butter is needed. One-half pound of sausage meat is sufficient for a large turkey.

Of course, cranberries must accompany the turkey, and not once in 20 times is this berry properly cooked. Follow this method, and you will obtain the best results.

Cranberry Mold.—Carefully look over the berries, removing all stems and spotted ones, then wash thoroughly and rinse. Place in a porcelain lined kettle, or an aluminum one. Add cold water until it comes to the top of the berries. Place where they will boil, then add three-fourths as much sugar as fruit as soon as they begin to simmer. Boil briskly. When the berries crack open remove from the fire, run through a colander, and then mold in a square or oblong dish. By following this method the color and flavor

of berry will not be impaired by cooking. Serve on small individual plates in any dainty shape. Beside it put a sweet pickled peach, or any pickle to be served.

Some kind of salad is considered necessary, and the tender lettuce or fruit salad is more appropriate with a heavy meat dinner. Watercress or shredded lettuce over which are three or four rings of Spanish sweet pepper make an ideal dinner salad. This may be dressed with vinegar, olive oil, pepper and salt at the table.

If the family does not care for the salad course, the old time cold slaw can be served, and by adding a few hard-boiled eggs, and enough dry mustard to make it a little brisk, a very palatable salad is formed. Of course, mashed potatoes and as many vegetables as can be had are served.

Although much has been said against pie, pie there is at most Thanksgiving feasts, and it must be pumpkin. Of course, there can be mince-pie if preferred. Cheese cut into neat cubes must accompany the pie.

Many hostesses feel that their dinner is not complete without ice cream. In this case let it be the home-made custard, as this is far more wholesome and appetizing. Coffee is usually served with the dessert. Nuts, raisins and fruit ends the feast. But later in the evening it is much appreciated if Thanksgiving punch is served. Little cakes should accompany this.

Custard Cream.—To every quart of milk add one cupful of sugar, three eggs, and a level tablespoonful of flour. A pinch of salt is liked by some. Mix the flour in the sugar, whip the eggs and when the milk is hot add these ingredients slowly, stirring until it becomes creamy. When ready to freeze add three drops of lemon extract, and one tablespoonful of vanilla to every quart. Where a rich cream is wanted, add the whip from a quart of double cream just before freezing. When the custard is made the day before freezing and thoroughly chilled it will be found to freeze more quickly.

Thanksgiving Punch.—To two quarts of unfermented grape juice add the juice of three lemons, one pint of sugar, one pint of ginger ale and any leftover fruit juice. Fill a large bowl one-fourth full of shaved ice, pour in the punch, and cover with apple whip on top of which arrange a design with scarlet and green candies.

MEXICAN SALAD.

Peel and slice three cucumbers. Place them in a saucepan with one cupful of cold water, bring to boiling point, and cook until soft. Then add three heaping tablespoons of powdered gelatine, dissolved in one cupful of boiling water, add four drops of onion juice, a tablespoonful of red pepper and a little salt. Color with green mayonnaise and strain through a double thickness of cheesecloth. Turn into a ring mold, first dipped in cold water, chill thoroughly, remove from the mold, fill center with red mayonnaise. Garnish with tomato slices and crisp lettuce leaves.



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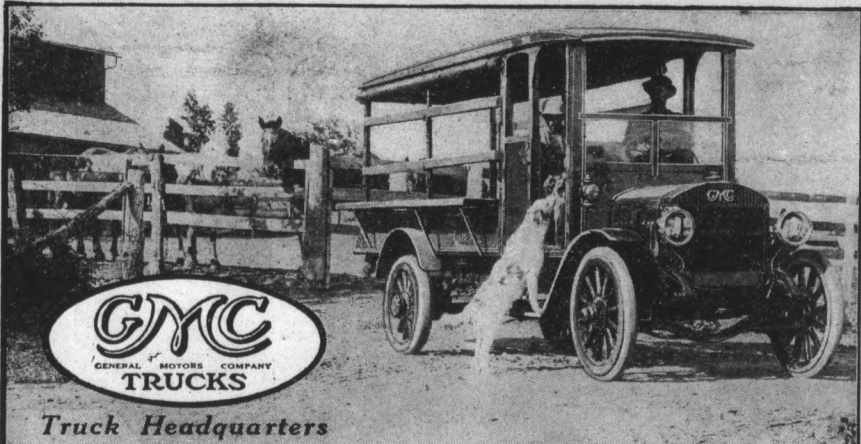
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Farm Commerce.

Getting Around a Glutted Market

How Two Communities Solved the Peach Marketing Problem This Year.

MENTION the word peaches to the consumer this year and it brings to mind the joys of frequent indulgence in peaches and cream and a fruit cellar full of canned peaches and peach jam. But to the producer it recalls the disappointment of a lot of unprofitable labor. The trouble was the peach market had an acute attack of the slump, which was brought about by what is called over-production. This in turn brought the blues to growers who simply could not find a market for their product, and to others who did, but wished they had not, for in many cases they were out the cost of harvesting.

While the chief cause of glutted market conditions is usually heavy production, improper distribution very often greatly aggravates these conditions. The peach growers at Casnovia and Traverse City realized this, and by giving attention to the distribution of their crops were able, to a great extent, to lighten the effect of the poor market conditions on themselves.

At Casnovia the growers found both of the usual markets for their crop practically valueless. The city market at Grand Rapids to which many took their peaches showed indications of being more than flooded, and the buyers who annually took a large share of the crop showed no indications of being present.

A Temporary Shipping Association. Therefore, just before the peach season opened, a meeting of the fruit growers was called and a temporary organization formed. It was a quick action affair, the meeting being held on a Wednesday and the first car of peaches shipped on the following Friday. There wasn't much plan to the organization except that the members were to bring the peaches down to the packing house in bushel baskets ready for the covers. There the baskets were covered and loaded in car lots by a man who did the work at the agreed price of two and a half cents per bushel. The selling of the fruit was put in the hands of a responsible car lot commission man in Grand Rapids. This was the most advisable way for the association to sell, as the commission man had a knowledge of the best markets, and the association had the advantage of this ready marketing knowledge, as the cost of the regular commission percentage for what he sold.

Good Prices Received.

The result was that the Casnovia peach growers who joined the association disposed of all of their peaches, which consisted of about 250 carloads, at the minimum price of 75 cents per bushel for Elbertas and 50 cents for other varieties. While these prices did not leave much profit for the year's work, they brought considerably more than the harvesting and marketing expenses. Others who did not join the association had great difficulty in finding markets and often suffered losses. In many cases the non-members gave up in despair and did not harvest all of their crop.

At Traverse City the manager of the permanently formed Fruit Growers' Association realized that it would be useless to endeavor to market their peaches in the usual way, accordingly he managed to create enough local and nearby demand to take the peaches the association handled. The result was that peaches brought the producer higher prices at Traverse City than at any place in the country.

The method used to create this demand was advertising. Liners were run in the local newspapers, which gave the information that this was a big peach year, that peaches were cheap and on account of the low price it would be advisable to put up peaches for several years. The prices were also kept marked on the bulletin board in front of the association office.

This publicity campaign brought in farmers who took with them as much as ten bushels, and city families who bought as much as four bushels. Nearby town grocers took some, and a captain of a small boat running to the small ports north of Traverse City took small quantities to sell at these ports. He reported that the people were wild over them. Even men who did not have much to do bought the peaches at slightly below the association's quoted price and peddled them at a fair profit about Traverse City. One man had a trailer attachment to his bicycle which had one bushel capacity. He would buy one bushel at a time, find a sale for it and then come back for another.

Top Notch Prices Maintained.

The price at which the association sold good peaches was never less than 60 cents per bushel, and part of the time they sold for \$1.00. As a net price, this was very good for this season.

The experience of these two communities indicates that the chief factor in the marketing problem is the matter of proper distribution of our fruit products. No matter how large a crop is, there are places which would pay a premium over the regular market price to get more. Even in the larger cities there is a great variation in prices. While peaches were a drug on the city market in Grand Rapids, they never got below a dollar a bushel for good ones in the Detroit city markets.

The experience of the Traverse City association substantiates the belief of many that there are many means of outlet for farm products that have not been developed and, as in this case, these undeveloped markets are often the closest at hand.

MICHIGAN GROWERS CO-OPERATE.

Forty of the leading celery growers of Kalamazoo met recently in that city and completed the organization of the Kalamazoo Celery Growers' Association, electing the following officers: President, Henry Kannegiter; secretary and treasurer, John Hybels. Better marketing methods, a study of diseases and the production of better celery are the main objects in view. It is too late now to do much with the 1915 crop but the association will be in good shape for next season. C. E. Bassett, of the federal bureau of markets, Washington, D. C., was in Kalamazoo to advise the growers and the business will be conducted along lines similar to the ones followed by successful co-operative organizations in the west and elsewhere.

The Saginaw Valley ginseng growers have formed an association with headquarters at Saginaw, to raise and sell ginseng seed, roots and plants, also other medicinal plants. Ginseng has been grown in Saginaw and Midland counties for several years and now the growers will co-operate in the business.

Saginaw county farmers have organized a Farmers' Elevator Company at Chesaning, with 350 stockholders

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Crop and Market Notes.

Michigan.

Arenac Co., Nov. 4.—Acreage of wheat small owing to wet weather; some rye being sown. Not much good corn in this section and the yield is light. Potatoes a poor crop, having rotted badly. Cattle are away down in value, and those who can do so are holding their young stock over. There is plenty of feed. Wheat 94c; beans \$2.85; hay \$10@12; potatoes 65c; apples 75c@81; milk \$1.30 per cwt; butter-fat 27c; eggs 23c.

Branch Co., Nov. 3.—Corn is a fair crop; husking just begun, but corn is green and not fit to crib. Fall grains look good but the growth is small. A large acreage of wheat sown. Potatoes are poor. Beans average 10 to 12 bushels per acre and being rapidly marketed, buyers now paying \$2.65 for hand-picked beans. All kinds of stock looking well and pastures are fine, but not a large amount of feeding stock on hand. Wheat \$1.05; buckwheat \$1.65 per cwt; corn 70c; oats 31c; butter 25c; eggs 30c.

Emmet Co., Oct. 27.—Weather favorable for harvesting fall crops. Owing to blight and to the early freeze, the bean crop is almost a failure. Potatoes about half the usual yield, 100 bushels per acre being about the best reported. The usual amount of fall grain sown and is looking good. Because of the scarcity of feed, a great deal of stock is being disposed of, with prices ruling low. The fall pig crop is the largest for years. Wheat 90@95c; potatoes 50c.

Hillsdale Co., Nov. 4.—More wheat sown than usual. Potatoes are a poor crop and bringing 60@75c per bushel. Corn of rather poor quality, a great deal of it being soft. Plenty of feed on hand for winter but generally hay and roughage is of poor quality. Few beans have been threshed as yet, but the crop is poor and the price unsettled. Apples more plentiful and of better quality than was expected. No. 1 varieties are being delivered to consumers at \$1 per bushel. Hay \$10@12; wheat \$1.06; rye 90c; oats 32c; new corn 30c per basket; buckwheat \$1.50 per cwt.

Monroe Co., Nov. 3.—Potatoes are all dug, and the crop is short and of poor quality. Corn is being husked and the yield will not be up to the average, there being a great deal of soft corn. There will not be many cattle fed, but there are quite a number of hogs. About the usual acreage of wheat and rye seeded. Alfalfa meadows looking fairly well. Apples about half a crop, and bring 75c@81 per bushel; potatoes 75c; cabbage 85c per bbl; dressed pork 11c; beef 11@12c; loose hay \$18; oats 40c; wheat \$1.13@1.14; shelled corn 95c@1; milk \$1.55 per cwt.

Pennsylvania.

Lancaster Co., Oct. 28.—Wheat averaged 20 bushels; oats 40 bushels. Much corn damaged by wind and hail. A pretty good yield of potatoes. More wheat sown than usual, but no rye raised. Less feeding stock on hand than other years. Yield of apples and pears rather good. Wheat selling at \$1.02; potatoes 65c; eggs 33c.

Ohio.

Columbiana Co., Nov. 3.—Weather is fine and farmers are busy husking corn, which is not a good crop. A good acreage of wheat sown and looking fine. Potatoes all dug and less than half a crop on account of blight and rot. More stock being fed than usual owing to the extra amount of hay made this fall. Biggest crop of apples for years. Hay \$15; wheat \$1; corn 80c; butter 28c; eggs 34c; apples 50c; shippers are paying 60c for potatoes, but most farmers are storing and will hold them for better prices.

Brown Co., Nov. 4.—Not as much wheat and rye sown as usual, but it is looking well. Corn will be less than an average crop. Late potatoes are almost a failure. There are a good many hogs being fed, also a good many fat cattle, and all live stock is looking well. Farmers are well supplied with rough feed. Pastures are good for the time of year, which will cause a saving of winter feeds. Beans \$4 per bushel; timothy hay \$15; corn 60c; potatoes 75c; apples 60c per bu.

Darke Co., Nov. 3.—About as much wheat and rye sown as usual. Corn

will average 45 bushels per acre. Lots of hogs being fed, though hog cholera is very bad here. Farmers have plenty of feed for their own use and some to spare. Potatoes 60c per bushel; apples 50c; eggs 28c; butter-fat 27c.

Miami Co., Nov. 4.—Corn is yielding well but is of poor quality. Wheat and rye looking fine and about the usual amount sown. Not much feeding stock on hand. Most farmers have plenty of rough feed on hand. A good many sales being held; good milk cows sell high. Wheat \$1.05; oats 35c; corn 75c; hay \$14; potatoes 45c; apples 50c; butter 23c; eggs 30c; hogs \$6@6.75; cattle \$6.50@7.

Warren Co., Oct. 27.—Wheat practically all sown. Wheat averaged 16 bushels and oats 40 bushels; cloverseed a failure. Potatoes nearly all dug and many report rotting in the ground. Apples about all picked, and of fair quality and more than enough for home use. Corn husking will soon begin and there is a great deal of poor moldy corn. Plenty of live stock on hand. Hogs are being marketed freely and cattle selling cheap at public sales. Corn 60c; No. 1 wheat \$1.10; inferior wheat 90c; oats 35c; potatoes 60c; apples 50c per bushel; hogs \$7; catt' \$35.50; milk cows \$50@60; butter-fat 27c; eggs 29c.

Indiana.

Elkhart Co., Nov. 3.—The usual amount of wheat and rye sown. Corn and potatoes fair crops, though there is quite a quantity of soft corn. Feed will be plentiful as there is not much feeding stock on hand. Apples plentiful. Wheat \$1; corn 45c; hay \$12; potatoes 50c; butter 30c; eggs 30c.

Jay Co., Nov. 3.—Acreage of wheat and rye above normal and looking fair, though in need of rain. Corn is the poorest crop in years. Potatoes a poor crop and rotting badly. Potatoes are being shipped in and sell from car at 70c. A fairly good supply of cattle on hand. Some farmers are selling their pigs owing to lack of feed. Farmers are busy baling hay. Some of last year's grain on hand and some going to market. Apples the greatest crop ever known. Some growers with fancy stock are shipping, but market is weak, for local use apples bringing 50c per bushel. Wheat \$1.05; corn 85c; oats 30c; rye 70c; alsike and cloverseed \$8.50@10; timothy \$3.10; hay \$5@10; bran \$1.10 per cwt; hogs \$7@7.50; cattle \$3@8; chickens 9@10c; eggs 26c; butter 20c; cream 27c; wool 32c.

Daviess Co., Oct. 26.—A big acreage of wheat and rye sown, most of the wheat is up and looks well, though some damage by fly reported. Wheat yielded 20 to 40 bushels; oats good but damaged by wet weather. Clover seed crop fair. Potatoes are good; corn will be about an average crop and husking has begun. Not as much live stock as usual. Some hog cholera. Apples plentiful and cheap. Wheat \$1; potatoes 40c; apples 25c per bu; cattle \$5@7; hogs \$5@8; corn 40c.

North Dakota.

Foster Co., Oct. 28.—Threshing is nearly finished. Wheat averaged about 22 bushels; oats 40 bushels. Potatoes are good but small, yielding 125 to 150 bushels per acre. There are a lot of young cattle being fed. Hogs mostly marketed owing to high prices. Not much fall plowing done.

Kansas.

Cloud Co., Oct. 28.—Wheat threshing and seeding are the order of the day. Seeding about half done. Wheat yielding about 20 bushels and much of poor quality. Oats a failure. Alfalfa made a large yield but the hay is of poor quality. Alfalfa seed crop a failure. Potatoes a fine crop. The small quantity of beans grown yielded well. Corn a big crop but much of it did not come to maturity. An unusually large number of cattle will be fed on account of the great amount of unmarketable hay and corn. Apples plentiful. No. 2 wheat 90c; corn 60c; oats 50c; hogs \$7; cattle \$6.50@10; hay \$4@6 per ton.

Marion Co., Oct. 26.—Corn is more than an average crop, though late corn and kaffir hurt by frost. Wheat yielded about 12 bushels; oats 20 bushels per acre. Seeding done, but acreage smaller than usual. Feed is plentiful and cheap and there is a shortage of feeding stock. Farmers are well stocked up with hogs; some cholera. Potatoes a failure. Apples a fair crop, not keeping well; pears for home use only. Wheat 90c; new corn 40c; oats 32c; potatoes 75c@81; apples 60@75c per bushel; hogs \$7; cattle \$4@8.

Trego Co., Oct. 25.—A large acreage of wheat being sown and weather conditions favorable. Threshing is only half done, due to wet weather and scarcity of help. Wheat is yielding about 12 bushels per acre. Corn an extra good crop. Live stock is doing well and plenty of feed. Wheat 90c; corn 50c; potatoes 90c; apples 75c@81; eggs 20c; butter-fat 22c; butter 25c per pound.

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Markets.

GRAINS AND SEEDS.

November 9, 1915.

Wheat.—Although wheat values reached higher levels the past week, on Monday there was a reaction caused largely by the accumulation of supplies. The approach of winter induced farmers in northwestern districts to market liberally and the United States visible supply as a result increased nearly seven million bushels. While Europe needs heavy supplies and must come to this country for the biggest share, failure to see the grain going out enabled the bears to reduce quotations on Monday. A general belief exists that farmers will profit by holding the grain until later when the influence of heavy receipts where marketing is necessary at this season, has lost its force. One year ago No. 2 red wheat sold locally at \$1.13 1/2 per bushel. Quotations are as follows:

	Red.	White.	Dec.
	No. 2	No. 1	
Wednesday	1.13	1.10	1.15
Thursday	1.14	1.11	1.16
Friday	1.14	1.11	1.16
Saturday	1.13 1/2	1.10 1/2	1.15 1/2
Monday	1.12 1/2	1.09 1/2	1.14 1/2
Tuesday	1.11 1/2	1.08 1/2	1.13 1/2

Chicago.—December wheat \$1.02; May \$1.03 1/4 per bushel.

Corn.—Values have been maintained during the week. It was expected that the government crop report would favor a lower basis of values, but the bears were disappointed in this. Besides, general reports indicate that much greater damage has resulted from the immature condition of the crop at the time of harvest than was earlier expected. This appears to be the condition throughout the corn belt. The United States visible supply increased only 57,000 bushels. One year ago No. 3 corn sold locally at 77c per bushel. Quotations are as follows:

	No. 3	No. 3
	Mixed.	Yellow.
Wednesday	67	68
Thursday	67	68
Friday	67	68
Saturday	67 1/2	68 1/2
Monday	67	68
Tuesday	67	68

Chicago.—December corn 59.1c; May 61.7c.

Oats.—Trading in this market is small just now and prices are holding steady. The market is influenced largely by the changes in corn and wheat. The United States visible supply increased a little over a million bushels. A year ago standard oats were quoted at 50 1/2c. Local prices are:

	Standard.	No. 3
		White.
Wednesday	41	39
Thursday	41	39
Friday	41	39
Saturday	41	39
Monday	40 1/2	38 1/2
Tuesday	40	38

Chicago.—December oats 38.1c; May 39.2c.

Rye.—Market quiet and steady with cash No. 2 quoted at \$1.01 per bushel.

Barley.—Malting grades are higher at Milwaukee at 57@64c per bushel, and at Chicago 55@65c is being paid.

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

Beans.—Offerings small, demand good. The opinion prevails that a few farmers are selling their beans at too low a figure considering supply and demand. Cash beans are quoted at Detroit at \$3.30, November \$3.20 per bushel. At Chicago stocks are small but buyers are holding back expecting to create a bearish feeling; they are nervous over the situation, however. Pea beans, hand-picked, new, are quoted at \$3.60@3.70 per bushel for choice. Prime \$3.40@3.50; red kidneys \$4.50@4.75 per bushel. At Greenville the farmers are offered \$2.90 per bushel.

Clover Seed.—Receipts have increased; cash, December and March are quoted at \$11.90; prime alsike at \$10.20. At Toledo prime cash \$12; March \$11.90; prime alsike \$10.50.

Timothy Seed.—Five cents higher at \$3.65 for prime spot.

DAIRY AND POULTRY PRODUCTS.

Butter.—Creamery butter is in demand and 1c higher. Ordinary stock quoted easy. Extra creamery 29c; firsts 28c; dairy 21c; packing stock 19c per pound.

Elgin.—The supply is light and buyers are operating conservatively at the advance in price. Storage stock is being drawn on to fill demand. The price, based on sales, is 29c.

Chicago.—Very small receipts have brought an advance in price. Market is firm and the demand for fancy butter is good. Extra creamery 29c; ex-

tra firsts 28@28 1/2c; firsts 25@27c; extra dairies 27c; packing 19 1/2@20 1/2c.

Eggs.—Active demand and light supply brought a 3c increase in price. Current receipts are quoted at 30c; candled firsts 31c.

Chicago.—The demand for fresh lots is good but refrigerator stock is easy. Offerings of good stock light. Firsts 29@30c; ordinary firsts 27@27 1/2c; miscellaneous lots, cases included 20@28c; refrigerator Aprils 22c bid, 22 1/2c asked.

Poultry.—Market is quiet. Demand for turkeys is growing. Prices for fowls and springs lower. Turkeys 14@15c; spring turkeys 19@20c; fowls 9@13 1/2c, according to quality; spring chickens 12@12 1/2c; ducks 14@15c; geese 13@13 1/2c.

Chicago.—Notwithstanding heavy receipts the market held well. The demand in which speculators were active, was good. Little change in the prices. Turkeys 10@14c; spring turkeys 20c; fowls 10 1/2@12 1/2c; springs 13c; ducks 12@13 1/2c; geese 10@13 1/2c per lb.

FRUITS AND VEGETABLES.

Apples.—Are easy and in good supply. Prices unchanged. Fancy are \$3@3.50 a bbl.; common \$1.25@1.50. At Chicago market is well supplied. Some cull western box pack is hurting market. Michigan pack brings above country pack prices. No. 1 Greenings \$2.50@3; Jonathans No. 1, \$3@3.25; Baldwins \$2.50@3; Wageners \$2@2.50; Spies \$1.75@3.

Potatoes.—Demand is good. Nearly all business is in Minnesota stock. Minnoscots quoted at 65@70c; Michigan 60@65c per bu. At Chicago the market is firm and prices are slightly higher. Michigans are quoted at 43@50c, quality poor. Other prices range from 40@55c. At Greenville 50@55c per bushel is offered. The movement is good.

GRAND RAPIDS.

The potato market does not show great improvement as yet, with the price at Greenville and other points around 40c. Beans have been showing weakness, with local quotations down to \$2.75 for white pea and \$3.10 for red kidneys. Dealers report that prospects indicate a lighter supply of turkeys than usual for Thanksgiving and the opening prices are a cent above last season. Fresh eggs are quoted up to 32c to producers. Dairy butter is worth 23@24c. The mills are offering the following prices: No. 2 red wheat \$1.07; oats 38c; buckwheat 70@80c; corn 7 1/2c; rye 90c.

DETROIT EASTERN MARKET.

Apples generally sold between 50c @ \$1 Tuesday morning. Potatoes 90c; cabbage 30@40c; onions 85c; turnips 50c; carrots 50c; celery 35c a bunch; eggs 42@45c; young ducks 50c each; chickens, 3 lbs., \$1.20 per pair; loose hay is moving slowly with quotations at \$18@22 per ton.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$5.90; seconds \$5.70; straight \$5.40; spring patent \$6.70; rye flour \$5.80.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$28; standard middlings \$25; fine middlings \$30; coarse corn meal \$29; corn and oat chop \$28 per ton.

Hay.—No. 1 timothy \$18@19 a ton; standard timothy \$17@18; light mixed \$17@18; No. 2 timothy \$15@16; No. 2 mixed \$10@12; No. 1 clover \$10@12.

Straw.—Wheat and oat straw \$6.50@7; rye straw \$8@8.50 per ton.

LIVE STOCK MARKETS.

Buffalo.

November 8, 1915.

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

Receipts of stock here today: Cattle 285 cars; hogs 130 d. d.; sheep and lambs 50 d. d.; calves 1,000 head.

With 285 cars of cattle on the market here today and heavy runs in the west, the trade was bad on everything but light butchering stuff which sold steady. The good extra feeders sold steady, and common ones lower. Good quality light stockers sold well. Butcher cows and heifers sold at steady prices, but the heavy cattle were from 25@50c lower. Unless these heavy runs let up, we do not look for any change.

We had more hogs than were generally expected today, about 130 doubledecks on sale. Pigs sold a quarter higher and other grades 10@15c higher, but not any too much life to the trade, and the close was rather dull,

especially on the kinds weighing from 140 to 160 lbs., average. This class sold at \$7.25; mixed and medium, and heavy from \$7.30@7.50, very few at latter price; pigs and lights 7c per lb; roughs \$6@6.50; stags \$5@5.75.

Lamb market was active today, prices steady with the close of last week. All sold and we look for shade lower prices balance of the week.

We quote: Lambs \$9.25@9.50; cull to fair \$7@9; yearlings \$6.75@7.50; bucks \$4@5.25; handy ewes \$5.75@6; heavy do \$5.50@5.75; wethers \$6.25@6.50; cull sheep \$3.50@5; veals, good to choice \$11.25@11.50; common to fair \$8.50@11; heavy calves \$6@9.

Chicago.

November 8, 1915.

Cattle. Hogs. Sheep.
Receipts today..22,000 30,000 18,000
Same day last year no receipts or shipments; stock yards quarantined.
Last week....54,425 128,943 86,334
Same week last year, no shipments as yards were quarantined.

Cattle were in too large supply today, and the week opened with a slow trade in the rank and file of the offerings, with prospects of a decline of about 15c, aside from fat steers and desirable butcher stuff. Hogs were steady to lower at \$6.25@7.45. Sheep and lambs were stronger, with prime lambs selling at \$9.10.

Shipments from here last week were only 3,657 cattle, 4,111 hogs and 1,541 sheep. Hogs received averaged but 192 lbs.

Cattle were marketed liberally last week, with a large percentage of inferior to medium grades. The small proportion of good to choice handy weights and heavier steers sold 15@25c higher on Monday, cows and heifers participating in the advance, while later in the week the general market developed slowness and weakness for the rank and file of the offerings. The bulk of the steers sold at \$7.50@9.75, with strictly choice to fancy beefs taken at \$9.80@10.35, top for weighty steers being \$10.20. Fat yearling steers and heifers were the highest sellers, with yearling steers selling all the way down to \$7.35@8.25 for ordinary to medium grades. Little grass steers went at \$4.25@5.50, while better grass-feds sold at \$5.60 and upward, with common to medium warmed-up lots at \$6.40@7.45, medium handy short-feds at \$7.50@8.45, pretty good to choice corn-feds at \$8.50@9.45 and choice weighty steers at \$9.50 and upward. Butchering cows and heifers had an outlet at \$4.65@9.50, all the high-priced lots consisting of prime to fancy yearling heifers, while top cows brought \$7@7.25. Cutters brought \$4.10@4.60, canners \$2.50@4 and bulls \$4.15@7.50. Calves were in the usual active demand, especially light weight vealers, these bringing \$10.25@11, while the heavier calves brought \$4.25@9, according to quality. Prospects are good for better prices for a middling class of native fed cattle after the close of the season for marketing range cattle.

Hogs advanced on Monday of last week. On subsequent days the local packers put prices lower, making no secret of their intention to put the winter market on a much lower basis. Recent receipts averaged only 204 lbs., comparing with 227 lbs. a month earlier, 244 lbs. two months earlier and 225 lbs. a year ago. Fresh pork continues in large demand, while the liberal sales of cured hog meats for domestic and foreign consumption have made big inroads in accumulated stocks in western warehouses. With greatly increased receipts of hogs for the week, prices closed at \$6.25@6.80 for heavy packers, \$7.25@7.55 for butchers, \$6.85@7.50 for heavy shippers and \$4.25@6.50 for pigs. Top hogs were a dime lower than a week earlier and top pigs 50c lower.

Sheep and lambs were marketed more freely last week than a week earlier, and declines took place in lambs, with sheep and yearlings showing less weakness in values. Winter prospects appear good for high prices for well fattened sheep and lambs, but too much weight should be avoided in finishing holdings. At the week's close many sheep and yearlings were 25c lower than a week earlier and others 40c lower, while lambs were steady to 25c higher, half-fat lots excepted. Lambs sold at \$6.50@9.10, heavy lots fetching \$7.50@8.85. Yearlings sold at \$5.65@7.25, wethers at \$5.60@6.35, ewes at \$3@5.65, and bucks at \$4@4.75.

Horses were in unusually large supply last week, and prices declined. Lack of vessel room checked demand for army horses, with late sales largely at \$130@135 for mounts and \$155 for gunners. Heavy horses brought \$200@240, while inferior light horses sold down to \$35@50, with the good horses of light weight at \$90@110. Drivers were worth \$100@200.

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LIVE STOCK NEWS.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.
November 4, 1915.
Cattle.

Receipts 2753. The largest run of the season was the market feature this week. Live stock swarmed here from all points of Michigan and was being loaded all day Wednesday and far into the night. It looked as though every shipper wanted to reach here at once. In the cattle division the trade was dull. Cannery and bulls, good grades, brought last week's prices; stockers and feeders were 25@35c, and other grades 10@15c lower than last week. There was a large number of buyers from the country after stockers and they found all they wanted, as bulk of the receipts were of this class, good grades being very scarce. The close was dull at the decline as follows: Best heavy steers \$7.50@8; best handy weight butcher steers \$6.75@7; mixed steers and heifers \$5.50@6.50; handy light butchers \$5.50@6; light butchers \$5@5.50; best cows \$5@5.75; butcher cows \$4.25@4.75; common cows \$3.75@4.25; canners \$2.50@3.50; best heavy bulls \$5.50@6; bologna bulls \$4.50@5.25; stock bulls \$4@4.50; feeders \$6@7; stockers \$5@6; milkers and springers \$40@85.

Bishop, B. & H. sold Golden 16 butchers av 667 at \$4.25, 3 do av 671 at \$4.50, 1 cow wgh 930 at \$4.50; to Bresnahan 26 cows av 882 at \$4, 1 do wgh 1040 at \$4.50, 1 canner wgh 700 at \$3.50, 4 do av 817 at \$3.50, 3 do av 773 at \$3.50; to Bresnahan 23 butchers av 583 at \$4.60; to Hammond, S. & Co. 26 steers av 1083 at \$8.25, 1 do wgh 1130 at \$7.75, 12 butchers av 746 at \$5.25; to Moon 24 feeders av 934 at \$6.65; to Parker, W. & Co. 1 cow wgh 1000 at \$5; to Denton 14 cows av 1100 at \$5, 7 steers av 786 at \$6.25, 4 cows av 1142 at \$5; to Bordloff 32 butchers av 774 at \$5.25, 7 cows av 1018 at \$4.75; to Sullivan P. Co. 13 butchers av 706 at \$5.60, 10 do av 938 at \$5.60, 2 bulls av 860 at \$5, 18 steers av 963 at \$6.10, 13 do av 985 at \$6.60, 2 bull and cow av 1160 at \$5.25, 3 steers av 1143 at \$7, 6 do av 961 at \$6; to Hammond, S. & Co. 16 do av 1117 at \$7.85, 26 do av 961 at \$6.25; to Goose 11 butchers av 803 at \$4.50; to Michigan B. Co. 19 do av 674 at \$4.85; to Zerner Bros. 17 steers av 1017 at \$7.25, 5 do av 1080 at \$7.25; to Mason B. Co. 3 do av 943 at \$6; to Hammond, S. & Co. 6 cows av 1020 at \$4.25; to Parker, W. & Co. 11 steers av 1032 at \$6.60, 3 cows av 1087 at \$4.75, 4 canners av 1017 at \$3.60; to Williams 28 stockers av 600 at \$5.25; to Reardon 11 feeders av 800 at \$6.25; to Williams 8 stockers av 565 at \$5.25.

Veal Calves.

Receipts 782. The veal calf trade opened up steady on Wednesday with last week, but on Thursday prices were fully 50c lower and the trade extremely dull. Top grades selling at \$10; others \$5@9.50.

Haley & M. sold Mich. B. Co. 26 av 165 at \$10.50, 2 av 130 at \$9, 2 av 160 at \$10.

Reason & S. sold Thompson Bros. 2 av 205 at \$11; to Nagle P. Co. 10 av 147 at \$10, 14 av 130 at \$9, 2 av 140 at \$10, 14 av 120 at \$8.50, 4 av 150 at \$10.

Sheep and Lambs.

Receipts 13,780. The sheep and lamb trade opened Wednesday with lambs selling 10@15c lower and sheep steady. On Thursday they took a jump of 15@20c; top lambs brought \$8.65@8.70 and the trade was active at the advance. Best lambs \$8.65@8.70; fair lambs \$8@8.50; light to common lambs \$6@7.50; fair to good sheep \$4.50@5.50; culls and common \$3@4.

Sandel, S., B. & G. sold Hammond, S. & Co. 84 lambs av 85 at \$8.25; to Nagle P. Co. 74 do av 65 at \$8.40, 107 do av 70 at \$8.25, 80 do av 65 at \$8.25, 59 do av 80 at \$8.35, 18 sheep av 110 at \$5.25, 51 lambs av 55 at \$7, 123 do av 75 at \$7.35, 68 do av 85 at \$8, 33 do av 75 at \$7.75, 14 sheep av 105 at \$3.75, 20 do av 135 at \$5, 100 lambs av 73 at \$8.35, 22 sheep av 115 at \$5, 68 lambs av 65 at \$8.25, 41 do av 70 at \$8, 79 do av 75 at \$8.35, 61 do av 85 at \$8.25, 180 do av 75 at \$8.50.

Reason & S. sold Parker, W. & Co. 89 lambs av 65 at \$8.50, 20 do av 50 at \$6.75, 7 sheep av 95 at \$4; to Nagle P. Co. 70 lambs av 88 at \$8.50, 27 do av 110 at \$8.50; to Thompson Bros. 127 do av 75 at \$8.30.

Hogs.

Receipts 8032. In the hog department the market was very dull, nothing being sold until late in the afternoon. Prices ranged as follows: Good handy weights \$7@7.25; light mixed \$7@7.10; pigs \$6.50.

The ranges have marketed most of their available supplies of lambs, yearlings and sheep for the present season, and late shipments have run very largely to feeders, which are in strong demand everywhere. Notwithstanding the unusually high prices at which feeding lambs are selling, they are eagerly purchased, and numbers shipped into states east of the Missouri river have exceeded most early expectations. Omaha has enjoyed by far the greatest trade in range feeding lambs and sheep ever known, the Missouri river markets having got most of the feeder trade that would have remained in Chicago but for the stock yards quarantine, and not only has Chicago lost its feeder trade, but within a short time it has lost its outside demand for mutton grades, while its meager offerings of fat lambs on some days resulted in shipping in lambs bought on the Detroit market. Feeders have been selling at record prices everywhere, while fat lambs and wethers have sold on the Chicago market around \$1 per 100 lbs. higher than a year ago. Dressed mutton has been sold in Chicago as fast as it could be dressed, and feeders wherever offered never went a begging for customers, for every stockman is aware that the sheep and lambs marketed this year show an enormous falling off from such marketings last year. For several weeks Montana sheepmen have been shipping large bunches of feeding lambs and sheep to Illinois, Iowa, Indiana and Wisconsin, and the farmers of North Dakota and South Dakota have been large buyers of desirable stock and breeding ewes from Montana range flockmasters, paying from \$6@6.50 per 100 lbs. for the latter. Only a short time ago a sale was chronicled of a bunch of 1400 head of high-grade Hampshire lambs costing \$6.65 per 100 lbs. to an Indiana feeder. Arrangements have been made recently for fattening fairly large numbers of lambs and sheep on screenings in the St. Paul and New Brighton, Minn., feed yards, while large numbers of feeding range lambs have been purchased in the Omaha market recently at \$8.50@8.65 for lots averaging from 60 to 68 pounds. In Wisconsin and Illinois feeding stations good feeding lambs from the ranges have been finding ready sales at \$8.15@8.25 per 100 lbs. The North and South Dakota farmers have discovered that incessant wheat growing year after year, has resulted in burning out the soil, and in order to restore fertility, they have been large buyers of feeding lambs and sheep, the sheep droppings being invaluable for this purpose. It is stated that some of these flocks will come to market right off the stubble fields, while others will be marketed later. With everything pointing unmistakably to higher prices for fat lambs and sheep during the near future, owners who persist in marketing partly fattened flocks are making a serious mistake.

Marketings of grass-fed cattle of late have been excessive, and the bad breaks in prices that resulted led to much curtailed supplies, checking the decline. The dying down of pasturage and frosty weather always herald the marketing of large numbers of summer pastured cattle, and this season this tendency is a good strengthened by the quarantine, fear of further spread of the dreaded hoof-and-mouth disease, and remembrance of bad markets at various times for a year past from this cause. In a recent week the six principal western markets received around 240,000 cattle, or 25,000 more than for the preceding week or a year ago, and it was impossible to avert bad breaks in prices for all except the very limited proportion of fat corn-fed heaves. Thin steers of light weight offered on the Chicago market caught the worst part of the decline in prices, as there was no stocker and feeder outlet, so that sellers were compelled to rely wholly on the local killers for a sale. Marketing well-bred cattle merely in good feeder condition at such a time is absurd, yet many such have gone to the shambles in recent weeks. During the recent low time little steers had to go as low as \$4.25@4.50 per 100 lbs., while there was a superabundance of \$6.75@7.75 cattle. Western range cattle usually fared better than grass natives of a corresponding class. The gathering season in the northwest is approaching its close, and the dregs of the run are about due.

The cattle ranges of the United States are nearing the close of the shipping season for 1915. Choice pasturage enabled ranchmen to sell at remunerative prices as a general rule. Some of the ranches are doing a big business, and the Matador ranch of Texas brands upward of 20,000 calves yearly.

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Poultry.

THE HEN AS A FACTOR IN FARM PROFITS.

(Continued from first page). game as all must play it tomorrow. It looks as though the distributing end of our industrial life has been and is heavily over capitalized. Less business units could do the work with greater economy. Owing to a naturally rich soil, expanding industrial life and American hustle this country has been able to carry the load, but both producer and consumer squirms under it as never before.

Under ordinary farm conditions the most of the poultry output comes at a time when these products are at rock bottom prices. The average price to the farmer, then, is not the average price for eggs by the year, since practically all of the farmer's output goes to the dealers at bottom prices. As the market doubles and trebles the dealer becomes the seller and if any exchange does take place with the farmer, he becomes a consumer and must buy for home consumption. Little wonder, then, under our prevailing methods the farmer does not find poultry profitable. If hens did not largely pick up their "bill of fare" from the wastes of the farm, poultry in the majority of cases would be sold as unprofitable.

As a farm factor this method for poultry must be changed. No one is more to blame for this system than the farmer himself, and he is the first fellow to reform. Profitable dairying requires the dairy cow to be a producer most of the year. Likewise, profitable farming requires the operator to be engaged in productive effort most of the time.

The hen is no exception to this rule and should she measure up to her possibilities she must be so handled that her periods of vacation are reasonably limited.

With hens bred and fed to lay they should become regular producers for at least ten months of the year. If eggs are marketed regularly the egg crop then is more distributed throughout the year if the average price becomes better. With the spring rush a low price can be largely avoided if a cold storage is available and carefully handled sterile eggs should command a better price as storage stock than will eggs common to the trade. Here, then, the hen as a farm factor scores another point if the operator plays the game.

In reviewing this phase of poultry culture it is interesting to note specific cases that show what is being actually done. Referring to a leaf of a farm diary where is recorded the performance of a flock of 900 birds for one year, we note the following interesting figures: Birds listed, 550 pullets, balance yearlings and roosters. The feed for this year figures up to \$526.13; all home-grown grains were figured at the wholesale price to the farmer in a nearby town, while bran, middlings, beef scraps, oyster shells and the like were priced to the hens at the regular retail rates.

The eggs for the year ran as follows: January 399; February 600; March 1,012; April 1,180; May 1,215; June 1,067; July 818; August 426; September 153; October 93; November 45 1/2; December 190. Total for the year 7,398 dozen. These eggs went to the trade in such a way that good prices only were received. A personal market and cold storage made this not only possible but decidedly easy. The young roosters and old hens sold go a long ways to reduce the feed bill noted above. These figures are so low that no good poultry keeper would care to claim them, and yet they give unmistakable evidence of profit to the owner. The hens were crowded into

a house that was intended for not more than 700 birds, a point any poultryman would give consideration. The writer believes that any flock of "bred to lay" pullets, carefully fed and housed, should easily produce from eight to ten dozen eggs during their first year. As a farm factor the hen's place is unassailable and with a good corps of caretakers for support she will long hold her place against all comers.

TREATMENT FOR ROUP.

Permanganate of potash is an excellent remedy for roup. The medicine is prepared by dissolving sufficient of the permanganate in lukewarm water to give it a deep wine color. Treatment is administered by holding the head of a sick bird under this water for half a minute, or until the birds shows signs of strangling. If the nostrils are clogged, they should be opened before treating, so the fluid will penetrate the nasal passages. In addition to this treatment a small quantity of the permanganate should be dissolved in the drinking water and both sick and well birds permitted to have access to no other water. Permanganate of potash is not only a powerful disinfectant, but it possesses tonic properties as well. It will not harm the birds. At the first indication of colds in the flock, permanganate in the drinking water will often ward off serious trouble.

In bad cases of roup, when the side of the head is badly swollen, the only sensible treatment is to use the hatchet and burn the body. Treating such advanced cases is usually a waste of time. Even if a bird recovers, it will ever be subject to recurrent attacks of the disease, and will be a constant menace to the rest of the flock. A hen that has recovered from an attack of roup should never be used in a breeding pen. **T. Z. RICHEY.**

DON'T LEAVE THE PULLETS OUT TOO LONG.

It is a mistake to let the pullets roost outside after the weather becomes cold and rough. We usually let them spend the nights in the open roosting sheds all through the month of October unless an unusually cold snap occurs. Just as long as the weather remains mild and the nights are not too bleak and raw, the birds are better off outside. It is a good plan, however, to have the houses ready and bring them in at the first severe freeze. Do not make the mistake of shutting them into stuffy quarters. The change would be sure to work havoc. If the birds once get thoroughly chilled they may not lay all winter. We have had a little experience in this line. The reproductive organs are sensitive to sudden cold and one cold night will do harm that months cannot repair. The same is true of old hens in a greater degree. If any are roosting outside it is a good plan to bring them in even earlier than the pullets. **C. H. CHESLEY.**

A HOME-MADE ROOF.

A good serviceable roof can be made for chicken houses, hog pens and barns, from burlap, coal tar and sand. Experience has shown that such a roof, if re-treated with coal tar and sand every two or three years, will last a lifetime. The boards on which the roofing is to be laid should be smooth and close. Nail two thicknesses of burlap to the boards. When the burlap is in place, apply a coating of thin floor paste. After the paste has dried, spread on a coat of coal tar and sprinkle with sand. Grind the sand into the fiber of the burlap with a heavy pair of shoes. When thoroughly dry, apply a second coating of tar and sand. **T. Z. RICHEY.**

Farmers' Clubs

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."

THE ANNUAL MEETING.

The program for the twenty-third annual meeting of the State Association of Farmers' Clubs which will meet in the senate chamber at Lansing on December 7-8, 1915, is now printed and in the hands of the secretaries of the various local Clubs of the state.

Every local Club should attend to the election or appointment of delegates to this convention at their November meeting, if this has not already been done. That the program itself is well worth the time and expense incident to attendance to any Club member interested in the work, will readily be seen by reading the program in detail, which follows:

Tuesday, December 7, 10:30 a. m.

Payment of dues.
Presenting credentials.
Appointment of committees.
Presentation of resolutions.
Paper, "Home Activities," Mrs. C. Johnson.

1:30 p. m.

Invocation.
Music by the School for the Blind.
Report of Associational Secretary Mrs. Jos. S. Brown, Howell.

Paper, "Is the well equipped farm dairy profitable?" Floyd Smith, Jerome, Mich.

Music by the School for the Blind.
"Farm Co-operation," J. C. Ketcham, Hastings, Grant Slocum, Detroit, J. N. McBride, Burton.

Tuesday Evening, 7:00 p. m.

Banquet, People's Church, M. A. C. President's address.
Educational program by the College Extension Department, Agricultural Building.

Wednesday, December 8, 8:00 a. m.

Conference of local club workers, directed by Theo. Townsend, Greenbush Farmers' Club. (Two-minute report from each club).

10:00 a. m.

Music by male quartet, Grass Lake Farmers' Club.

Reading, Mrs. Clay Gordon, Conway-Handy Farmers' Club.
Address, "Citizenship," Rev. W. Yantis, G. F. C.

Report of committees, temperance, honorary members, club extension, good of the order, credentials, national affairs, state affairs.
Miscellaneous business.

11:00 a. m.

Male quartet, Grass Lake Club.
Paper, "Home," Mrs. E. J. Woodin, Lincoln Farmers' Club.
Election of officers.

1:00 p. m.

Invocation.
Music, solo by H. G. Aldrich, Fowlerville.

"Home economics and extension work," Miss Raven, M. A. C.
Reading, Miss Pauline Kennedy, of Summit Farmers' Club, Jackson Co.

Song, Mae Elizabeth Harmon.
"Michigan's effort to prevent tuberculosis," Miss Carol Walton, Ann Arbor, Mich.

"Literary clubs and the woman of the farm home," Mrs. H. W. Bumbs, Flushing Farmers' Club.

Music, by male quartet, Grass Lake Farmers' Club.
Paper, "Michigan Birds," Mrs. Edith E. Munger, Hart, Mich.

Wednesday Evening, 7:00 p. m.

Music, College Band.
Treasurer's report.
"A fertile soil means a prosperous people," W. H. Keddy, Long Lake Club, Genesee county.

Solo, H. B. Longyear, Mason, Mich.
Address, Hon. Carl Vroman, Asst. Sec'y of Agriculture, Washington, D. C.

Music, Industrial School.
Address, "Industrial Problems," by Governor Woodbridge N. Ferris.

Thursday.

Visiting day at state institutions.
Resolutions should be written and delivered to the proper committees.

All topics are open for discussion.

Grange.

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

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings.
Overseer—C. H. Bramble, Tecumseh.

Lecturer—Dora H. Stockman, Lansing.

Secretary—Jennie Buell, Ann Arbor.
Treasurer—Frank Coward, Bronson.
Executive Committee—C. S. Bartlett, Pontiac; Geo. B. Horton, Fruit Ridge; J. W. Hutchins, Hanover; W. F. Taylor, Shelby.

A GRANGE FAIR.

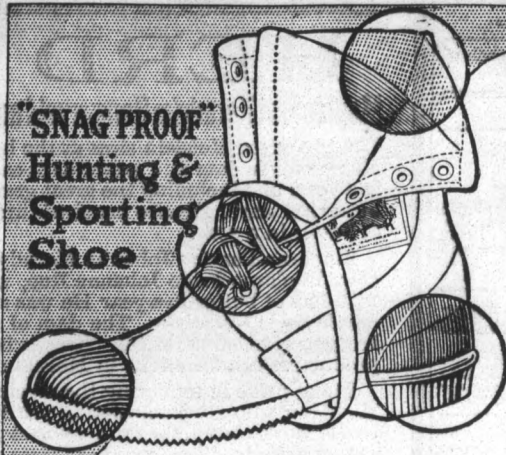
A very successful and profitable fair was held by Girard Grange No. 136, in its hall in Girard, Thursday and Friday evenings, October 28-29. The display of farm and garden produce, of canned and baked goods, and of fancy work, was really a surprise, as the exhibits brought in by the enthusiastic grangers and their friends made the hall resemble a county fair floral hall. The first evening a chicken-pie supper was served in the dining-room which was decorated with autumn leaves, red berries and chrysanthemums. The usual fortune teller was present, also "Charlie Craplin," "Mutt and Jeff," and other characters. One of the gentlemen represented an up-to-date lady of fashion, and a mock marriage created much fun. The baby show had nine contestants and a first, second and third prize was given. Friday night the hall was inadequate to hold the crowd that came to see "An Old Plantation Night," a black-face entertainment that proved a fitting climax to close the Girard Grange Fair.—Eva Mann, Sec.

AMONG THE LIVE GRANGES.

Charlotte Grange held its regular meeting October 20, and an interesting program was given, which opened with a piano solo by Miss Hazel Hampton, which was well received. There was singing by the Grange, and a roll call, in which the members responded with stories of their vacation or things seen while driving through the country. Frank Peck told of his auto trip through Ohio, Pennsylvania, and New York states this summer; County Clerk Ford and Mrs. McCreery told of their experiences in the west; and Mrs. Klais and John Hurlbut told of their experiences in Ohio during and after the floods. A recitation by Mrs. Edith Whitney was given a cordial reception. Mrs. Bernice Curtis told of her recent trip to Washington in a most interesting manner, and the members hope to hear more of this trip in the future. Mrs. Curtis brought along scenes and views from the National Capitol, and spoke feelingly and entertainingly of the G. A. R. parade, which she witnessed while there. "How to select seed potatoes," was handled by Ira Bolock, who made the most of his subject, and the whole program ended with a contest from which the ladies were barred.

Eaton Pomona.—Notwithstanding the fact that the farmers were up to their eyes in work the Pomona meeting held at Needmore October 16 was well attended and a most enjoyable and instructive affair. The topic of community betterment was handled by Mrs. Bernice Curtiss and Miss Clara Mae Solt in a splendid manner and was conducive of serious thought by the members who were fortunate enough to hear these excellent papers. An original poem, by Mrs. Gates of Needmore Grange, which dwelt largely on Master W. L. Huber's abnormal appetite for pie and other table delicacies brought down the house. N. P. Hull gave the principal address and there was music and other features of the program which went to make the day a most enjoyable one. It is hardly necessary to state that the dinner was all that Grange dinners are reputed to be, and we have the word of W. L. Huber that it was which is enough said.

"SNAG PROOF" Hunting & Sporting Shoe



They Wear

It makes no difference how much you pay for rubber boots and shoes, for sturdiness, strength and comfort you simply can't equal "Snag-Proof" or "Lamco"—two brands of the famous

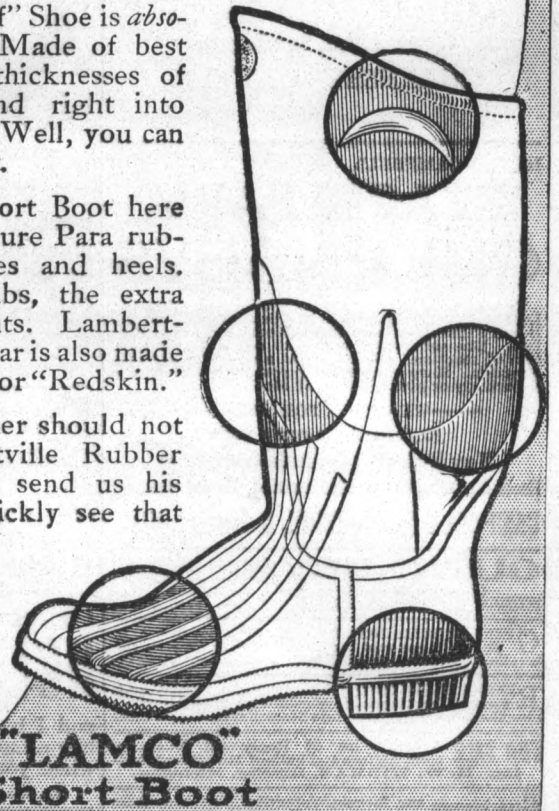
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This "Snag-Proof" Shoe is absolutely waterproof. Made of best duck with seven thicknesses of pure rubber ground right into the duck. Wear? Well, you can hardly wear 'em out.

The "Lamco" Short Boot here shown is made of pure Para rubber, with red soles and heels. Note the heavy ribs, the extra strong reinforcements. Lambertville Rubber Footwear is also made in red rubber. Ask for "Redskin."

If your local dealer should not have any Lambertville Rubber Footwear in stock, send us his name and we'll quickly see that you are supplied at regular prices.

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Free Try-On of the Aluminum Soled Shoes with Solid Rubber or Leather Heels and Rocker Bars

Think of aluminum protection and lightness with the easy walking comfort of rubber or leather! No other metal soled shoe has these features.

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Keep your feet warm and dry anywhere. Positively the most comfortable shoe you ever wore. No metal can touch you. Made in every height from 6 to 16 inches. Every size from 1 to 13. Boys' shoes as well as men's. Prices surprisingly low. Get our try-on, money-back proposition. Money cheerfully refunded if you are not entirely satisfied. Write today for illustrated free book, "Aluminum the Sole of Health." Address Racine Aluminum Shoe Co., 5812th Street Racine, Wis.

THE HOOSIERSM EXTENSION-ROOF

Roof Your Silo The Modern Way. The Hoosier roof is the kind of silo cover you have been waiting for. Don't roof your silo with any other roof until you have investigated the Hoosier. Between 5 and 10% of all the Hoosiers sold go to men that have stationary roofs on their silos and are replacing them with Hoosiers. Write TODAY for catalog and get the price of a Hoosier Roof to fit your silo. Sheet Metal Specialty Co., 411 N. Y. St., Goshen, Indiana.

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BACKS THIS SAW. IT IS THE BEST AND CHEAPEST SAW MADE. As low as \$7.90. HERTZLER & ZOOK Portable Wood SAW. Is easy to operate. Only \$10 saw made to which ripping table can be added. Guaranteed 1 year. Money refunded if not satisfactory. Send for catalog. Hertzler & Zook Co., Box 23 Belleville, Pa.

1 1/2 In. HARNESS \$30

Complete less collars. Every part made of No. 1 leather. 21 ft. lines, 3/4 bridles, 1 1/4 breast straps. Not a cheap factory job, but a first-class custom made harness. Money refunded if not exactly as advertised. Try one and be convinced.

TRENTON HARNESS CO., Box 123, Trenton, Mich.

LOESER BROS.

We have 100 head of Belgian and Percheron Stallions and mares. Imported and home bred. We have sold pure bred horses in Michigan for the last 25 years, and have the right kind, and at the right price. We can supply any number of work horses, both geldings and mares. Get in touch with us.

LIGONIER, INDIANA.

FOR SALE—Registered Percheron Stallion Mares and Fillies at reasonable prices. Inspection invited. F. L. KING & SON, Charlotte, Mich.

Registered Percherons. Brood mares, Fillies and Young Stallions. Priced to sell. Inspection invited. L. C. HUNT & CO., Eaton Rapids, Michigan.

BELGIAN STALLIONS FOR SALE. 8 year old, weight 2,000; 4 year old, will be 1,800; 2 year old, will be 1,800. H. E. HOBERT, Caro, Michigan. Bell Phone.

Percherons, Holsteins, Angus, Shropshires, Durocs. DORR D. BUELL, Elmira, Michigan.

BREEDERS' DIRECTORY.

Change of Copy or Cancellations must reach us Ten Days before date of publication.

CATTLE.

ABERDEEN ANGUS

If you are in need of an extra good bull or a few choice young cows or heifers, we have them for sale. Our herd is headed by the Grand Champion Black Monarch 3rd. We invite you to come to our Farm and see them. They are bred right and priced right. U. L. Clark, Hunters Creek, Mich. Sidney Smith, Mgr.

ABERDEEN-ANGUS

HERD ESTABLISHED IN 1900. TROJAN-ERICAS and BLACKBIRDS only. Also breeders of Percheron, Hackney and Saddle Horses. Young bulls and Percheron stallions for sale. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—One of the foremost dairy breeds. The most economical milk producers. Calves for sale. White Leghorns cockerels; Duroc Jersey swine. Michigan School for the Deaf, Flint, Michigan.

Ayrshires For Sale, 25 years of high grade breeding. Prices that will sell. H. M. GREY, Western Ave., Toledo, Ohio.

THE VILLAGE FARM, Grass Lake, Michigan, GUERNSEY CATTLE.

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BEACH FARM GUERNSEYS

The buyer of breeding stock should know that the herd from which he buys is healthy. We believe the Beach Farm Herd is as near perfect health as is possible. The tuberculin test does not show the least sign of reaction. We never had a case of contagious Abortion. Have won a whole year without calling a Veterinary or giving a dose of Medicine.

WE OFFER FOR SALE—Registered Guernsey Bulls Very High Bred Grade Guernsey Cows

Bred Heifers, Open Heifers and Heifer Calves. CAMPBELL & ANGEVINE, Coldwater, Mich.

GUERNSEYS—REGISTERED BULL CALVES

Containing blood of world champions. HICKS' GUERNSEY FARM, Saginaw, W. S., Mich.

GUERNSEY BULLS FOR SALE, ready for service from A. R. Dams. If you want the right kind write for price and breeding. BYERS & BARNES BROS., Coldwater, Michigan

REGISTERED Young Guernsey Bulls, great grandsons of Gov. Chene. Serviceable age, nicely marked, exceptional breeding. Avondale Stock Farm, Wayne, Mich.

FOR SALE A choice lot of Registered Guernsey cows, heifers and bulls of May Rose breeding. H. W. WIGMAN, Lansing, Michigan.

Guernseys reg. for sale, Watervliet, Mich. May Rose Seven A. R. cows in herd. Address J. K. Blatchford, Auditorium Tower, Chicago, Ill.

Guernsey Bulls of service age and calves from choice. Adv. reg. breeding. T. V. HICKS, Route 1, Battle Creek, Mich.

Guernsey Bull Calves from A. R. dams and whose dams are running for A. R. One ready for service. [G. A. WIGENT, Watervliet, Mich.

For Sale—Registered Hereford Bulls, some choice yearlings, also calves. E. G. McCarty, R. No. 7, Bad Axe, Mich.

Herefords Yearling and Calf bulls. Females all ages. Polled and Horned. All registered. W. H. McCarty & Sons, Bad Axe, Mich.

DAIRY TYPE Plus PRODUCTION Equals Crandall's

Holstein Friesian Herd

Some very Choice young bulls from one to twenty months old sired by Our Junior Herd Sire. From large Producing Dams. Prices Reasonable.

Frank R. Crandall & Son, Howell, Michigan.

Do You Want A Bull? Ready For Service.

From a grand daughter of The King of the Pontiacs. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World, and whose dam is a 30 lb. 6 3/4 fat daughter of Pontiac Aggie Korndyke who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

REGISTERED Holsteins—Herd headed by Albina Bontie Butter Boy. His dam has A. R. O. records as follows: at 2 yrs. milk 430, but at 18.85; 4 yrs. milk 604 & butter 27.03; at 6 yrs. milk 620, butter 28.55 lbs. W. B. READER, Howell, Mich.

The Two Greatest Bulls KING OF THE PONTIACS DE KOL 2d's BUTTER BOY 3rd

I have young bulls from cows having high official records and Granddaughters of above bulls. Stock extra good. Prices reasonable.

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Choice Holstein Bull Calves: One to 20 months old. Sired by Smithdale Alcartra Pontiac, whose dam is the famous Alcartra Polkadot, and from good A. R. O. dams. Will sell at reasonable prices. Come or write your needs. Farm 1/2 mile from Court House.

SETH B. RUBERT, Howell, Michigan.

Only \$150. One of the best bred bulls, 3 years old. Sure breeder. Out of 25 lb. butter cow. 3/4 White. A beauty. ROUCEMONT FARMS, 418 W. st Canfield, Detroit.

HERD SIRES

Maplecrest Korndyke Hengerveld and FINDERNE Pontiac Johanna Korndyke

The two great Holstein sires at the head of the herd. Maplecrest Korndyke Hengerveld's dam and grand dam each made more than 1200-lbs. of butter in a year, and including the great grand dam each made more than 30-lbs. of butter in 7 days. His sire has sired three daughters that averaged over 1200-lbs. of butter in a year.

FINDERNE Pontiac Johanna Korndyke is the son of the world's champion cow, FINDERNE Pride Johanna Rue, who gave 28,403-lbs. of milk and made 1470-lbs. of butter in a year. He was sired by a brother to the 40-lb. 4 yr. old Mable Segis Korndyke. The dam of the sire is a 30-lb. daughter of Pieterje Hengerveld Count DeKol. This is believed by many to be one of the most productive combinations in Holstein breeding.

I take pride in tendering the services of these animals to the breeders of Michigan who are interested in yearly production. Many people feel it is the yearly work that makes the greatest profit and our effort is along the lines of yearly records. These two herd sires represent the highest culmination ever yet produced for yearly production.

A few high class heifers in calf to Maplecrest Korndyke Hengerveld, and a few bull calves from dams with records as high as 30-lbs. butter in 7 days, for sale.

D. D. AITKEN, . . . FLINT, MICHIGAN.

AUCTION SALE NOV. 16th, at HILLCREST FARM

1 1/2 miles west of Harris, Flint Division of D. U. R. Will sell 25 head of Imported and American bred Jerseys, also 30 head of pure bred Victoria hogs, also complete line of farm implements, machinery, horses, crops and everything. On day of sale all cars will be met at D. U. R. station Harris. Complete preparations arranged for in case of disagreeable weather. For details and further information address

S. B. WATTLES, TROY, MICH. PONTIAC PHONE 720 Ring 11.

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The Record of this Herd at Detroit Proves Conclusively that Our Durocs Have the Individuality and Blood Lines that Insure Good Results.

Choice Spring Pigs and Mature Stock. A large herd gives ample opportunity for selection. Send for our new circular and state your wants. Write, or better come. Swine Dept., Brookwater Farm, Ann Arbor, Mich.

I don't want to sell anything but HOLSTEIN BULLS

and I have some bull bargains. Don't buy a bull until you know I have not got what you want. Come and see bulls. L. E. CONNELL, Fayette, Ohio.

Espanore Farm, LANSING, MICHIGAN.

Offers for sale, registered Holstein Cows bred to the great bull Pledge Spafford Calamity Paul. If you need a bull, write for prices and pedigrees of our bull calves.

CHASE S. OSBORN, ADAM E. FERGUSON, Owners.

Top Notch Holsteins!

Before buying your bull look ahead and think of the fine herd you hope to own in a few years. Fifty per cent, or over, of its value depends on your bull. Therefore, get a good bull. And don't be too particular about the price if you can be sure of the quality. McP. Farms Co. sells bulls of strictly high quality. Write them for a good bull or come and see their "Top Notch" bulls for yourself. McPherson Farms Co., Howell, Mich.

Registered Holstein bull. Sire is son of former state champion cow, 32.94 lbs. of butter in 7 days, 2 months old, mostly white, a beauty in every particular. \$50 brings him right to your station, safe arrival guaranteed. Write for pedigree and photo. HOBART W. FAY, MASON, MICHIGAN.

Holstein Bull Calf 6 mo. old, 30 lb. sire and from a all papers Elmer E. Smith, Redford, Mich. \$75 Buys registered Holstein Bull, Blumfeld Korndyke Johanna No. 14706. 14 mo. old. Evenly marked. B. B. REAVEY, Akron, Mich.

HATCH HERD YPSILANTI, MICHIGAN

Registered Holstein-Friesian sires, grandson's of World's greatest dairy sire, out of choice A. R. O. dams and King Pontiac Jewel Korndyke; Brother of K. P. Pontiac Lass 44.15; average record of 50 dams in his pedigree 31.25 in 7 days; average per cent of fat three nearest dams 4.37; of his own dam 4.33. Sires in first three generations already have over 600 A. R. O. daughters. A few females bred to "King". Prices reasonable.

FOR SALE Registered Holstein Bulls ready for service, and bull calves, also females. FREEMAN J. FISHBECK, Howell, Michigan.

Reg. Holstein Friesian Bull Calves From heavy producing dams. Bargain prices. DEWEY C. PIERSON, Hadley, Michigan.

BOARDMAN FARM JACKSON, MICHIGAN.

Registered Holsteins and Guernseys. We have some animals of both sexes and of both breeds for sale. Our herds represent a mingling of the most fashionable breeding today.

REGISTERED HOLSTEIN BULL, calved Jan. 2, 1914. Send for description. W. C. TAYLOR, Milan, Mich.

HOLSTEIN CATTLE and Duroc Jersey Swine. Choice pigs of both sex now ready to ship. Prices reasonable. E. R. CORNELL, Powell, Michigan.

Purebred Holsteins Young bulls of best individuality and breeding at reasonable prices. Write us, G. L. SPILLANE & SON, R. D. 7, Flint, Mich.

Choice Holstein Bulls. All from A. R. O. Dams. Semi-of-4 yr. old class over 1000 lbs. in mature class Breeding. Cross "King of the Pontiacs" and the "Demick blood." "Cherry Creek Stock Farm, Hilliards, Mich. M. E. Parmelee, Proprietor.

HOLSTEIN Bull one year old. Sire, D. D. Aitken's Maple Crest Korndyke Hengerveld. Dam 23.73 Butter. Dam of 28.73 Butter 2 year old daughter. John A. Rinke, Warren, Mich.

For Sale—Registered Holstein cattle, one yearling, one 2-year-old, and cows 3 and 5 years, latter bred to 31 lb. bull. Also number grade cows. F. C. Sturberg, Brighton, Mich.

29 lb. Average for 2 sisters and dam of bull ready for use. 29 nearest sires and dams all have A. R. O. daughters. Grand sire is a brother to Pontiac Korndyke 11-30 lb. daughters 28-30 granddaughters. M. L. McLAULIN, REDFORD, Mich.

MAPLE Lane R. of M. Jersey Herd. Tuberculin tested by the U. S. Government. For sale R. of M. dams and heifer calves from R. of M. dams and grand dams and Hood Farm Sire. IRVIN FOX, Allegan, Michigan.

Lillie Farmstead Jersey Cattle. Bull calves from R. of M. Cows, also heifer calves and several bred heifers for sale. Colon C. Lillie, Coopersville, Mich.

THE WILDWOOD Jersey Herd. Registered Jersey Cattle of Quality. Herd headed by Majesty's Wonder 30717, one of the best sons of Royal Majesty. The daughters of Majesty's Wonder are mated to a son of Majesty's Oxford King. Herd tuberculin tested. We have for sale a few choice young bulls for fall service from high producing cows. Alvin Balden, Capac, Mich.

Jerseys. Bulls ready for service, extra quality sired by Jacoba's Fairy Emanon, No. 10711, from high producing dams. SMITH & PARKER, Howell, Mich.

Jersey Bulls for Sale from high-producing dams, with testing Assn. records, also on semi-official test. C. B. Wehner, R. 6, Allegan, Mich.

HILLSIDE Farm Jerseys, yearling bulls, solid color, half brothers to ex-world's-record senior 2yr old from R. of M. dams, with records from 400 lbs. to 800 lbs. C. and O. DEAKE, Ypsilanti, Michigan.

Now Is Your Chance. JERSEYS—We are over stocked. Have got to sell. Reg. of Merit Stock. Cows, Heifers, Heifer calves—Bulls. Waterman & Waterman, Ann Arbor, Mich.

MILKING SHORTHORNS. Bull 10 months old \$125.00, 7 months \$100.00, 2 cows. DAVIDSON & HALL, Tecumseh, Michigan.

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BIDWELL SHORTHORNS For "Beef and Milk" Registered Bulls, Cows and heifers. Scotch-topped roans, and reds for sale. Farm at N. Y. Central Depot. Also D. T. & I. R. Y. BIDWELL STOCK FARM Box B, Tecumseh, Mich.

Shorthorns For Sale 8 young bulls also female, farm A. A. R. W. B. McQUILLAN, Howell, Mich.

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers prices. C. W. Crum, Secy. Cont. Mich. Shorthorn Breeders' Assn. McBride, Mich.

Dairy Bred Shorthorns of best Bates Strains. Young bulls 7 months old for sale. Price \$100 each. J. B. HUMMEL, Mason, Mich.

Shorthorn and Polled Durhams red roan and white. C. CARLSON, Le Roy, Michigan.

HOGS.—Grand bunch of Gilts due March and April. Comprising the blood of Superba, Defender, Much Col. Orions and others. A few young boars. M. T. STORY, Lowell, Mich.

Berkshires. Two fall gilts bred for Aug. & Sept. farrowing and a choice lot of April gilts for sale. A. A. PATTULLO, Deckerville, Mich.



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

Berkshires—sons, daughters, grandsons, granddaughters of such noted boars as Rival's Champion, Baron Duke 17th, Symbelee's Star 2nd, Grand Champion breeding at farmers' prices. T. V. Hicks, R. 1, Battle Creek, Mich.

Royalton Bred Berkshires—April boar well marked, Royalton Emperor. Both registered with papers at fair price. Write to D. F. Valentine, Supt., Temperance, Mich.

DUROC JERSEYS—A few choice ready to ship. Carey U. Edmonds, Hastings, Mich.

Duroc Jersey—March pigs either sex, also am book-keeping orders for fall pigs for Nov. shipment. Inspection invited. E. D. Heydenberk, Wayland, Mich.

Capital Herd Duroc Jersey Swine. Established 1888. Spring pigs for sale, satisfaction guaranteed. Express prepaid. J. H. Banghart, East Lansing, Mich.

Duroc Jerseys—Big Type, Heavy Boned Boars ready for service, real herd headers sired by Volunteer Grand Champion. F. J. Drott, R. 1, Monroe, Mich.

Durocs of the best of breeding. April farrow either sex or pairs for next 30 days \$20 each. Two fall boars. Oct. farrow \$30 each. Also Holstein bull one year Oct. 6. H. G. KEESLER, Cassopolis, Mich.

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DUROC JERSEY BOARS a choice lot of spring boars. Fall pigs, pairs and trios not akin. W. C. TAYLOR, Milan, Michigan.

J. W. KEENEY, Erie, Mich. Breeder of Duroc local from Monroe or Toledo, Keeney Shop.

DUROC Jersey, Mar. & Sept. pigs either sex sired by a son of Volunteer, Champion of 3 State Fairs and Chicago Show in 1912. E. H. Morris, Monroe, Mich.

Big Heavy Boned Duroc Jerseys for sale of all ages. M. A. BRAY, Okemos, Ingham Co., Michigan.

For Sale. Registered Duroc Brood Sows at farmer's prices. E. J. ALDRICH, R. No. 1, Tekonsha, Michigan.

HAMPSHIRE Swine—Breeding stock of all ages from most popular strains. Write for breeding. Inspection invited. Floyd Myers, R. 9, Decatur, Ind.

HAMPSHIRE HOGS—the belted beauties. One yearling boar and spring pigs, either sex. Write your wants. John W. Snyder, St. Johns, Mich., R. No. 4.

HAMPSHIRE SWINE: Nicely marked fall pigs \$10. Your chance to get started with this wonderful breed. Overton Creamery Co., Allegan, Mich.

Chester Whites—Special prices on March boars for next 30 days. Fall Pigs. F. W. ALEXANDER, Vassar, Michigan.

CHESTER WHITES—The long type, prolific kind, Meadow View Stock Farm, R. 5, Holland, Michigan.

O. I. C. SWINE—Are you on the market for a choice bred sow to farrow the last of Aug. or first part of Sept.? If you are, write me, I have them. A. J. GORDEN, R. No. 2 Dor, Michigan.

O. I. C. pigs not akin, also Toulouse Geese. Write for low prices and photo. Alvin V. Hart, Grass Lake, Mich.

O. I. C. GILT BRED SPRING PIGS ready to ship. H. J. FERLEY, Holt, Michigan.

O. I. C.'s—Bred sows, bred gilts, spring pigs both sex. Service Boars. Price low. A. R. GRAHAM, Flint, Michigan.

REGISTERED O. I. C. BOARS & GILTS High class fall pigs at reasonable prices. J. CARL JEWETT, Mason, Mich.

O. I. C. SPRING BOARS of good type and Red Polled bull calves. John Berner and Son, Grand Ledge, Mich.

O. I. C. SERVICEABLE BOARS. Priced to sell, and recorded in buyer's name. H. W. MANN, Dansville, Michigan.

O. I. C.'s STRICTLY BIG TYPE. March, April and May pigs sired by Lengthy Prince, White Monarch and Frost's Choice, all big type boars and sows weighing from 500 to 700 lbs. with quality second to none. Can furnish in pairs not akin. Prices reasonable. Newman's Stock Farm, Marlette, Mich. R. 1.

O. I. C.'s two yearling boars and a lot of last Spring pigs not akin. Also a lot of this fall pigs at \$10 each at 8 to 10 weeks old. Good stock. 1/2 mile west of depot. Otto B. Schuize, Nashville, Mich. Citizens phone 124.

O. I. C.'s. Spring Boars ready for fall service. Write JULIAN P. CLAXTON, Flint, Michigan, R. 8.

O. I. C. SERVICEABLE BOARS From best of stock. Priced to sell. Reg. free. E. B. MILETT, Fowlerville, Michigan.

O. I. C.'s Serviceable boars, summer and fall pigs. I pay express. G. P. ANDREWS, Dansville, Michigan.

O. I. C. Choice 18 mos. old boar. Grand Champ. at West Mich. State Fair 1915 also Mar. and Apr. gilts. A. J. BARKER, BELMONT, MICH. R. No. 16.

O. I. C. and CHESTER WHITE SWINE. Boars that have not been beat at the big state fairs this fall. We also have the unbeaten, young herd of Six State fairs, choice boars and gilts for sale, any age. Rolling View Stock Farms, Cass City, Mich.

Way Brothers Stock Farm. The home of the big for sale. Registered free. J. R. Way, Pompeii, Mich. BIG TYPE P. C. Either sex, pairs or trios not akin. Bred sows and gilts. Have several 1000 lb. boar prospects. Absolutely no larger breeding, everything guaranteed right. FRANK KRUGER, Ravenna, Mich. Big Type POLAND CHINA all ages. Herd boar Bargains in spring boars. Satisfaction guaranteed. G. W. Holton, R. 11, Kalamazoo, Mich. POLAND CHINAS of the big type. Boars ready for service. Barred Rock Cockerels. A. A. WOOD & SON, Sallie, Michigan. Breeders' Directory—Continued on page 443.

UNUSUAL SALE OF FULL BLOODED CATTLE

On Thursday Nov. 18th

At Kolb, Gotfredson, Gorse Co. Barns
1093 Gratiot Ave., Detroit, Mich.

we will offer at private sale 40 full-blooded, registered and non-registered cattle, as follows:

23 Galloways—17 Red Polled


Sixteen registered Galloway cows, 7 Galloway yearling bulls, under one year old; 4 Red Polled yearling bulls, coming two years old; 6 Red Polled yearling bulls, under one year old, and 7 Red Polled bull calves. All young stuff full-blooded, unregistered.

The above are all from one farm in the Upper Peninsula of Michigan, a part of Michigan where there has been no foot-and-mouth disease; they have been raised and cared for as breeding stock only and they show both their breeding and care at a glance, even to an inexperienced buyer. Over three-fourths of entire consignment are show animals and the prices are less than half they would probably bring at auction. Herd will be at the barns a day before the sale. Prices \$250, \$200, \$150, \$100, and \$50.

ROBERTS & ROBERTS

Care KOLB, GOTFREDSON, GORSE CO.,
1093 Gratiot Ave., Detroit, Mich.

Definite orders by mail or telegraph accompanied by remittance or notice of remittance will be honored and filled in the order of their receipt.




Dairymen!—The Truth

You may be prejudiced against the Jersey because you don't know her. Look her up. She's the Money Cow.

Get This Book—a history of the breed and full of very interesting tests and facts. It proves conclusively that for pure dairy type, economy of production, richness of milk, long life and adaptability to feeds and climates—all these combined—she stands way above them all. This book "About Jersey Cattle" is free. Get your copy now. You'll find it mighty good reading.

The American Jersey Cattle Club
346 West 23rd Street, New York City



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Veterinary.

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

Unprofitable for Dairy Purposes.—I have a young cow that appears to be well; keeps thin, has a good appetite but gives very little milk. G. Y., LeRoy, Mich.—I understand dairymen call this kind of a cow "a boarder," sure to be unprofitable and if so why don't you either beef her or market her to some person rich enough to buy feed for her.

Bruised Udder.—I have a four-year-old cow that occasionally gives bloody milk from both hind teats. What had I better do for her? E. O. B., Chesaning, Mich.—Your cow bruises both hind quarters of udder occasionally; that is why she gives bloody milk. Perhaps some of your other cattle hook her. Dissolve ¼ lb. acetate of lead in a gallon of water, add one pint tincture arnica and apply to hind quarters after each milking. Don't forget to furnish her with plenty of bedding and if your yard has pieces of wood, brick or stone on its surface, remove them, for she may lie down on some sort of hard substance and thus bruise her bag.

Chronic Indigestion—Kittens have Diarrhea.—Last spring I clipped my 11-year-old dog; since then his hair does not appear to grow and he is out of condition. I also have a few kittens that are troubled with looseness of the bowels and I suspect they are wormy. C. I. S., Eaton Rapids, Mich.—Give your dog 10 drops of tincture nux vomica, 15 drops Fowler's solution and 60 drops fluid extract gentian at a dose in feed or water three times a day. For every pound your kittens weigh, give 1 gr. of powdered arca nut at a dose three times a week for two weeks, also give each of them 1 gr. of subnitrate of bismuth at a dose two or three times a day.

Warts on Nose of Colts.—Warts have come on the nose of my colts and I would like to know what will take them off. A. E. T., Bellevue, Mich.—Those that have necks should be clipped off and apply olive oil twice a day to nose and lips. If this fails to take them off, apply a saturated solution of salicylic in alcohol every two or three days.

Elbow Tumor.—My eight-year-old mare with colt four months old by her side has a bunch on elbow which was first soft; now it is harder and about the size of a goose egg. This bunch does not appear to be painful. What is the cause, also what is a good remedy? I. L. DuR., Backus, Mich.—The removal of such a bunch by a surgical operation is the only satisfactory remedy. Had you opened sac freely when it was full of serum, you would have avoided this hard tumor. The formation of elbow abscesses and tumors is generally caused by narrow stalls, the animal bruising elbow by lying on foot or pressure from elbow girth, or scant bedding.

Canker.—I have a colt that went lame in right fore leg; examined foot and found hole in sole. E. W., Vassar, Mich.—Keep the foot clean and apply equal parts iodoform and powdered alum. The foot should be covered with oakum and the stall floor thoroughly disinfected.

Chronic Cough.—I have a four-year-old mare that was taken with distemper in the early part of the summer; since then has had a cough, but shows no symptoms of heaves. Have been giving her pine tar and linseed oil. C. A. B., Perry, Mich.—Mix 1 oz. of guaiacol in 15 ozs. of raw linseed oil and give her 1 oz. at a dose three times a day. Rub throat with equal parts tincture iodine and camphorated oil every day or two.

Swollen Stiffles.—I have a suckling colt with both stifles swollen, causing her to walk stiff. This colt is of draft breed and I am anxious to have her cured. D. McI., Sault Ste. Marie, Mich.—Apply equal parts turpentine, aqua ammonia and olive oil to stifles joints two or three times a week. If the swelling does not subside apply equal parts tincture iodine and spirits of camphor two or three times a week.

Irritation of Urinary Organs.—I have a seven-year-old mare that stands in a straddling position with hind legs, urinates often, but passes no blood or pus. Her hair is dry and dull but her appetite is good. Local Vet. diagnosed it as a case of inflammation of the bladder and urethra, but his medicine failed to relieve her. R. C. V., Alamo, Mich.—Give her 30 grains urotropin and 1 dr. of acetate of potash at a dose in feed night and morning. Also give her a dessert-spoonful of fluid extract gentian at a dose three times a day. Change her feed.



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7—Anti-skid Rear Tires (cost difference over smooth treads),	5.00
8—Electric Horn and adjuncts,	3.50
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