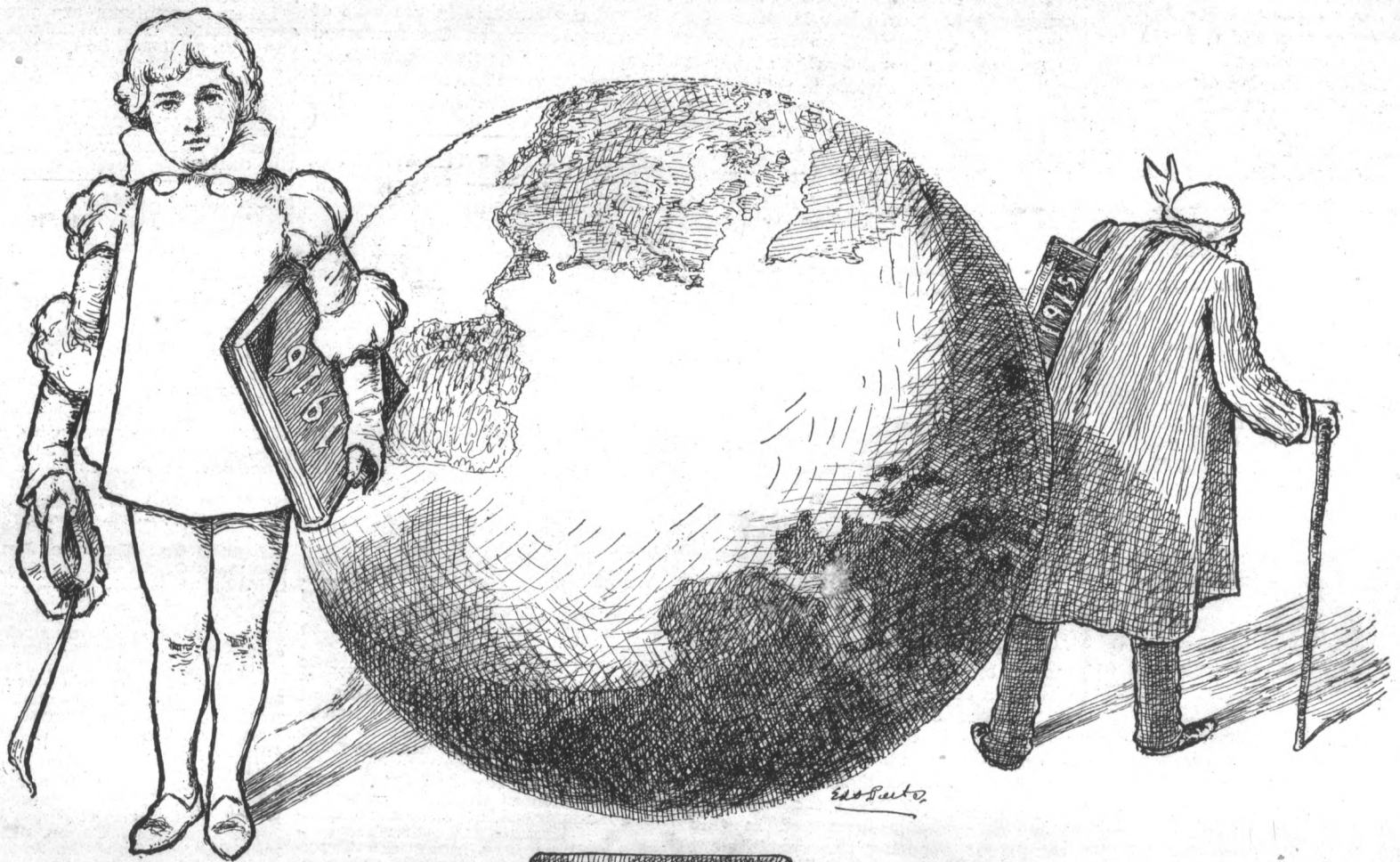
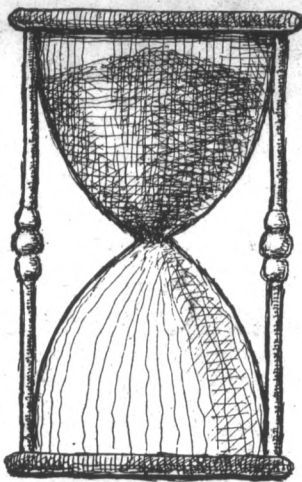


MICHIGAN FARMER



RING OUT OLD SHAPES OF FOUL DISEASE;
RING OUT THE NARROWING LUST OF GOLD;
RING OUT THE THOUSAND WARS OF OLD;
RING IN THE THOUSAND YEARS OF PEACE.



RING IN THE VALIANT MAN AND FREE,
THE LARGER HEART THE KINDLIER HAND;
RING OUT THE DARKNESS OF THE LAND;
RING IN THE CHRIST THAT IS TO BE."

DETROIT, MICH. SATURDAY JAN. 1, 1916

VOL. CXLVI, NO. 1.

WHOLE NO. 3869

The Michigan Farmer

Established 1843.

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Entered as second class matter at the Detroit, Michigan, postoffice.

DETROIT, JANUARY 1, 1915

YOUR INDULGENCE PLEASE.

Freight congestion and delay in delivery of a consignment of white paper accounts for the crowded condition of this issue, compelling the publication of a smaller issue this week than had been contemplated. The receipt of this delayed stock, however, will enable us to make succeeding issues of ample size for the accommodation of important, interesting and seasonable matter which has been secured for publication during the early weeks of 1916.

CURRENT COMMENT.

Agricultural Appropriations. There is so much talk about preparedness these days and so much discussion of the proposition of increased military and naval appropriations by Congress, that the matter of agricultural appropriations is not receiving attention to which it is entitled. The estimates for agricultural appropriations submitted by Secretary Houston are, however, only about two million dollars less than the appropriations for the current year. These estimates total \$30,000,000.

The money asked for includes proposed appropriations for research work in the production of dyestuffs for the coloring of raw materials produced in this country; the proposed plan is to work out practical methods for utilizing domestic products in the manufacture of dyes, and to get further data concerning the coloring substances, both natural and artificial, which are found in food products. Market investigations would be expanded by the use of \$136,000 asked for the collection and distribution of data on the supply, commercial movement, disposition and market prices of fruits and vegetable crops. A small appropriation is also asked for fibre plant investigations, the importance of which is emphasized by the advance in price of sisal fibre which is a raw material used in the manufacture of most of the binder twine used in this country.

Delay in Live Stock Shipments. Nearly every week since the Detroit stock yards were reopened as free territory subsequent to the quarantine for the eradication of foot-and-mouth disease, there has been complaint with regard to delay in deliveries of stock at the yards. Sometimes this has been due to slow delivery at the terminal under prevailing conditions of heavy runs; at other times it has been the delay of stock in transit at junction points, and at other times a lack of cars for the loading of stock at shipping

points. Last week another complication resulted in dissatisfaction which was less avoidable; this was the unloading of a large shipment of army horses in transit, thus increasing the difficulty of transacting the ordinary weekly business at the yards.

State Railroad Commissioner Cunningham and State Director of Markets McBride have been working together and with the railroad officials to the end that a satisfactory solution of the problem involved might be found and the congestion and delay in live stock shipments avoided. As a means to this end, at the suggestion of Railroad Commissioner Cunningham a conference was called for December 30 at the Detroit Live Stock yards to which representatives of the carriers, representatives of the shippers were invited to meet representatives of the Railroad Commission and the State Director of Markets for a discussion of the problems involved in the rendering of adequate service.

Another marketing problem in which shippers of live stock are also interested is being investigated by the State Director of Markets. Data is being collected with regard to the rules governing the marketing of live stock, particularly hogs, in other large markets of the country where the rules for dockage are considerably at variance with those practiced in this market and generally more favorable to the shipper than are the rules in force here.

Echoes from the Campaign. The apparently successful termination of the campaign for the eradication of

foot-and-mouth disease is a matter for general congratulation among farmers and live stock owners of the country. The general interest taken in the discussion of problems related to eradication work at the conference called by the Assistant Secretary of Agriculture at Chicago last month also promises well for the future, should other campaigns of the kind ever become necessary.

In this connection the secretary of the United States Live Stock Sanitary Association which held its annual convention in Chicago during the early days of last month transmits copies of the resolutions adopted by the association endorsing the methods employed by the Bureau of Animal Industry in the stupendous task of eradicating foot-and-mouth disease; recommending that the federal and state governments be liberal in their recompense to owners of live stock for losses to the extent of the full commercial value of animals destroyed in this campaign; opposing the appointment as chief of the bureau of a man lacking scientific training and experience in dealing with animal diseases; commending the action of the Secretary of Agriculture and expressing appreciation of the work of the assistant secretary; advocating publicity of the freedom of pure-bred herds from tuberculosis as a means of encouraging such freedom, and commending the manager of a creamery in Steuben county, New York, for his diligence and care in applying intelligent methods of sterilization to by-products returned to the farmers of the community when the knowledge of an outbreak of foot-and-mouth disease in the community was received.

These and other echoes of the campaign for the eradication of foot-and-mouth disease should have the desired effect of enlisting the attention and co-operation of every farmer and live stock man in the country in case his co-operation should ever be needed in the early suppression of an epidemic of this or any other infectious disease in the live stock of his community.

Crop Production and Values. The December estimate of the crop reporting board of the acreage, production and value of farm crops for the country in 1915 affords some interesting

comparisons. A review of data contained in this estimate shows the yield of staple cereal grain crops to have been higher than last year and materially higher than the five-year average from 1909 to 1913. As a natural consequence the farm price on these grains is somewhat lower than on December 1 of last year, although in every case the total farm value of the crops is materially larger than the value of last year's crop.

The farm value of all other crops which are staples in the north central states is also shown by these estimates to be considerably higher than last year, thus indicating that the farmers of the country as a whole, will receive a greater income than last year by many millions of dollars, notwithstanding the fact that in limited sections the season was an unfavorable one for some crops, thus reducing the total production below that of last year, and in some cases below the five-year average.

Nature's great law of compensation has in this case come to the rescue of the producers of these commodities in an advance of price which is out of proportion to the decrease in yield, while the strong export demand has supported our markets in the case of other crops in which the increased yield would, under normal conditions, have brought about a much greater decrease in price than has obtained.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—As the year 1915 draws to a close the warring powers of Europe are concentrating their forces and ammunitions for at least two significant struggles. One of these is at Saloniki, Greece, where the Allied troops are increasing their numbers, improving defenses and piling up stores of food and fighting equipment, while the central powers are preparing to attack the fortifications protecting the city. Greece objects to the Bulgarians invading her territory and Germany insists that she will not attack the Allied armies without the aid of the Bulgars. Just how the dilemma will be met without imposing upon Grecian neutrality is a matter for diplomats to settle. The other struggle is expected in the west. Here every evidence of an impending battle of huge proportions is evident. Large numbers of troops are being brought from other fronts by the Germans, supply trains are crowded to capacity and artillery duels are frequent. On December 21 the Teutonic forces lost heavily in an attack between Armentieres and Ypres without gaining ground. It is thought that the attack was merely a prelude to more pretentious fighting. Continuous rains in the west have delayed plans, according to Berlin reports. On the Russian front winter weather has forced the abandonment of all active campaigning. Italians and Austrians continue artillery fire along the Tyrol-Carnia-Trentino front while the situation is quiet in Isonzo. British and French forces have abandoned certain positions held on the Dardanelles, either because these points were made untenable by greater effectiveness of Turkish guns, or because of the demand for troops at other centers.

The fighting forces of Gen. Villa of Mexico is being rapidly dissipated. Last week the last of his generals, Rodriguez, surrendered to the Carranza organization. Hope of Carranza's gaining complete mastery over warring factions, is more general than for a long time back.

National.

Although the possibility of the peace ship Oscar II, succeeding in its mission is becoming more and more remote by reason of the illness of the leader, Henry Ford, and other difficulties, there is a growing appreciation of the generous spirit that prompted the undertaking.

New York and New England suffered severely from a wierd storm last Sunday. Wind blowing from 70 to 90 miles an hour did much damage to wire lines, shipping and railroad property. The storm was accompanied by thunder and lightning, snow and rain. Seven persons are known to have been killed directly or indirectly by the storm.

Shipments of good from America to Belgium during the month of December established a new record in philanthropy. If arrangements are carried out an average of one ship load for each day of the month will have sailed for the prostrated country.

On no Christmas since the installation of the Detroit weather bureau

office 44 years ago, was there so much snow on the ground as on December 25, 1915. The fall of snow on Friday night was 7.9-10 inches.

Detroit is among a long list of cities where cases of influenza have reached an unusually large number, fully 100,000 persons having been afflicted here according to the health officers of this municipality. Besides the percentage of fatalities from bronchial trouble and pneumonia is increasing.

The Reliance Engineering Company, of Lansing, Mich., have purchased the Seager Engine Works, of Lansing, manufacturers of the well known Olds line of gas and kerosene engines, which have been giving service to the farmers and contractors of this country for the past 38 years. The Seager Engine Works will be now known as The Reliance Engineering Company. The trade name of Olds engines and Reliance cream separators will not be changed.

MICHIGAN EXPERIMENT ASSOCIATION.

The fifth annual exhibition of the Michigan Experiment Association will be held at East Lansing, January 18 to 22. Full classifications are provided for corn, wheat, oats, barley, rye, beans, including kidney and soy beans, cowpeas, buckwheat, alfalfa, medium clover and alsike clover.

Aside from individual exhibits, classes are provided for Farmers' Club and Grange exhibits and a special class for boys and girls under 18 years of age. There is also a class for local associations.

Liberal premiums are provided in every class. The Michigan Farmer cup will, as usual, be awarded for the best single ear of Dent corn. The annual meeting of the association will be held January 20-21.

Write Prof. V. M. Shoesmith, secretary, East Lansing, Mich., for premium list which gives rules governing the contest.

MICHIGAN FARMERS' INSTITUTES, JANUARY 1-15, 1916.

County Institutes.—Presque Ile Co., Millersburg, Jan. 4-5; Alpena Co., Long Rapids, Jan. 6-7; Alcona Co., Harrisville, Jan. 7-8; Iosco Co., Whittemore, Jan. 10-11; Arenac Co., Standish, Jan. 12-13; Gladwin Co., Gladwin, Jan. 13-14.

One-Day Institutes.—Montcalm Co., Vestaburg, Jan. 3; Edmore, Jan. 4; Sidney, Jan. 5; Crystal, Jan. 6; Butternut, Jan. 7; Carson City, Jan. 8.

Newaygo Co., Sitka, Jan. 3; Brookside, Jan. 4; Fremont, Jan. 5; Bitely, Jan. 6; Troy, Jan. 7; Grant, Jan. 8; Newaygo, Jan. 11; Big Prairie, Jan. 12; Ensley, Jan. 13-14; Hawkins, Jan. 15.

Branch Co., Algansee, Jan. 3; California, Jan. 4; Kinderhook, Jan. 6; Gilead, Jan. 7.

St. Joseph Co., Moore Park, Jan. 3; Constantine, Jan. 4; Three Rivers, Jan. 5; Riverside, Jan. 6; White Pigeon, Jan. 7; Florence, Jan. 8.

Barry Co., Woodland, Jan. 3; Carlton, Jan. 4; Hickory Corners, Jan. 5; Banfield, Jan. 6; Assyria, Jan. 7; Nashville, Jan. 8; Cressey, Jan. 10; Glass Creek, Jan. 11; Middleville, Jan. 12.

Huron Co., Grant Twp., Jan. 4; Pigeon, Jan. 5; Elkton, Jan. 6; Verona Mills, Jan. 7; Uby, Jan. 8; Harbor Beach, Jan. 10; Port Hope, Jan. 11.

St. Clair Co., Capac, Jan. 4; Emmet, Jan. 5; Goodells, Jan. 6; Adair, Jan. 7; Blaine, Jan. 8; Starville, Jan. 10; Smith Creek, Jan. 11; Avoca, Jan. 12; Yale, Jan. 13.

Benzie Co., Platte Twp., Jan. 5; Honor, Jan. 6; Lake Ann, Jan. 7; Inland, Jan. 8; Thompsonville, Jan. 10; Frankfort, Jan. 11.

Leelanau Co., Empire, Jan. 4. Lapeer Co., Lapeer, Jan. 8; Dryden, Jan. 10; Almont, Jan. 11; Clifford, Jan. 12.

Genesee Co., Atlas, Jan. 10; Grand Blanc, Jan. 11; Swartz Creek, Jan. 12; Gaines, Jan. 13; Linden, Jan. 14; Fenton, Jan. 15.

Cass Co., Marcellus, Jan. 10; Adamsville, Jan. 11; Union, Jan. 12; Jones, Jan. 13; Lagrange, Jan. 14; Pokagon, Jan. 15.

Van Buren Co., Kendall, Jan. 10; Bloomingdale, Jan. 11; Glendale, Jan. 12; Keeler, Jan. 13; Lawrence, Jan. 14; Hamilton Twp., Jan. 15.

Allegan Co., Chicora, Jan. 10; Pullman, Jan. 11; Casco, Jan. 12; Glenn, Jan. 13; Ganges, Jan. 14; Saugatuck, Jan. 15.

Hillsdale Co., Church's Corners, Jan. 10; Pittsford, Jan. 11; Cambria, Jan. 12; Montgomery, Jan. 13; Litchfield, Jan. 14; Allen, Jan. 15.

Muskegon Co., Holton, Jan. 11; Dalton, Jan. 12; Norton, Jan. 13; Fruitport, Jan. 14; Ravenna, Jan. 15.

Ingham Co., Locke, Jan. 12; Holt, Jan. 13; Aurelius, Jan. 14; Leslie, Jan. 15; Dansville, Jan. 17-18.

Saginaw Co., Chapin, Jan. 12; Brant, Jan. 13; Freeland, Jan. 14; Burt, Jan. 15.

Tuscola Co., Cass City, Jan. 13; Mayville, Jan. 14; Fostoria, Jan. 15; Millington, Jan. 17; Vassar, Jan. 18; Reese, Jan. 19; Akron, Jan. 20; Unionville, Jan. 21.

Covering Our Bald Spot

IN June, 1913, we planted the hill on our farm to alfalfa. Neighbors had spoken of this hill lot as the part of the farm that had never looked covered, and they called it the "bald spot." We decided to show them that it could be covered. At this time alfalfa was a comparatively new thing in our community, but as we had read extensively about it, we decided that we would try it.

The hill had an area of four acres and was rather steep, not so much so, however, as to make it difficult to work. We plowed early in the spring and kept the ground in good condition throughout the spring months. The first of June we applied two tons of lime to the acre, and the last of the month we planted the seed, first treating it with the bacterial culture.

We sat back then, and waited for developments, and believe me, we were disappointed. All that could be seen growing during the summer was a healthy crop of ragweed. Sometimes by diligently searching, we could find an alfalfa plant, but it always had an unhealthy look. It will be remembered that the summer of 1913 was extremely dry and this, I believe, was the cause of the poor growth that year. However, we gave the plants all the chance we could, by clipping the weed growth with the mower several times during the summer.

The spring of 1914 the field looked better but the plants were very thin on the ground. The first cutting gave us about one and one-half tons from the whole field. After we had drawn the hay to the barn we went on with the disc harrow and disced the field both ways. Father was not content with this, so I went over it again with the spike-tooth drag. The field certainly looked sick when I finished, and our neighbors thought that we had given up our efforts to cover our "bald spot." The second cutting was rather slow in coming on but it showed the good effect of our cultivation. We put up two and one-half tons at this time and one ton at the third cutting, making a total of five tons from the field for the year. Rather small yield, you may say, but our crop was improving and we were learning things about it that paid us well for the time spent.

The following winter we top-dressed the field lightly with manure, and when the growing season started last spring we saw that our work had been worth while. There was not a bare spot on the hill all summer. We used to go back Sunday afternoons to sit on the fence and watch it. It seemed that we could actually see it grow. The plants were still rather thin on the ground but they stooped out and grew to a good height. And they had a rich green color and healthy look, while some other farmers were complaining that their alfalfa looked yellow. The yellow color was, I think, due to the plants being too thick on the ground.

The first cutting fulfilled expectations. We cut six tons of prime alfalfa hay from the four acres. The other two cuttings were somewhat lighter, but in all we had fourteen tons, and we felt well repaid for our work. A few farmers whose alfalfa had a poor color during the spring, came to us to ask how ours had stayed such a good color and had always looked healthy. We attributed our success to the fact that our plants were much thinner on the ground than theirs, and we recommended that they use the disk harrow and drag on their crops. Those that did this noted a marked improvement in color and general appearance of the plant.

We had heard many times that a rain or two would spoil a whole crop of alfalfa, but our experience this summer seemed to prove the contrary. Our second cutting was out for two weeks and during this time it rained every day. But after the deluge, we found the crop too valuable to throw

away, so we cured it well and stored it in the barn. Aside from the discoloration, it seems to be fairly good hay and our cattle find it nearly as palatable as that not rained on. Some clover hay that was out during the same period was a total loss.

Many farmers, no doubt, have had better success with the crop than we have and have raised larger yields. However, our experience with alfalfa is worth much to us, and we are looking forward to a big crop next year. But what is better, we turned the laugh on our neighbors, and have succeeded in covering our "bald spot."

Ingham Co. S. E. TAYLOR.

DOES OVERWORKING PAY?

The farmer who overworks to give himself an opportunity to retire is on the wrong track. Moderate work as long as a man lives will be happiness throughout life, while fifty years of overwork plus twenty years of doing nothing will just about ruin the life of the best farmer who ever lived. The farm is the best place on earth on which to retire and good health is the most important asset of the retirement. Overwork means ruined health and the city is no place for a farmer to retire. A man to be happy must have some work to do. It need not be heavy work but the man past his prime who still has some duties with the poultry and the garden will get out in the air and remain active after the "do nothing retired farmer" has closed up his books forever.

Overworking is more often the result of too many jobs half done rather than a few jobs done well. The few jobs well done will nine times out of ten bring more profit than a lot of poorly done work, so what is the use of overworking for nothing. The farmer with 500 hens may not have much time to care for more than 200. Three hundred might as well go to the market. The farmer with 200 acres may be steadily performing his own work and the work of the hired man whom he hasn't hired yet. The result is overwork and it doesn't pay. Eighty acres more intensively farmed would reduce the heavy work and possibly as much money would be made on the farm if the interest on the investment should be subtracted from the profits.

On a farm there is practically no limit to the work that can be done if a man has the inclination and the strength. The trouble comes right here. There is no limit to the work but there is a limit to the strength and the man who has ruined his health through overwork is the man who did not know when he had reached his limit until it was too late. I know of one farmer who is over fifty years old who is now peevishly bossing a couple of hired men and feeling unhappy because he is unable, because of the doctor's orders to perform one stroke of manual labor. I know another farmer with 160 acres who is now walking the streets of a nearby city and living in a small rented house because he is unable to stand any of the work of the farm. He has plenty of money but no work to make life interesting. Both of these men worked like tigers and knocked off fifteen years of their working period in a mad rush to save expense and pile up money. They are now retired intellectually and physically. They left their work half done because they tried to finish it too soon.

There is plenty of laziness in this world and a lot of men need no encouragement to rest, but at the same time a lot of men who need the rest never take it. Overworking has never paid except in checks on the bank of poor health. A man must always work as long as he lives to be happy, so what's the use of trying to finish the job too soon.

Ingham Co.

R. G. KIRBY.

Have a "warm-all-over" house

In cold weather do you hate to go upstairs or from one room to another? Do you huddle up in one or two rooms and often suffer from chill or drafts? If you are comfortable in only, say, 3 of the 8 rooms of your house, you are getting the use of only *three-eighths* of what your house costs—a poor investment! Make a warm, cheerful home out of your *whole house* by putting in an outfit of



Do not live like this five months every year!

AMERICAN & IDEAL RADIATORS & BOILERS

IDEAL Boilers and AMERICAN Radiators enable you to enjoy every room, hallway, nook and corner of the house. Not only do you get the full use and enjoyment of the home, but IDEAL Boilers and AMERICAN Radiators will actually pay for themselves in the fuel savings.

They are so simple to run, and so thoroughly rid the house of ash dust (giving long life to furniture and decorations) that house-cleaning is reduced one-half. IDEAL Boilers are the only heaters so made that all the coal-gases and soot are kept inside the boiler—burned there—thus protecting the family health. No other heating apparatus in any way competes with IDEAL Boilers and AMERICAN Radiators, hence their rapid and wide use in farm houses and other buildings—more than a million installations at home and abroad.

Phone your local dealer but specify and insist on IDEAL Boilers and AMERICAN Radiators. Do not take any other. In so important a matter you can not afford to run any risks, especially when IDEAL Boilers and AMERICAN Radiators are so fully guaranteed and cost no more than inferior makes. They protect the farm house against fire risk and run independently of water works supply or mains, as same water is used over and over again for years.

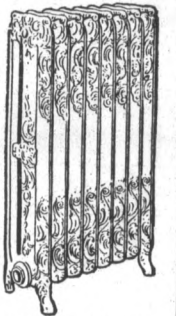
The smallest farm cottage or largest house is equipped at very reasonable cost. At present low iron market the cost will surprise you. The IDEAL Boiler is put in cellar, side room or lean-to and will burn any local fuel—wood, oil, gas, lignite, hard or soft coal (even cheap grades of pea coal, slack, run of mine, screenings, etc.) If warm cellar spoils vegetables, boiler and pipes may be covered and all heat then goes to upper floors.



A No. 4-19-W IDEAL Boiler and 270 ft. of 38-in. AMERICAN Radiators, costing the owner \$200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

Our catalogue (free) is a volume of concise heating and ventilating information which every owner or tenant—small or large—in country or town—ought to have. Write us today. All inquiries cordially welcomed.

No obligation to buy.



AMERICAN Radiators and IDEAL Boilers change any house into a home.

Showrooms in all large cities

AMERICAN RADIATOR COMPANY

Also makers of stationary, unflashing ARCO WAND Vacuum Cleaners.

Write to Dept. F-3 Chicago

The Elephant Head Guarantees 3 Things

1st—Highest quality materials and workmanship. 2nd—The most up-to-date modern boot construction. 3rd—Foot comfort.

Millions of farmers will buy only these boots. Always look for the Elephant's Head. Made in all lengths. Sold by square dealers.

WOONSOCKET RUBBER CO., Woonsocket, R. I.



Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor.

In the Name of Creation Why Don't YOU Clean and Grade Your Seed Grain!



MANSION CAMPBELL

There's Big Money in It

No matter where you live, no matter what crops you grow, no matter what size your farm, YOU ARE LOSING AT LEAST \$100 PER SEASON, unless you are scientifically cleaning and grading your seed grain and grass seed. The chances are, you are losing even more—\$200, \$300, \$400, \$500 or \$1000 per year. Thousands upon thousands of farmers in your home state have proven this important fact to their satisfaction and delight.

Write for Free Book— "A Harvest of Gold"

My sensational Crop Book, "A HARVEST OF GOLD," tells the entrancing story of multiplied wheat yields; extra bumper corn crops; bountiful oat yields; record-breaking harvests of barley, flax, timothy, clover, alfalfa, etc.—all results from sowing CLEANED and GRADED seed grain! A large part of the story is told by farmers themselves—in their own exact words. It is a handsome, illustrated book and is fully protected under U. S. Copyright Laws. Worth \$100 to any farmer, but yours for the asking.

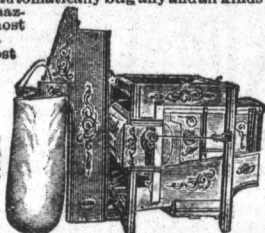
CHATHAM Grader and Cleaner

will remove the foul weed seed from your seed grain and grass seed. Will get rid of the small, sickly, weakened, imperfect grains. Then you can plant only big, plump healthy fellows. And great will be your reward at harvest. This double-shake 1915 model machine, with its scientifically constructed screens and riddles will clean, grade and automatically bag any and all kinds of small grain and grass seed. Works amazingly fast, and is so perfectly made it almost turns itself. Over 400,000 now in active use. The price is surprisingly low and terms most liberal (30 days trial with cash or full payment terms), and for the next 30 days, instead of charging for the Corn grading equipment, I furnish it free with the Chatham Mill.

Read this warning: All seed grain (due to the wet weather last summer) is fearfully foul this year. Clean and grade yours, thereby adding a big sum to your crop profits.

Write now! Merely say, "I want your Book." It will come by return mail.

Manson Campbell Co., Dept. P-1
Detroit, Mich. Kansas City, Mo. Minneapolis, Minn.



Be sure to put "Dept. P-1" on your letter or postal.

Wheat and Rye

Separates chaff, blasts out oats, chaff, etc. Keeps screenings free of cockle and all black seeds. Uses the new principle of wild oat separator. Grades all varieties of wheat perfectly.

Oats

Removes all black weed seeds. The scalper throws out straw joints, chaff, and thistle buds. Saves separately all timothy and grass seeds. Grades out twin oats, pin oats; makes perfect sample of plump uniform oats for drill.

Barley

Cleans, grades, separates all weed seeds and foreign grain including oats and wild oats.

Beans & Peas

Removes splits, pods, shrunken beans. Makes an eight pound picker a good sample. Handles cow peas, soy beans, however threshed.

Corn

Blasts cobs, chaff, silks. Removes broken grains, shoe pegs, tips, butts and uneven kernels; grades flat, even grains for 100% perfect crop.

Clover

Removes buckhorn & 63 other weeds, and timothy.

Timothy

Removes plantain, pepper grass and 33 other weeds. Saves volunteer timothy from oats and wheat.

Alfalfa & Flax

Removes dodder and foxtail; heads, stems, fibres, wild oats, mustard, barnyard grass, false flax, broken wheat. Blasts out shrunken, frozen or droughted seed.

Ask how to separate Rye and Vetch absolutely.

Farm Notes

Wild Carrot and Horse Nettle.

Our farm is infested with wild carrot and horse nettle, which I am told is almost impossible to exterminate. Will salt kill same and how should it be applied? I hoed and pulled the horse nettle several times and last summer the plants on examination seemed to be in a most healthy condition.

Van Buren Co.

H. C. K.

Of the two weed pests, horse nettle is the most persistent and difficult to eradicate. If newly introduced and the area covered is not too large, salt may be used in the form of hot brine, or caustic soda or kerosene oil may be used to kill it. Where scattering plants are to be dealt with, if they are cut off below the surface of the ground with a spud and a little gasoline is poured over the freshly cut roots it will destroy most of the plants. Where it has thoroughly infested the land, short rotations should be used. Cultivated crops which are given thorough tillage and hoed to keep the plants from developing above the surface, alternated with such crops as rye or rye and vetch, will tend to keep the plants in subjection. Two or three seasons of continuous effort will be required to fully eradicate the pest.

The wild carrot is a bad weed in pastures and permanent meadows, but is easily destroyed in cultivated crops where it will give comparatively little trouble if very thorough cultivation is practiced. Pulling or spudding out the individual plants is the best means of controlling it in grain and grass fields.

Sawdust in Manure.

I am drawing manure from a livery barn where they use sawdust for bedding, and would like to know if it will hurt the land. I mean the sawdust. I have been told it would sour the land.

Cass Co.

E. L.

Manure made in stables where sawdust is used as an absorbent will not prove detrimental to the soil. On heavy impervious soils it may prove advantageous by improving the mechanical condition of the soil. Sawdust contains some plant food, and where finely divided and spread with the manure, the plant food and humus which it contains will be gradually made available in the soil. It contains about half as much nitrogen as straw and approximately the same amount of phosphorous and potassium. It is a much better absorbent than straw and will conserve a greater proportion of the liquid manure.

Lengthening the Crop Rotation.

I have a field which I intended to put in wheat this fall, but it was so wet it was impossible to do so. I had it in oats last summer. Would it be advisable to put it in oats again the coming season and seed it in the oats? If not, what would be best to do? The land is quite heavy.

Barry Co.

SUBSCRIBER.

In a case of this kind where circumstances make it necessary to lengthen the crop rotation, it would be better to sow a different small grain crop than to sow oats again on this land which grew oats last year.

Barley is generally considered a better crop with which to seed clover. Why not sow barley instead of oats?

THE CORN SHOW.

At this time of the year the corn show is in evidence—the general rounding up of the season's campaign for "More and Better Corn for Michigan." All over the state boy's corn contests are being held and the boys are anxiously awaiting results. Having scored corn in numerous contests, I have had opportunity to note some of the facts and results, and I regret that I am forced to conclude that in the majority of cases the boys have not had a square deal.

At every contest I find that some have entered with a very limited knowledge, and some without the faintest conception of the standard by which the corn is to be or should be judged. Many of them have started with seed from which the best corn grower in Michigan could not produce an exhibit that would win in any show.

Many times the corn is judged by comparison and elimination, and the

boy with the poorer sample finds that he is defeated, but why he did not win, he does not know. The next year he tries again with renewed energy, making the same mistakes and arriving at the same results. If he has enough pluck he may try it the third time. At last he concludes, "Tis no use to try," and he "wasn't cut out for a farmer anyhow," and he turns his attention to something else, and thus the boy who might have made a successful farmer is turned away from the farm by the very means calculated to keep him on the farm.

Wouldn't it be better, wherever corn clubs are formed and contests are held, to secure the services of someone who knows the score card and is acquainted with the principles of seed selection, and who has been fairly successful in contests of this kind, then get the boys together in groups and let him take them through the practice of selection by the score card, give them some of the vital points in seed selection, etc., a few hours of this work, while it would not make them experts would start them in the right direction. Object lessons are more easily learned and are more attractive than printed lessons.

Certainly it is unfair to the boy to let him put in one or two summers of hard work with failure inevitable and discouragement certain, when it would cost so little to start him right. Certainly, if any benefit is being derived on account of some of the boys doing well, the benefit would be multiplied if all of them were doing their best.

The question of cultural methods has been thoroughly threshed out, while the question of seed selection has been sadly neglected.

Teach the boy how to select his seed from which to grow his crop, then if he is going to exhibit, teach him how to select his sample, and he will do the rest, and you will find him doing his work intelligently from start to finish.

Hillsdale Co.

D. E. TURNER.

THE TRAMP QUESTION.

The tramp question as discussed by J. A. Kaiser in your issue of December 4, certainly should be given state-wide attention.

The writer is interested in both manufacturing and farming and has found by experience they are just as big a nuisance around a factory as they are on a farm. Any person who feeds an able-bodied tramp is doing himself and the tramp a grave injustice.

I would suggest when our state representative asks for your vote next fall that you tell him frankly that he must help enact an anti-tramp law if he gets your vote. If the farmers will start the ball rolling every city and village will surely help to work for this kind of legislation. Make it a misdemeanor to ask for food or alms by any person who is not a resident of the township unless said person has a written permit to do so, signed by a resident physician or the superintendent of the poor, and punishment to be not less than 60 days in county jail.

When a law of this kind is passed there will be more labor available, less cases of larceny, less losses from fire caused by tramps smoking in our haymows, and if we should by chance be called out in the evening our wives need have no fear of tramps.

Eaton Co.

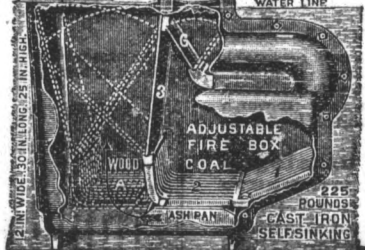
F. H. B.

DON'T MIX ASHES WITH MANURE.

Ashes should never be mixed with manure as this practice involves the loss of the most valuable fertilizing constituent of the manure, namely, nitrogen. The lime in the ashes converts the nitrogen of the manure into ammonia gas which quickly escapes into the atmosphere and is lost.

Ashes should be kept dry and applied to the surface of the soil and worked into same when it is being fitted for a crop.

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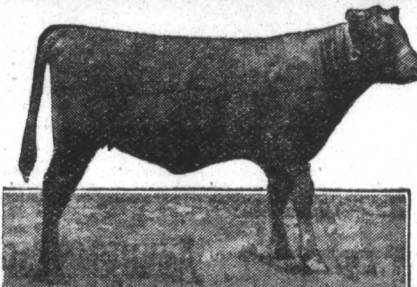
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Growing Pears for Profit

THE pear is one of our most delicious fruits, but unfortunately it is the least dependable of all our tree fruits. In fact, the probabilities of failure in the culture of this fruit are so great that those who understand the present conditions have abandoned planting pears with the exception of one or two varieties.

There is no mystery about the causes of failure. The pear tree is easy to grow, it flourishes in almost any soil and climate, and blossoms and produces fruit quite as regularly as other kinds of tree fruits, but it is subject to a bacterial disease, the blight, which is so deadly and hard to combat that pear culture has been practically abandoned throughout a great part of the central states. Of all the varieties there is only one that can be planted with much confidence and that is the Keiffer.

The Value of the Keiffer Pear.

What the Keiffer has been worth to the nation is difficult to estimate, but we are safe in saying that without it the pear would have almost totally disappeared from a large section of this country. I should, then, recommend the Keiffer as the variety to plant in the proportion of at least ten to one of any other kind. It is not a pear of high quality but if picked early and laid away in a cool, dark place it will ripen up into a very fair table fruit.

Its greatest value is in its canning qualities where it is easily the equal or superior of high quality sorts and consequently the housewife annually puts up millions of bushels when, in its absence, she would have to go without any. The Keiffer is a large pear and the trees bear abundantly. Along in the fall it turns from green to a beautiful golden yellow that has deceived many an innocent purchaser, for this rich color is no sign of mellowness and usually the pear is found to be hard and unfit to eat. When laid away, however, it soon becomes mellow.

The next best kind for general planting is the Garber, a sort of twin brother to the Keiffer, resembling it much in its vigorous habits of growth and resistance to blight. It has also the valuable features of ripening nearly a month ahead of the Keiffer, of being a handsomer pear and of better eating grade. For canning it is a good market pear and sells well on any market, and it comes in enough earlier to avoid competition with the Keiffer. I have found it slower to come into bearing but this may have been partly due to over-rich soil.

The Quality Pears.

It is no use planting such varieties as the Bartlett and Clapp's Favorite, splendid in quality but so subject to the blight in many places that the planter is lucky if he gets the benefit of one crop.

I should plant some Seckel and also try a few dwarf Anjou and Duchess. The dwarfs flourish in rich soil and can be planted around the yard and garden. Ashes and soapsuds to their health and vigor.

In choosing a site for a pear orchard I should select a poor piece of land, one in which there would be no danger of their making a rapid growth. Long experience has taught that fast growing trees are always the first to succumb to the blight, while slower growing ones are the most exempt. A soil with little nitrogen in it is what we want for the pear, but potash and phosphorus should be applied if at all deficient in order that the fruit may be large and well colored.

In addition to a thin soil the growth of the trees may be further checked by sowing the land in grass which is usually advisable as soon as the trees are large enough to come into bearing. Until they do, it is best to stimulate the young trees with cultivation so that they may the sooner arrive at fruiting size. There is no profit in stunting trees when they are young.

In local markets the Keiffer usually

sells for one dollar a bushel but in the large cities they sold last year wholesale for only 30 to 50 cents. Even at 50 cents there is a good profit in raising this pear for they will bear earlier and more heavily than apples.

While there is no remedy for the blight the trees can be rendered much more resistant by spraying them regularly with lime-sulphur solution, either the self-boiled or the commercial kinds. Cutting out of all blighted wood and disinfecting of the wounds with corrosive sublimate will prove almost a complete check and controller in most cases.

New York.

S. VANAKEN.

MULCHING THE STRAWBERRIES.

Mulching the strawberries was finished December 7, which was considerable later than usual, the work having been delayed because of other work. However, the plants suffered no injury through the delay, for there had been thus far no severe freezing, and beside, an early mulch had been made in October over the 16-inch space between the twin rows. For this early mulch, beet tops, gladiola stripings, and cornstalks were used. No part of this material was permitted to overlap the crowns, though a considerable portion of the leaves, many of which overlapped across the space, were, of course, covered. This mulch would have afforded considerable protection in the event of a heavy freeze. Then, too, there was a little snow part of the time.

All things considered, conditions were excellent when the final mulch was applied. Later on there will be a heavy supplementary mulch of snow if usual winter conditions prevail. Even though the fall of snow be not as large as usual, i. e., two or three feet a large drift is sure to accumulate in the lee of a locust hedge to the north and overlapping the bed of plants near by. Anyhow, the final mulch, liberal in quantity and lying loose, will catch and hold a light fall of snow, whereas unprotected fields are swept bare. In fact, this is exactly the conditions that now prevail hardly a week later. What I should like most to see, though, is two or three feet of snow, a quantity sufficient to prevent any freezing of the ground. Some think that freezing does not injure strawberry plants except when it results in heaving, which occurs on some types of soil. I can't figure it out that way. During our experience of many years, plants have always shown up with the greatest springtime freshness and vigor at those times when a condition of unfrozen soil prevailed throughout the entire period of plant dormancy.

In the light of present knowledge it does seem strange that so many through ignorance or neglect fail to make good here. And winter protection is but one of the uses of a mulch. Protection to the ripening fruit is not the least of the service it renders. And, when it comes to the matter of conserving soil moisture during scant rainfall or drouth, its service is invaluable. To this end, material that is applied early in the winter and has thus become solidly packed is more efficient by far than that applied just before the ripening period, or even early in the spring. M. N. EDGERTON.

In putting the tree protectors around the tree, it is not advisable to wrap them tightly around it; it is better for the tree to have an air space between the protector and the bark. If the trouble is mainly due to rabbits, the tree protector would undoubtedly be better than the mounding method, the latter being more efficient in the control of mice.

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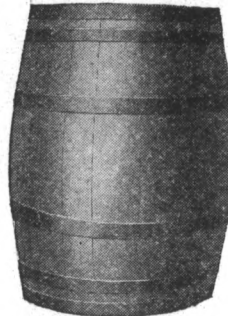
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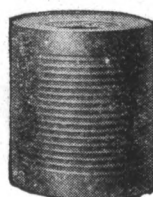
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A Farm Butter Problem

WHEN a farmer comes to one of our village stores with a crock or roll of butter, the merchant takes it at the price quoted on dairy butter, and gives groceries in exchange. Now it so happens that the supply of butter greatly exceeds the local demand, so that some outside market must be found for any surplus which accumulates in the merchant's refrigerator.

In Benzonia, we have two tradesmen who have attempted to so handle and ship this butter as to get a better price than that paid for packing stock. Much of the surplus butter they shipped was of good quality, and by sorting this out and shipping it to Cadillac or other city markets, it was hoped that the returns would be greater than if all the individual rolls and crocks were packed together in a single barrel into which they were dumped from their original containers. This expectation was not realized, however; farm butter from small villages is almost universally classed as packing stock, and sent to the renovators; it cannot compete with creamery butter, and as dairy butter it varies so greatly in quality that the retailers in the cities have no faith in it.

The Local Merchant Loses.

The consequence is that the village merchant has to be satisfied with a net return of 18 cents on butter for which he has paid 22 cents. On one shipment of 600 pounds, a Benzonia merchant lost \$75. To be sure, the merchant has to make good this loss by adjusting his margin of profit on other goods handled. It is plainly evident, however, that neither the farmer nor the merchant nor the consuming public are getting the proper satisfaction from such a system of handling the product.

As pointed out by the Benzonia merchant who presented the above problem to the Benzie County Pomona, the tendency in modern grocery work is to put up produce in small cartons and labeled and weighed packages, rather than to handle the various commodities in bulk. One solution of the farm butter problem which this merchant suggested was that the dairy butter be printed by the farmer in one-pound molds, and handled in cartons bearing the name of the farmer as a guarantee of the contents of the package. This merchant said that he already had one butter maker among his patrons, who adopted the pound roll, to whom he paid 29 cents when others were only paid 22 cents.

Good Demand for Quality Butter.

In other words, there is always a fair demand for topnotch butter, and it would seem that if the farmer can cater to the needs of the retail trade, with a fancy product rather than compel his merchant to act as a distributing agent for something that nobody wants, he could realize a greater return for his dairy butter.

From the farmer's point of view, the suggestions for the solution of the problem presented by the merchant were various. Mr. R. B. Reynolds, of Bendon, states that in his village the difficulty is solved by shipping cream. Butter is a manufactured product, and if it is to be uniform in quality, it must be made under competent supervision. Mr. Reynolds and some fifteen of his neighbors ship their cream individually to the Blue Valley Creamery of Grand Rapids, and in this way the only farm-made butter placed on the local merchant's counter is that coming from the dairyman who has but two or three cows, and cannot accumulate cream in sufficient quantities to warrant his hauling it to the depot.

What a Local Merchant is Doing.

During the past summer, the Benzonia merchant who lost \$75 on a shipment of packing stock has been endeavoring to get the farmers to ship their cream. His method is to gather the cream twice a week, using his auto; test a sample from each can by the Babcock method for the determination of butter-fat, then to place the various lots of cream in ten gal-

lon cans and ship it to one of the nearest creameries. In making the returns to the farmers, he pays at the rate allowed by the creamery, less two cents for express and one cent for handling and testing.

This method has proven very popular with a number of farmers. They are relieved from the responsibility of churning, or of hauling cream to the depot. As one farmer expressed it, "if Judson can haul my can of cream for fifteen cents, I'll let him, for I don't figure that I can afford to at that price." Having the merchant call on the farmer periodically for cream frequently proves an advantage, too, in that an order can be placed for groceries needed, thus saving the farmer a trip to town, and allowing the merchant to tax the capacity of his auto or delivery wagon.

The Butter-fat Test.

Other farmers, however, hang back in suspicion at the Babcock test. We had a creamery built in Beulah not much more than a year ago, and the complaint of the farmers in many cases was that their fat test, and consequently their cream check, varied in a manner which excited their belief that there was something wrong with the test. This may or may not have been true, but the fact remains that at present the creamery is idle, having died from lack of patronage. Many of these same farmers still insist that the best way to determine the richness of their cream is to churn it and sell the butter. In cases where these farmers have worked up a local trade at some such price as 30 cents the year around to private customers, it doubtless is true that at times the pay check from a creamery would not compare favorably with the return from local butter sales.

In spite of the fact that some farm butter makers can get the highest price for their product, the fact that faces the merchant who handles the bulk of the output is that the supply exceeds the demand. We can hardly blame the merchant, therefore, when he seeks to get the farmers to ship their cream.

E. H. BROWN.

THE BEST ENSILAGE CORN.

What kind of corn is best to plant for silo corn, and what distance apart each way?

W. D.

To all such inquiries I would say dent corn that would properly mature in each locality is the best crop to grow for the silo. Other crops can be substituted at times for corn to good advantage, if corn fails, for instance, or if some other crop cannot be secured in any other way, but all things considered, corn is best for the silo and the silo is best for the corn.

I would use a larger and later maturing variety of corn in southern Michigan than in northern Michigan. It is stating the matter correctly to say, grow the largest variety of dent corn for the silo that will properly mature in that locality. It would not be good business to grow a small early variety in southern Michigan because a larger variety will furnish more food per acre, and it would not be advisable to grow a large southern variety in northern Michigan because that variety would not properly mature. Ensilage corn should be glazed and much of it dented before it is fit to put into the silo.

HOLSTEIN BREEDERS' MEET.

The West Michigan Holstein Breeders' Association held an interesting and well attended meeting December 8 at the Association of Commerce Building, Grand Rapids. President Arthur Clarke was in the chair, and first came some impressions of a visit paid by E. W. McNitt to the farm of Francis M. Jones, of Clinton, N. Y., where the first 44-pound A. R. O. cow was bred and developed. The celebrated cow was not there but he saw

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NELSON SUBMERGED TANK HEATER

HEATS WATER IN HALF THE TIME WITH HALF THE FUEL. Burns trash, cobs, wood or soft coal. All heat under water. Try it two weeks free at my expense.

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DEERFIELD WISCONSIN

Maple Syrup Makers

You get best Results with our Champion Evaporator

Quick work, fuel saving, durability and

BEST QUALITY OF SYRUP.

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MAPLE SYRUP MAKERS

The Grimm Evaporator

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616-921 Champlain Ave., N. W. Cleveland, Ohio.

MOLASSES. RICHEST FEED. Low cost. TOLEDO MOLASSES CO., Dept. MF, 25 Huron St., Toledo, O.

When Writing to Advertisers Please Mention The Michigan Farmer.

her dam and was pleased with her. Peter Buth discussed Holstein types and rather favored the beef types as against strictly dairy types, saying that cows in good flesh seemed to hold up better at the pail, though there are good individuals in both types. He likes a cow with good muzzle, wide between the eyes, and good barrel, with well sprung ribs, and not meaty over the shoulders.

Elmer W. McCoy, who led in the discussion, also agreed that the cow that puts on a little flesh is a better performer at the pail. W. M. Willard says he likes a smooth, well proportioned cow and knows she makes a pound of butter cheaper than does the ungainly, peaked, loose animal. It was the general opinion that thick necks in heifers are desirable, as the surplus flesh will soon go after freshening.

Secretary Lilly, of the West Michigan State Fair, thanked the breeders for their support at the fair this year and asked for suggestions as to how to make the fair better this coming season. A committee composed of W. M. Willard, Peter Buth and C. Hunsberger, was appointed to confer with the secretary regarding fair matters. Secretary Harper stated that milk and butter contests at fairs are jokes and amount to nothing.

Holstein milk advertising in Grand Rapids, its advantages and disadvantages, were discussed at the afternoon session by C. Hunsberger, W. M. Willard, H. E. Rising, of Woodland, and others. Cyrus Hunsberger, who was in active charge of the publicity work that was started last spring, gave a report that was substantially as follows: The appropriation of \$50 that was made by the association to start with, was not sufficient and at a conference of breeders it was recommended to ask for voluntary contributions from owners of pure-bred cattle, the sum asked being \$1 per cow. The total sum raised for advertising reached \$233, and there is a balance on hand of \$12. Display advertisements were first used in the daily papers, then classified advertisements, then street car advertising was tried, the cards bearing cuts of black and white cattle, and reading something as follows: "Mothers with poorly nourished children should use Holstein milk." The street car advertising is still in progress. D. E. Waters, of Grand Rapids, contributing another \$50, and others doing as well as they fell able to in continuance of the publicity. Mr. Hunsberger also went to the city hall and copied birth records, as the basis of direct appeals by letter to these homes regarding the value of Holstein milk for children.

The report of the Grand Rapids milk inspector, as Mr. Willard pointed out, shows that three-quarters of the milk being sold here is Holstein.

It was voted to hold another consignment sale of pure-bred cattle early in May, with Secretary W. R. Harper, of Middleville, as sales manager, assisted by John M. Tobin, of Allegan, W. M. Willard, P. Buth and E. W. McNitt, of Grand Rapids. A total of 58 head of cattle were pledged at this meeting, on the last year's basis of five females to one male. Col. Perry will be engaged as auctioneer, with Mr. Wood to assist.

Barn sanitation, the tuberculin test and other matters in which both producers and consumers are interested came up and a committee was appointed, composed of A. R. Harrington, E. W. McNitt, and D. E. Waters, of Grand Rapids, to act with the board of health and common council during the year whenever such questions arise.

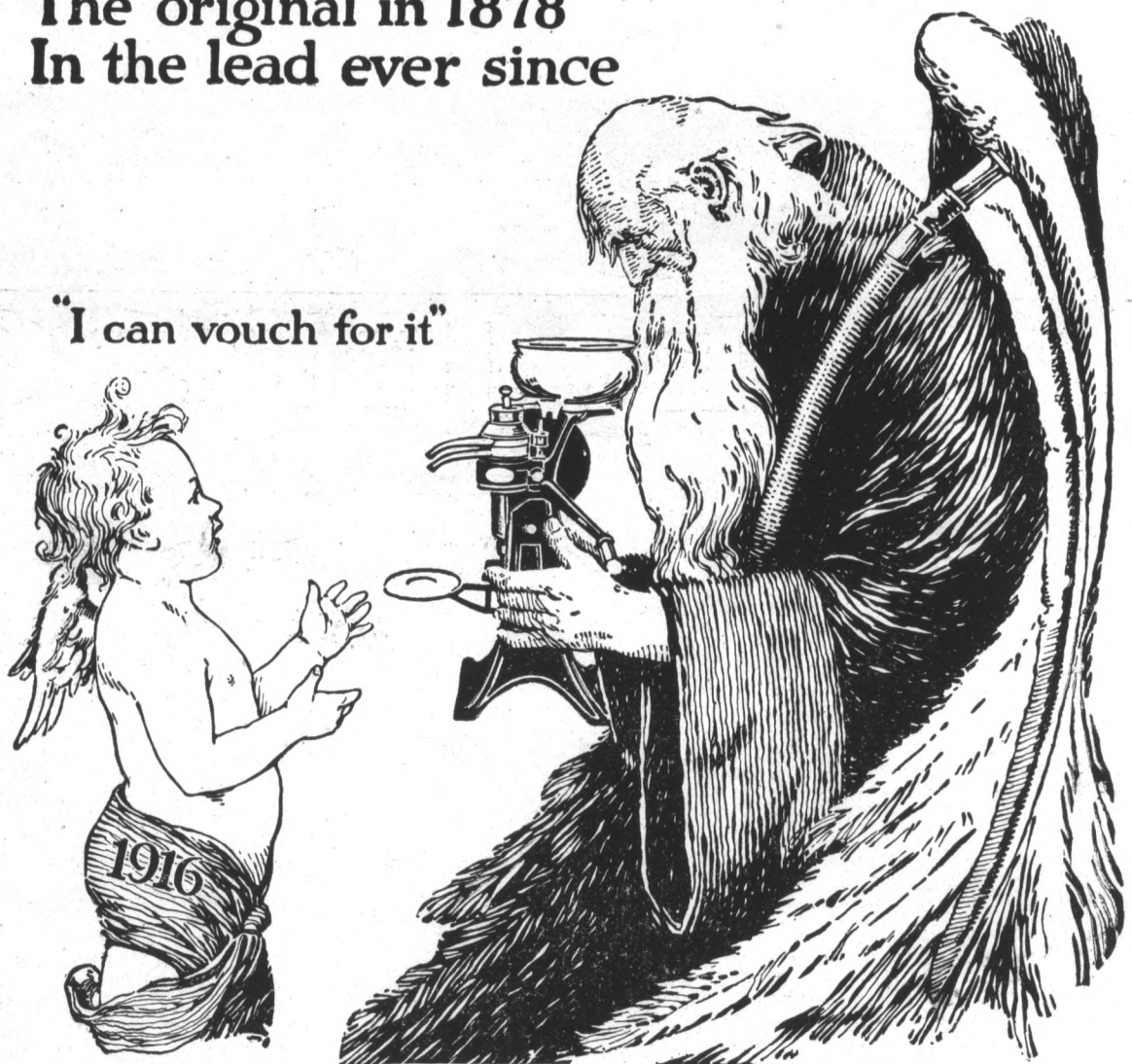
There was an early adjournment to accept the invitation of D. E. Waters, the Grand Rapids banker, to inspect his fine farm and buildings just outside of Grand Rapids. About 30 of the members made the trip in automobiles.

ALMOND GRIFFEN.

DE LAVAL

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In the lead ever since



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Upward
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Demand APOLLO-KEYSTONE Copper Steel Galvanized Sheets for your Culverts, Silos, Tanks, Roofing, and sheet metal work—rust-repellent and durable. Look for the Keystone. Send for "Better Buildings" booklet. AMERICAN SHEET AND TIN PLATE COMPANY, Pittsburgh, Pa.



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"The High Protein Feed"

The Feed that comes to you with an absolute guarantee. The Feed that is a perfect balanced ration. The Feed that not only will make more milk but make healthier cows. The Feed that will not burn up your cows but will lengthen their milking days. The Feed that might be termed the "Safety First Feed". The Feed that contains no weed seeds or mill screenings. The Feed that is being fed by successful dairymen throughout the State. The Feed that will reduce the cost of milk production in your herd. If your dealer doesn't handle it, order a trial ton from us. Manufactured only by

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Factory to Farm
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In Profit-Sharing Contract
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Glazed Tile and Lumber shipped direct from kiln and factory on low cost basis early in year. Let us tell you about our new 1916 profit sharing sales plan so you can buy right and erect silos when farm labor is plenty and cheap. Our "Earn Cost First Then Pay" plan interests both Salesman and Buyer. Ask for 1916 proposition and Silo booklet.

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Rock-face or smooth vitrified hollow tile, interlocked and steel reinforced. Scientifically correct. Absolutely guaranteed. No expense for upkeep or repairs. Proof against time and trouble. Write for FREE BOOK.

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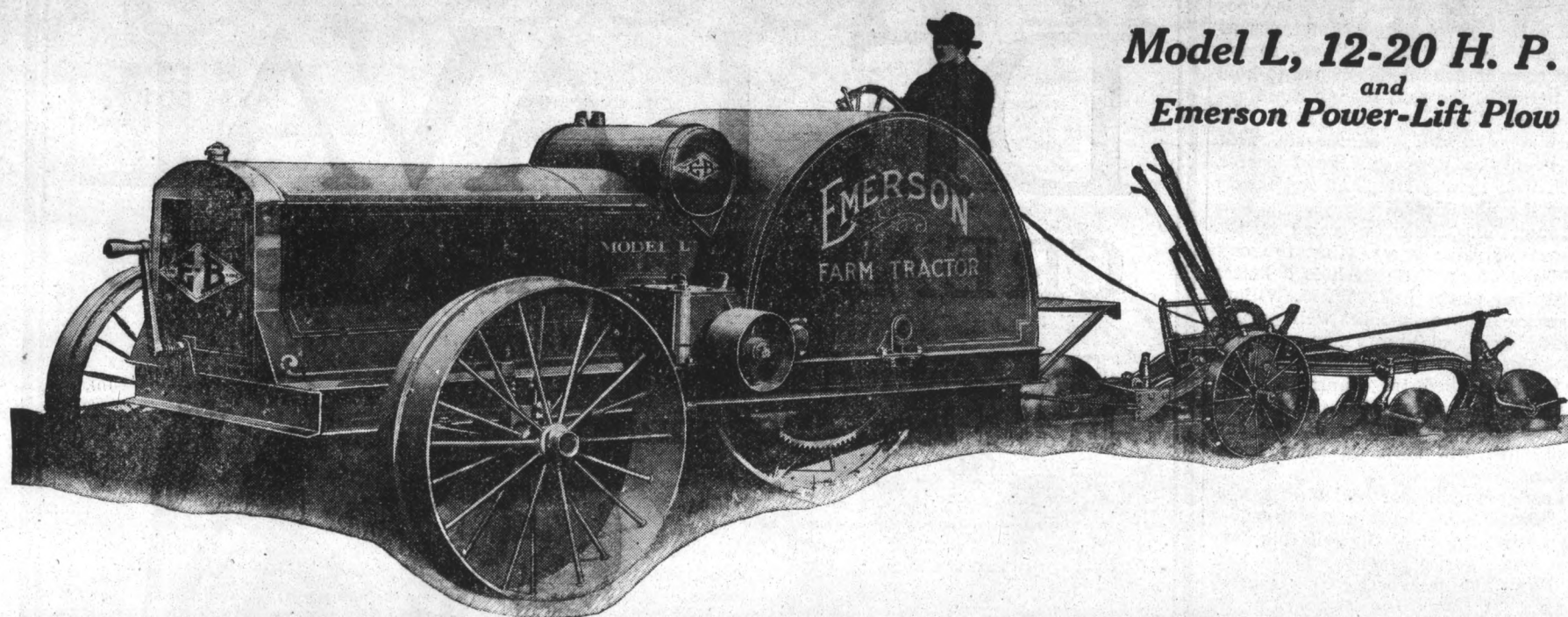
906 Fletcher Trust Bldg. WANTED
Indianapolis, Indiana.

A CHALLENGE!

CHURNS first class butter in 5 minutes; makes MORE of BETTER butter; gets ALL (not part) the butter-fat. Easily operated, sanitary and durable. On the market over 7 years. Sizes 1 to 10 gals. WRITE TODAY for our FREE booklet "The Science of Butter-Making" and Illustrated Catalog. Agents Wanted. Mason Mfg. Co., Box M Canton, O.

Kentucky Pure Sorghum Molasses, 6, 10 lb. pails to crate, \$4.00 per crate, freight prepaid. Write for sample. Rosenblatt, Hawesville, Ky.

CULL BEANS FOR FEED. Write if you can use a car or less. YOUNG-RANDOLPH SEED CO., Owosso, Mich.



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AN IDEAL TRACTOR FOR SMALL AND LARGE FARMS

THE Emerson Model L Farm Tractor is the development of many years' experience in the manufacture of tractors and long familiarity with their practical requirements. It is built for continuous hard service on farms of every size.

12 H. P. Draw Bar—20 on belt. 4 cylinders—2 speeds. All working parts perfectly lubricated, thoroughly protected from dust and easily accessible. Equipped with Hyatt Roller Bearings. Cut Steel Gears in dust-proof oil bath. Light weight—economical of fuel—so simple anyone can run it.

Will pull the implements you now have on your farm, such as gang plows, harrows, mowers, binders, manure spreaders, wagons, drags and small road graders. Will operate your ensilage cutter, feed grinder, small separator, circular saw, water pump, hay baler—all your belt-driven machinery. Write today for free folder illustrated in colors.

Emerson-Brantingham Implement Co., Inc.

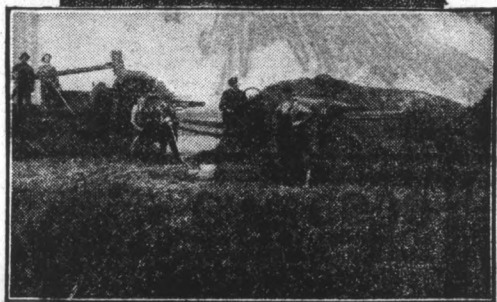
Good Farm Machinery Established 1852
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The E-B Trade-mark, which is placed on every article in our line, is your guaranty of quality. It shows the way to easier, better and more profitable farming.



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Magazine Section

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

TUFTS of hair bristled out between the fingers of big Bryce Langdon as he sat at one of the correspondence tables of the Vincene House at Altona, with his head propped upon a broad calloused hand, lost in thought. His eyes were directed at an ink stained blotter, but he saw nothing. He had journeyed from his farm near Brannock to the city upon an unpleasant mission and he feared little good would result.

Two harvests back, John Dalton, a neighbor's son, had left home after an altercation with his stern father and traveled to the city where he sought employment. After many futile calls

he succeeded in hiring himself to a contractor at a modest wage.

Being accustomed to hard work and long hours upon the farm, John felt that by reason of his energy and faithfulness he was gaining the good favor of the foreman. He nurtured this feeling until one Saturday night late in November when he was coolly told that his services were no longer needed.

The days that followed brought

Turning the New Leaf

By Bill Himself.

conditions too trying for his nature and after a fortnight he sought shelter in a cheap lodging house. Congenial spirits soon tempted him to go beyond the discipline of his early life, and it was not long before he was rapidly traveling the beaten path down through the different stages of idleness, drinking, carousing and gambling, until one day a year later John found himself in a room of a rescue mission, telling a kindly look-

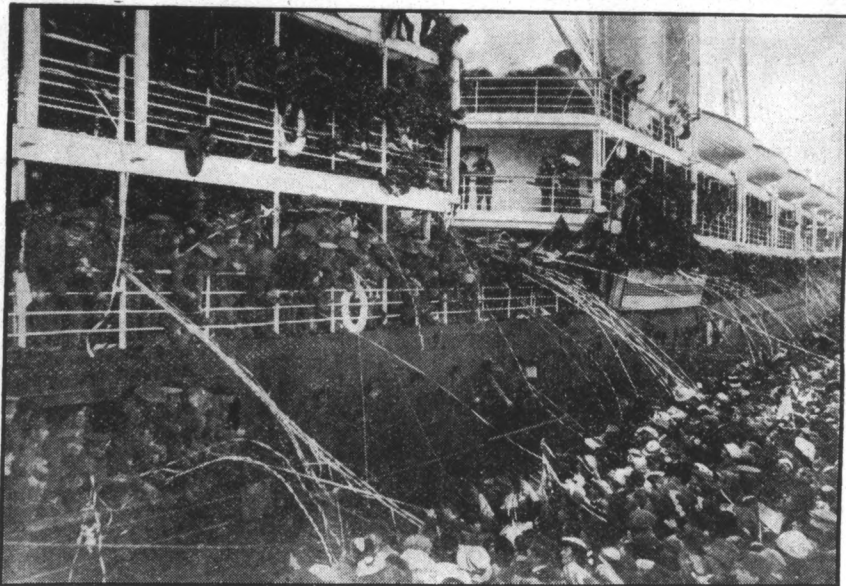
ing social worker his history and troubles.

On the morning of the following day a letter was received at the Dalton home addressed to John's mother in the strange hand writing of the mission worker.

Mrs. Dalton, a submissive and overworked woman, was soon in tears, and knowing the unrelenting disposition of her husband took counsel over the telephone with her near neighbor, Mrs. Langdon. This resulted in Bryce Langdon's trip to the city.

At the mission the wayward son was found seated in a much used armchair, nodding. A scraggly beard

WORLD EVENTS IN PICTURES



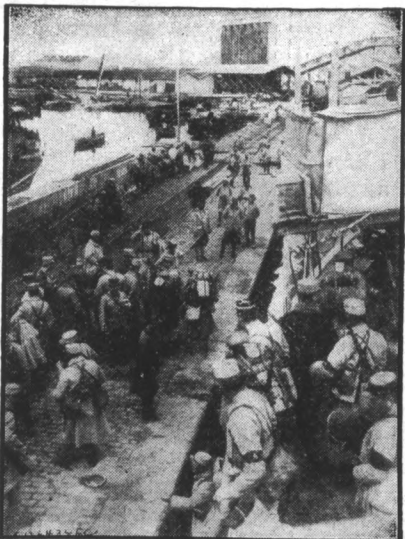
Australian Volunteers off for Europe.



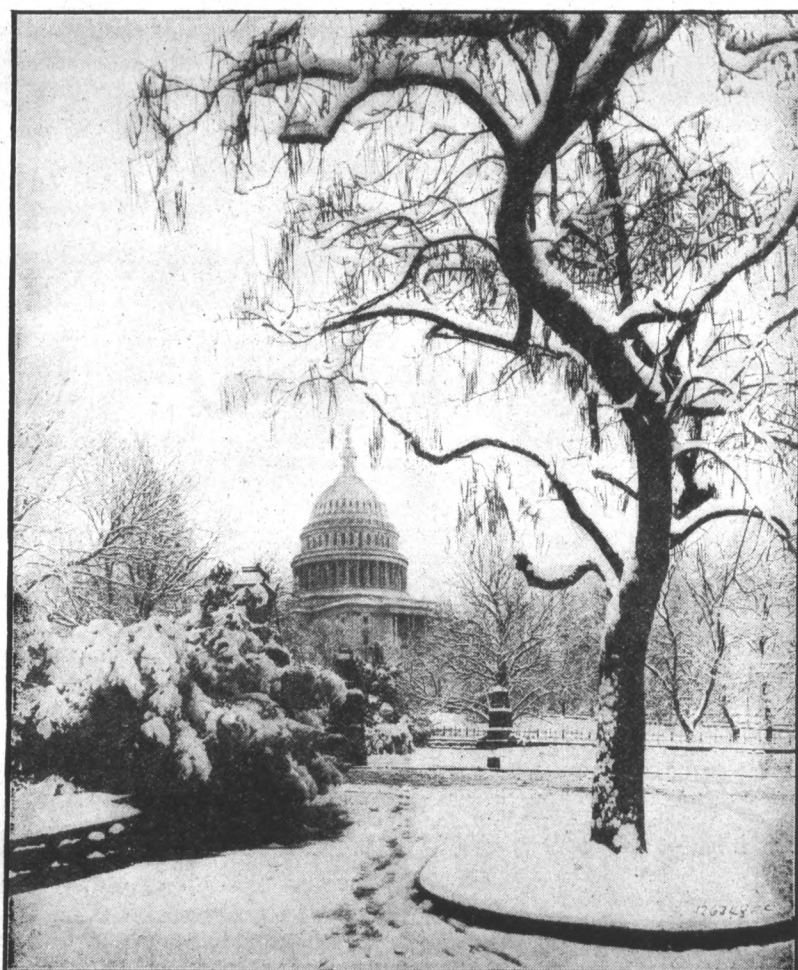
Ice Skating Rinks for Hotel Guests.



Eleven-year-old Globe Trotter here from Brazil.



French Soldiers at Saloniki.



The Capitol at Washington—Snowbound.

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King of Italy Watching Army.



A New Cape from Paris.

over a somewhat dissipated face raised some doubt as to the young man's identity.

Had John been warned of Mr. Langdon's coming, in all probability he would have avoided a meeting, but it was now too late. Recognizing his old friend, the disgraced youth hesitatingly arose and extended his hands with the words, "I'm most ashamed to show myself, Mr. Langdon, but I'm glad you've happened in."

"Haven't things been going well?" was the sympathetic query.

"Everything's going wrong, as you may guess," replied John apologetically, "I'm about done," and he turned his face to the floor.

Seating themselves in a quiet corner of the mission, the older man, by kindly questioning, learned much of the boy's trouble, and while the latter felt keenly the disgrace that had come upon him, he did not seem inclined to accept suggestions made by his benefactor, especially any reference to his returning home.

"A jump from the bridge would be easier for me than to return to Brannock," he rejoined. "No, I cannot go back."

"It will be hard no doubt, but things are hard with you here, John, besides you owe something to your parents."

"To my mother I owe much, but to father's unreasonable demands for work I credit my presence here. You know, Mr. Langdon, that the old farm hasn't a modern thing on it, and I was always criticized if I failed to do barehanded what the neighbor boys did with proper equipment."

"But if your father would meet you half-way?" queried the anxious man.

"I have the smallest confidence in his changing. No, Mr. Langdon, while I appreciate your interest in me, I will not return."

The look in the young man's face was resolute, and Mr. Langdon well understood the futility of pressing his appeal further at this time.

"John, I can't go and leave you like this. Come over to the hotel with me and we'll go by ourselves and spend the evening."

But that same independence which stood in the way of the young man's going back to Brannock not only brought a decline to this invitation, but also the refusal of an offer of financial assistance.

"I'll pull myself together," continued John, "and make a go of it, or I'll abide by the results."

"You're plucky, John," spoke the elder man in a low voice with his eyes fixed upon the other. "But the difficulties are large. A little assistance now will aid you more than it would later. Would you object to my coming to see you again tomorrow morning?"

"No, Mr. Langdon, there are no objections, but do not entertain any hope of persuading me to go back to Brannock; my mind is made up on that point."

That same dogged quality that had made the father a severe master was observed by Mr. Langdon in the son. His close acquaintance with the family caused him to doubt the possibility of reconciling this young man and his father, as he walked slowly back to the hotel. At the telegraph office he wired this message:

"James Dalton, Brannock. Need your assistance. Come down on evening train. At Vincene. Bryce Langdon."

"The telegram was misunderstood by Dalton and he made haste to comply with the request to assist his old neighbor. At the hotel he came upon Mr. Langdon seated at the correspondence table.

"What's the trouble, Bryce?"

"Hello, Jim, here before I expected you. Come up to my room. There are some matters you and I must talk over tonight."

The two broad shouldered, bronze faced farmers commanded attention as they passed through the lobby, absorbed in thought. At room 105 they made themselves comfortable and being practical men spent no time in

preliminaries. Mr. Langdon was the first to speak.

"Jim, I don't know how you'll take matters, but I've called you down here because of John."

"What? John?"

"Yes, he's here in town."

"You well know, Bryce, that that boy and I have parted for good, and I shall have nothing to do with any matter which concerns him."

"Yes, I know," replied Langdon a little uncertain how to proceed, and then continued, "But the circumstances are such that unless something is done immediately, this boy may be driven to acts that may publicly dishonor the name he bears."

The suggestion of a possible disgrace, together with the sympathetic tone in the voice of the speaker had a penetrating effect that resulted in Dalton's yielding a point by asking the question, "Where is he?"

"He is down and out Jim, and is now taking lodging in the Clark Street Mission."

"He couldn't stand it. I've always thought he lacked the Dalton spirit," replied the father half to his companion and half to himself, and after a moment's silence he leaned toward his neighbor and added, "Bryce, this boy's course is no surprise. It proves the wisdom of my attitude toward him."

Langdon was thoughtful. Inwardly he felt that the boy's accusation made in the afternoon's conversation was largely true, but would he gain or lose the father's assistance by relating it? Then, too, if the idea was to be suggested, should it be as Langdon's opinion or as that of the boy? But before these questions were quite across his mind, a more promising course intruded.

"Jim, these problems are badly mixed. It is often difficult to determine just who is responsible for certain results. About ten years ago I was fully confident that everything a man in my circumstances could do was being done to make life tolerable and comfortable for the family. But one night a heart to heart talk with Mrs. Langdon caused me to realize some shortcomings. It was gracefully pointed out that I had individual drinking fountains for the cows, but the women folks could run several rods from the house every time they wanted water; my stables were perfectly ventilated, while the sleeping rooms in the house each had one pesky little window; the best driving harness was fitted with silver mountings, but the family used pewter spoons, and so on. That night I did not sleep, but kept awake thinking of what I might do to redeem myself. This thinking resulted, as you may recall, in the installation of the water system with baths, etc., the power washer, the furnace, and finally the electric plant which Mrs. Langdon has quite fallen in love with. I confess, too, that I hardly missed the money these improvements demanded, but I did enjoy life a hundred times more because the wife and girls thereafter had energy left to get really acquainted with me. Now the hard thing about the matter was that I had thought I was doing the best by them when in reality I was very selfish—"

The shrill scream of a whistle, the clatter of horses' feet and the rumbling of wheels over the pavement brought the two men to the window where they saw people rushing by and an instant later flames leaping from a four-story building in the adjacent block. Hurrying to the street they succeeded finally in getting near the firemen who were tugging with the heavy hose. Suddenly the attention of the throng became fixed upon the act of some courageous civilian. He was scaling an adjacent roof and making his way toward an unfortunate woman who was appealing for help from one of the upper stories of the burning building.

"Bryce, few men would undertake that," said Dalton in a spirit of admiration, as the man found an old window shutter and placing it upon the coping of the roof formed a bridge

to the sill of the window where the frantic woman was screaming. The bridge inclined dangerously and was no fit support for the weight of a man at such a height. By thoughtfully distributing his bodily weight the rescuer succeeded in reaching the window and finally pulled himself up beside the woman.

The crowd was breathless. Besides the predicament of the two persons, it was apparent that the woman was fainting. It seemed to tax the strength of the man to hold on and prevent her from tumbling down between the buildings. Already the flames were reaching adjacent windows, and from no direction except up and over the roofs did it seem possible for anyone to offer assistance. But with a tug and a swing that seemed miraculous, the man succeeded in placing the body of the woman upon the shutter without knocking it down. He painfully hung on and at the same time labored to slide her down toward the other roof. Her body moved until her feet caught against the wall at one side of the blind, when his best efforts made no further headway. So, lifting his end of the frail bridge and slowly working the opposite end from the top of the brick coping and then giving the whole a shove, he succeeded in slipping the woman and blind over onto the roof some three feet below.

There was a cheer from the crowd, but it was short, as the man had cut off his own escape. His only remaining course lay in jumping the chasm between the buildings. The distance was perhaps nine or ten feet. He had the advantage of being a little above the coping of the roof opposite, but there were handicaps that made the jump a real athletic feat. However, he had no choice, and redoubling his energy leaped. His feet struck the

side of the wall and dislodged tiles caused the hands to lose their hold and in a second his body went tumbling out of sight of the spectators.

But a fire squad had by this time reached the roof, and soon the unconscious woman was receiving first aid. The man had fallen a short distance onto a network of wires where it was possible for the firemen to rescue him with their ladders.

The morning papers featured the heroic effort of the man. He was a tramp but would not tell his name. At the hospital he confessed that he was on his way to the river bridge when he heard the fire alarm, saw the burning building and the pleading woman. He then forgot his purpose and became possessed with the idea of rescuing her.

The description given and the circumstances led Bryce Langdon to suspect that the rescuer might be John Dalton, so he called the mission and learned that the young man had left at about the time the fire started.

"Jim," he said, after they had breakfasted, "let's go over to the hospital and see the fellow who rescued the woman last night."

"Glad to do so, Bryce. I cannot get out of my mind the pluck of that man," was the answer.

At the hospital Langdon knew at once that his inference was correct, but the unshaven and swollen face, however, made a successful mask against the father's recognition.

"Bruised badly and his left forearm is broken," volunteered the nurse. "But there is no reason to believe he will not recover."

"Like to talk to him when he awakes, and will be back in an hour." On nearing the hotel Dalton broke the silence by asking about John.

"You may not believe me, but John was the hero who rescued the woman last night."

This unexpected news startled the father who, in an uncertain voice replied, "Bryce Langdon, I can't understand you. That was not John." The sentence was half question and half exclamation.

The only proof Langdon could offer

(Continued on page 13).

(Our New Serial Story)

Light of Western Stars

By ZANE GREY

CHAPTER V.

"Majesty, I must run down to the siding," said Alfred Hammond, consulting his watch. "We're loading a shipment of cattle. I'll be back by supper time, and bring Stillwell with me. You'll like him. Give me the check for your trunk."

She went into the little bedroom and, talking up her bag, got out a number of checks.

"Six! Six trunks!" he exclaimed. "Well, I'm very glad you intend to stay a while. I hope you packed a riding-suit. If not, you'll have to wear trousers. You'll have to do that, anyway, when we go up in the mountains."

"No!"

"You sure will, as Florence says."

"We shall see about that. I don't know what's in the trunks. I never pack anything. My dear brother, what do I have maids for?"

"How did it come that you didn't travel with a maid?"

"I wanted to be alone; but don't you worry—I shall be able to look after myself. I dare say it will be good for me."

She went to the gate with him.

"What a shaggy, dusty horse! He's wild, too! Do you let him stand that way, without being haltered? I should think he would run off."

"Tenderfoot! You'll be great fun, Majesty, especially for the cowboys; and in three days they'll be fighting one another over you. That's going to worry me. Cowboys fall in love with a plain woman, an ugly woman—any woman, so long as she's young. And you! Good Heavens, they'll go out of their heads!"

"You are pleased to be facetious, Alfred. I think I have had quite enough of cowboys, and I haven't been here twenty-four hours."

"Don't think too much of first impressions. That was my mistake when I arrived here. Good-by—I'll go

now. Better rest a while. You look tired."

The horse started as Alfred put his foot in the stirrup, and was running when the rider slipped his leg over the saddle. Madeline watched him in admiration. He seemed to be loosely fitted to the saddle, moving with the horse.

"I suppose that's cowboy style," she said. "How different from the seat of the English Guards!"

Then Madeline sat upon the porch and fell to interested observation of her surroundings. Near at hand they were not prepossessing. The street was deep in dust, and the cool wind whipped up little puffs. The houses were low, square, flat-roof structures made of some kind of red cement. It occurred to her that this must be the adobe she had read about.

There was no one in sight. The long street appeared to have no end, though the line of houses did not extend far. Once she heard a horse trotting at some distance, and several times the ringing of a locomotive-bell. Where were the mountains? wondered Madeline. Soon, low over the house-roofs, she saw a rugged outline, dark-blue in the distance. It seemed to charm her eye and fix her gaze.

She knew the Adirondacks; she had seen the Alps from the summit of Mount Blanc; she had stood under the mighty shadow of the Himalayas; but they had not drawn her as these remote Rockies. This dim horizon line, boldly cutting the blue sky, fascinated her. Florence Kingsley's expression, "beckoning mountains," returned to Madeline. She could not see or feel so much as that. Her impression was rather that these mountains were aloof, unattainable, that if approached they would recede or vanish like the desert mirage.

Madeline went to her room, intending to rest, and she fell asleep. She

(Continued on page 12).



Reo Quality Is Uniform—Every Reo Car Is a Good Car

YOUR REO MOTOR—the motor that will go into your Reo—into every Reo car—is dynamometer tested.

Perhaps you don't catch the full significance of that statement—sounds like "shop talk" to you.

ALL RIGHT, WE'LL EXPLAIN: And in the explanation perhaps we can show you why Reo quality is uniform—why every Reo is just as good—just as powerful, just as sweet-running and just as low in upkeep cost as the best Reo we ever made.

MOST MAKERS CONSIDER it sufficient to subject every tenth or every fifteenth and in some cases every one-hundredth motor to the dynamometer test. (Of course we are speaking now of those leading makers who have this expensive equipment. Many scarcely know the meaning of the term.) It is considered sufficient gauge of the accuracy of workmanship and the power of motor to test one "about every so often."

IF THAT ONE PROVES UP it is assumed that the rest of that day's run will average about the same. If it falls below the requirements in the test it is in like manner assumed that the rest are below standard—and measures are taken to correct it in the next batch.

MEANTIME YOU MIGHT be one of those to get one of those that didn't prove up.

NO; WE REO FOLK do not consider that kind of testing sufficient. It isn't sufficient, for example, that the Reo we sell you "averages up." The Reo standard says your Reo must be as good in every respect as any Reo ever turned out of the factory—a little better if possible, since today's cars ought to be better than yesterday's.

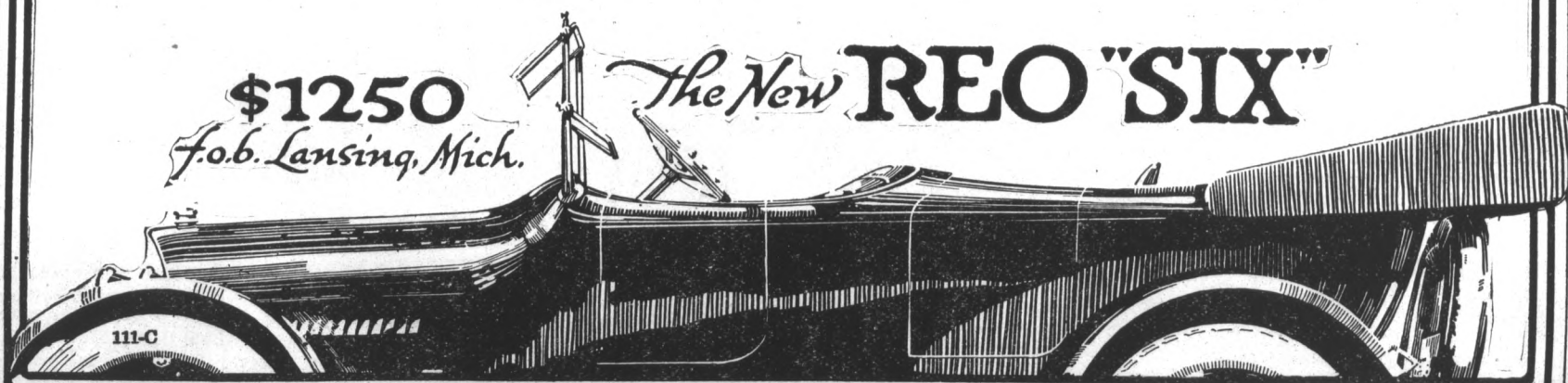
AND SO YOU CAN KNOW—you can feel absolutely sure—that the individual car we deliver to you, has, itself and its every part, passed through the most rigid tests.

IF YOU COULD VISIT the big 30-acre Reo plant at Lansing, Michigan, and see the four rows of dynamometers with meters and other electrical equipment, you would exclaim, "What an expensive testing equipment!"

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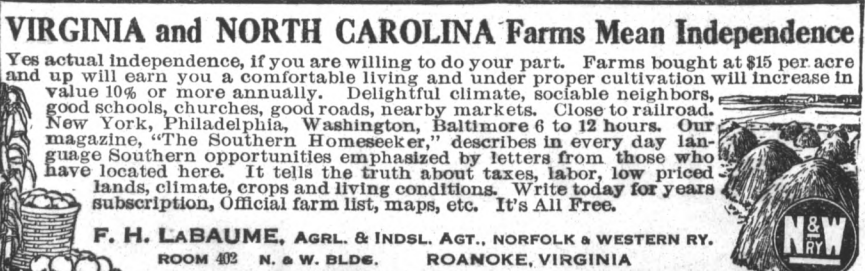
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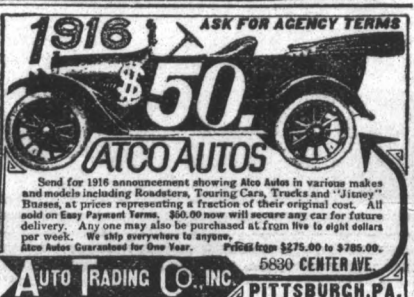
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LIGHT OF WESTERN STARS.

(Continued from page 10).

was aroused by Florence's knock and call.

"Miss Hammond—your brother has come back with Stillwell."

"Why, how I have slept!" exclaimed Madeline. "It's nearly six o'clock."

"I'm sure glad. You were tired, and the air here makes strangers sleepy. Come, we want you to meet old Bill. He calls himself the last of the cattlemen. He has lived all his life in Texas and here."

Madeline accompanied Florence to the porch. Her brother, who was sitting near the door, jumped up and said:

"Hello, Majesty!"

"I want to introduce my friend Stillwell. Bill, this is my sister—the sister I've so often told you about—Majesty."

"Wal, wal, Al, this is the proudest meetin' of my life!" He extended a huge hand. "Miss—Miss Majesty, sight of you is as welcome as the rain an' the flowers to an old desert cattle-man."

It was all that Madeline could do to repress a cry as he crunched her hand in a grasp of iron. He was old, white-haired, weather-beaten, with long furrows down his cheeks, and with gray eyes almost hidden in wrinkles. If he was smiling, it was a most extraordinary smile; but an instant later she realized that it had been a smile, for his face appeared to stop rippling, the light died, and suddenly it was like rudely chiseled stone. The quality of hardness that she had seen in Stewart was immeasurably intensified in this old man's face.

"Miss Majesty, it's plumb humiliatin' to all of us that we wasn't on hand to meet you," Stillwell said. "Me and Al stepped into the P. O. an' said a few mild an' cheerful things. Them messages ought to hev been sent out to the ranch. I'm afraid it was a bit unpleasant fer you last night."

"I was rather anxious, at first, and perhaps frightened," replied Madeline. "Wal, I'm some glad to tell you that there's no man in these parts, except your brother, that I'd as lief hev meet you as Gene Stewart."

"Indeed?"

"Yes, an' that's takin' into consideration Gene's weakness, too. I'm allus fond of sayin' myself that I'm the last of the old cattlemen. Wal, Stewart's the last of the cowboys. Sure, he's young, but he's the last of the old, picturesque style, an' chivalrous, too, I make bold to say, Miss Majesty, as well as the hard-ridin' kind. Folks are down on Stewart. I'm only sayin' a good word for him because he is down, an' mebbe last night he might hev scared you, you bein' fresh from the east."

Madeline liked Stillwell for his loyalty to the cowboy, but she remained silent.

"Miss Majesty, the day of the cattle-man is about over; an' the day of the cowboy, such as Gene Stewart, is over. There's no place for Gene. If these weren't modern days, he'd come near bein' a gunman, same as we had in Texas when I ranched there in the seventies. But he can't fit nowhere now; he can't hold a job, an' he's goin' down."

"I'm sorry to hear it," murmured Madeline. "But, Mr. Stillwell, aren't these modern days out here just a little wild, even yet? The conductor on my train told me of rebels, bandits, raiders. Then I have had other impressions of—well, that were wild enough for me."

"Wal, it's some more pleasant an' excitin' these days than for many years," replied Stillwell. "The boys hev took to packin' guns again, owin' to the revolution in Mexico. There's goin' to be trouble along the border. There's already been hold-ups on the railroads, an' raids along the Rio

Grande valley. An' these little towns are full of greasers, all disturbed by the fightin' down in Mexico. We've been hev'in' shootin' scrapes an' knifin' scrapes, an' some cattle-raidin'. I hev been losin' a few cattle right along. Reminds me of old times, an' pretty soon, if it doesn't stop, I'll take the old-time way to stop it."

"Yes, indeed, Majesty," put in Alfred, "you have hit upon an interesting time to visit us."

"Wall, thet sure 'pears to be so," rejoined Stillwell. "Stewart got in trouble down heah today, an' I'm more than sorry to hev to tell you thet your name figgered in it. But I couldn't blame him, fer I sure would hev done the same myself."

"That so?" queried Alfred, laughing. "Well, tell us about it."

It required no great perspicuity, Madeline thought, to see that Stillwell loved to talk. The way he squared himself and spread his huge hands over his knees suggested that he meant to do justice to this opportunity.

"Miss Majesty, I reckon, bein' as you're in the west now, thet you must take things as they come, an' mind each thing a little less than the one before. If we old fellers hedn't been thet way we'd never hev lasted. Last night wasn't particular bad, ratin' with some other nights lately. There wasn't much doin'; but I had a hard knock. Yesterday, when we started in with a bunch of cattle, I sent one of my cowboys, Danny Mains, along ahead, carryin' money I hed to pay off the hands, an' I wanted thet money to get in town before dark. Wal, Danny never showed up. I don't distrust the lad. I'm plumb sure he's been held up on the trail. There's been strange greasers in town lately, an' mebbe they knew about the money comin'. Wal, when I arrived with the cattle, I was some put to it to make ends meet; an' today I wasn't in no angelic humor. When I hed my business all done, I went around pokin' my nose heah an' there, tryin' to get scent of thet money. I happened in at a hall we hev thet does duty fer jail and hospital an' election-post an' what not. Wal, jest then it was doin' duty as a hospital. Last night was fiesta night—these greasers hev a fiesta every week or so—an' one greaser who hed been bad hurt was layin' in the hall, where he hed been fetched from the station. Somebody hed sent off to Douglas fer a doctor, but he hedn't come yet. I've had some experience with gunshot wounds, an' I looked this feller over. He wasn't shot up much, but I thought there was danger of blood-poisoinin'."

"The hall was full of cowboys, ranchers, greasers, miners, an' town folks, along with some strangers. I was about to get started up this way when Pat Hawe come in. Pat, he's the sheriff. I reckon, Miss Majesty, thet sheriffs are new to you, an' fer sake of the west I'll explain to you thet we don't hev many of the real thing any more. Garrett, who killed Billy the Kid, an' was killed himself near a year or so ago—he was the kind of sheriff thet helps to make a self-respectin' country. But this Pat Hawe—wal, I reckon there's no good in me sayin' what I think of him. He come into the hall, an' he was roarin' about things. He was goin' to arrest Danny Mains on sight. He swore Danny made off with the money. Wal, I jest polite like told Pat thet the money was mine, an' he needn't get riled about it, but if I wanted to trail the thief I reckon I could do it as well as anybody. Pat howled thet law was law, an' he was goin' to lay down the law. Then he cooled down a bit, an' was askin' questions about the wounded greaser when Gene Stewart come in. Whenever Pat and Gene come together it reminds me of the old days, for Pat hates Gene, an' I reckon Gene ain't very sweet on Pat.

(To be continued).

TURNING A NEW LEAF.

(Continued from page 10).

was the great change that had come over the young man which caused him to doubt his identity on the previous afternoon, and he went on further to say, "It was largely for this change that I felt obliged to call you here. Jim, it seems to me from what we have seen that John deserves a little regard."

The thoughtful couple had reached the hotel and were ascending the stairs when a bellboy called Langdon's name. "A telegram call, sir. Long distance."

At the other end was Mrs. Dalton. She nervously attempted to excuse her anxiety, but desired to know the situation. In a few words Langdon related the story of finding John in the mission, his telegraphing, the fire, rescue and accident and the visit to the hospital.

"John's condition is not serious," he continued. "But it will in all probability require two weeks before he can be removed. I feel sure it would help if you would come down. Would you care to speak to Jim?"

"Better not do so unless you think it wise. Mrs. Langdon is here with me," was the reply.

"Call her to the phone, please." In the conversation that followed detailed arrangements were completed for Mrs. Dalton's trip to the city. A day later she was at the hospital while her husband and Langdon were traveling homeward. An event occurred before their departure, however, that caused Langdon to wonder how things would eventually shape themselves: Dalton who had learned from a later issue of the morning papers, that the hero was his son, refused to return to the hospital with Langdon, and the latter was obliged to go alone. He did so, and saw that the young man had the best medical attention.

There are those who place little value in the word of mouth. Deeds are the only evidence they will accept. James Dalton talked in deeds. He said nothing of plans, if he had them in mind at the time he left the city, but during the two weeks of John's convalescence, he did things which showed him to be a changed man.

Christmas week saw the home in disorder. Workmen had been busy and it was not until the last days of the month that things were cleared away. In a letter written on the 26th to Mrs. Dalton, was this sentence:

"Impress upon John that his father is very anxious for him to return home, and I shall be disappointed if you both cannot be here for the New Year holiday."

It was a genuine welcome that the mother and son received at the station, for John had been persuaded, while under the care of his mother, to return to Brannock. When they passed the threshold that New Year's eve, they gasped at electric lights, at registers in the floor, and later were startled at a motor washing machine, running water and other strange equipment.

It is as easy for some men to confess their faults as it is difficult for others. With all the evidence about that he had fully capitulated, it remained impossible for James Dalton to speak of the matter, to tell his son that he was sorry for things of the past, and to confide to his wife that during their many years of married life he had imposed upon her good nature by compelling her to do without the things she was entitled to have.

But without this verbal confession there seemed to be an understanding between the three—the old restraint was gone, the very air seemed freer and there was only a strangeness present for lack of expression of the things they all felt, and here Mrs. Dalton came to the rescue with the simple statement, "You know it seems like we are beginning anew."

At that the old clock struck twelve and simultaneously the telephone rang and Bryce Langdon responded to the "Hello" with "A Happy New Year to you all."

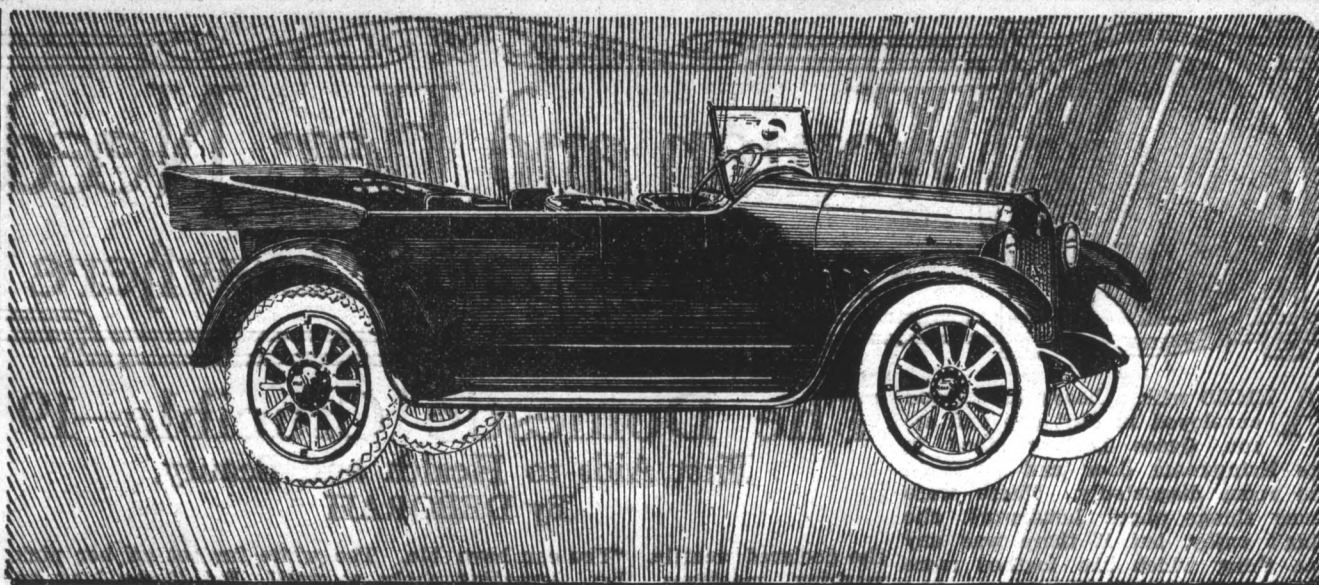
NEW YEAR BELLS.

BY RUTH RAYMOND.

O list the wondrous New Year bells
While far and near their music swells
And hosts of white robed angels meet
To sing their hallalujahs sweet,
For this New Year shall bring again
The hope of "Peace, Good Will to Men."

Our country leading in the van
To prove the brotherhood of man,
And give ungrudgingly of cheer
To crown with love this glad New Year.

O list the bells while thus they ring
A message clear as song of Spring
And full of faith, of love and peace
A prophesy that war shall cease
And nation unto nation call
"Fling out the white flag over all
While we as brothers now will stand
United in one noble band
And God who sets from carnage free
Shall be our King on land and sea."



Specifications:

WHEEL BASE: 120 inch.

MOTOR: Four cylinder, bore 3 1/2 inch, stroke 6 inch, cylinders cast on block integral with crank case, L. Head, 40-45 B. H. P.

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CLUTCH: Cone.

TRANSMISSION: Selective, three speeds forward and one reverse; three point suspension, in unit with power plant, left hand drive, center control, Timken bearings. Spicer universal joint.

AXLES: Rear—Wes-on-Mott 3/4 float-axle, with spiral bevel gears; torque and drive thrust taken by torque tube to rear end of transmission through a ball and socket joint, pinion shaft provided with two Beck roller type bearings. Front—I-beam, designed and built by Case; Timken bearings; I-beam section, steering arms, steering knuckles and king pins all of special chrome nickel steel—forged, heat treated and machined in our shops.

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SPRINGS: Rear—Cantilever, 50 inches long, 2 1/2 inches wide; attached to rear axle by means of universal joints, which take all side play, allowing springs to do full spring duty—an exclusive feature in construction.

WHEELS: 34x4 inch, Artillery type, with Goodyear detachable, demountable rims.

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The refinements of this car are individual. Its combination of excellencies is bound to be appreciated and wanted by the motor-wise and discriminating. We predict a well-deserved sensation for this car.

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Woman and Her Needs

At Home and Elsewhere



ARMED with a heavy broom and enveloped in dust cap and apron, Grace Ludlow stood in the living-room door and surveyed the room disgustedly. There were many things about housework she didn't enjoy, but if there was any one thing which she loathed more than another it was sweeping. Yet with the courage of her pioneer ancestors she held herself to the task, and every Friday found her ready to turn the house upside down and put it together again as nearly dustless as possible with the means at her disposal. The Ludlow living-room was what its name implied, and it was no easy task to rid the carpet of the dust carried in by masculine feet. For in spite of Grace's suggestions and commands the men seldom bothered to remove outside shoes and don slippers before going into the living-room to sprawl comfortably about, reading the papers and magazines which overflowed the table.

"I don't mind the real work," Grace communed with herself as she dusted the few bits of bric-a-brac and carried them out of the room before starting to sweep. "Work is my middle name. It's the dust that I hate. If I could sweep without raising a dust it wouldn't be so bad. But there is always more or less dust, no matter what you do. They can tell you to use damp tea leaves or torn bits of wet paper or salt or coffee grounds, but none of them are satisfactory, and still there's dust. Salt sticks in the pile of the rug and the wet stuff is mussy, but you've got to do something."

She scattered bits of wet paper about as she spoke and with steady, even strokes of the broom went over the rug, bearing down to loosen all the dust. The surface looked clean and bright when she had finished, but Grace knew that when she used the carpet sweeper tomorrow morning, clouds of dust which the broom could not touch would arise to fill her nostrils.

"I can't do a bit better," she sighed, "No flesh and blood woman could. It needs a machine to clean carpets where they are used like this." With a final sigh she turned to dusting. In spite of the precautions of damp paper everything was covered with a thick coating of dust, and the "dustless" dust cloths required frequent shakings at the door. As she came to the mantle she caught sight of herself in the mirror, and paused, fascinated by the weird sight. A coating of gray dust covered her face and filled her nostrils; a smudge adorned the end of her nose, and her cap and apron, which had been fresh when she started were streaked with grime and dust.

"Well, you are a sight," she remarked to the vision in the glass. "Wouldn't you feel fine if the new preacher and his wife should call this minute? You'd better hurry and get this place straightened around, for Friday is their visiting day, and it would be just your luck to have them stop here today."

A few minutes more sufficed to put the room into presentable order and by dint of slighting corners, with a promise to do them sure next time, she succeeded in cleaning the room before time to start dinner, which must be ready at twelve sharp if she was to keep her record.

It was a very tired young woman who dropped down in an easy chair by the library table when the men had finally finished dinner and departed.

"Sweeping is worse than washing,"

The Domestic Crucible—19

First Aids to Health and Beauty.

By DEBORAH

she declared wearily. "You can have washing machines, but sweeping must be done by hand. Come to think, though, must it?" she demanded of the table full of magazines. "Who said vacuum cleaner?"

She sat up briskly with the thought and reached for the latest publications. Every farm paper she found contained an advertisement or two of some helpful sort of sweeper.

"Of course, it can't be electric yet," she mused, turning the pages to study the different kinds. "We haven't the power yet, but we're going to have it, though John doesn't know that yet. But almost any of these cleaners would be better than a broom. They take the dust up along with the surface dirt and you save your complexion, hands, lungs and temper. I must have one, but how?"

How! That was the question. The Ludlows had just put in a furnace, and Grace had a strong suspicion which amounted almost to positive conviction that John would buy nothing more for the house that winter. However, it was worth trying, so over the fried ham and eggs, creamed potatoes and coffee that evening, she broached the subject.

"Bank's busted," John remarked briefly, and devoted his entire attention to the delicately browned ham.

"But I really ought to have one," Grace urged. "All this dust getting on my lungs is apt to cause tuberculosis."

"That must be what ails mother," John replied, "She looks as if she was going into a decline, doesn't she? What did she say she weighed, 225 pounds? And she's been sweeping carpets 40 years."

"Your mother is different," Grace flung back. "The older generation had stronger constitutions. I've got to take care of myself."

"Where's today's paper?" John demanded, rising suddenly and closing the conversation. "If beans go any higher, I'll go out and shoot myself. Highest price on record and I didn't raise one."

He disappeared through the living room door, and Grace, accepting her defeat, arose to clear the table.

Still she must have a vacuum cleaner. She had had no hopes of getting the money from John, so she was not in the least disappointed. Yet having set her heart on owning one she would not give up. A hand-power cleaner would take no more strength to operate than sweeping with a broom required, and besides it would do better work and there would not be the clouds of dust which now bothered her.

How should she get it? She pondered ways and means as she washed the dishes. She might save enough out of the butter and egg money, in time, but she was saving from that now to buy a set of furs. Already she had saved \$12.50 towards a \$15 set. A sudden thought struck her. Why not get the cleaner instead of the furs? That white fox set she had been saving for wasn't fox anyway; nothing but a cheap imitation. Why buy it to wear three or four months and then lay away, and do without a household necessity that could be used every day in the year? The furs were so becoming, even if they were imitation! But the cleaner would be more sensi-

ble. The white fur set off her pink cheeks so well! But if she kept on covering her face with dust every week she would soon be without pink cheeks.

She sighed impatiently. Why could not a person have everything she wanted as soon as she thought of it without having to plan and save and give up one thing to get another? She slammed the dishpan viciously on its hook and went into the living-room to read again the glowing descriptions of vacuum cleaners, and look longingly at the picture of the furs she had selected from a mail order catalogue. What should she do? John settled it.

"Going to order that cleaner tonight?" he mocked teasingly. "It ought to be here by next Friday if you do."

He thought he had her and she couldn't get one, did he? Well, she would show him she wasn't entirely dependent. And the next day's mail bore away an order for a 1916 cleaner, so light a child could run it, and warranted to take up all dust.

THE JANUARY WHITE SALES.

BY GRACIA SHULL.

Farmers' wives should keep a lookout for the big, white sales held in the cities in January. All large stores hold them and real bargains are to be had in muslins of all kinds, curtain materials, bed spreads, lace curtains, underwear, white cotton crepe, thread, lace, white gloves and hosiery, table linen, etc. In fact everything in white may be purchased at from one-fourth to one-half cheaper in January at these big sales than at any other time in the year.

It will pay to purchase an entire bolt of half bleached muslin and make it up into sheets and pillow-slips. Embroider the pillow slips, using some simple design or your monogram inside a wreath of leaves and eyelets. Hemstitched or scalloped, the slips will be handsome and expensive-looking, but costing, in reality only a few cents each.

January is the month to buy towelings, either for kitchen, bathroom or guest chamber. For eight cents a yard I am able to purchase dainty, white huck with neat floral patterns. This huck is 18 inches wide. I use it for dresser and wash stand runners and towels for my spare chamber. I hemstitch the ends, then set in a crochet initial in the center of one end and on the same end I sew crochet lace, using a simple pattern from one to three inches wide.

White crepe night robes, combinations, petticoats, drawers and corset covers are extremely dainty, cool, comfortable and so easily laundered. Little if any trimming is needed for these crepe garments, although I use a bit of tatting or crochet edging, beading, and narrow silk ribbon and the cost is very little.

White lisle gloves and hosiery should always be purchased in mid-winter, as one is able to purchase two pairs at the price of one, if they will only take interest and attend the big sales. Farm women usually have more time for sewing in January than they have in June and this is a good time

to do the purchasing and get the white sewing "done up" and out of the way. White lawns, swiss and dimities for the children's frocks and aprons, white outing for the new baby's diapers and nighties, white yarn for the sacques and booties and slumber robe should be purchased, made up and laid away until needed. Storage will cost nothing and waiting to purchase will cost a lot.

THE BEST CAKE "PLATE."

BY LEE M'CRAE.

When acting as one of the judges at a recent state fair I was surprised to see how few women—all fine cake-makers—knew how to exhibit their products. Fully two-thirds of the cakes were displayed on ordinary dinner plates, the lower centers of which allowed the best baked cake to sink in the middle. This condition was especially noticeable in layer cakes as the sinking of the plate and the soft fillings worked together to ruin some very fine ones. When fresh this settling is not so noticeable but after standing several days, as exhibits must, it was marked enough to rob several of well-earned prizes had they been properly placed.

"A large, inverted lard can lid is the best possible basis for a cake in a place of this kind," said one of the judges, a woman of skill and experience. "It gives the flat, smooth surface necessary, extends out beyond the cake, has a protecting rim, and is inexpensive enough to leave behind when the fair is over."

Few, of course, enter such contests as these, but many of our women send cakes to church or social affairs and these should consider the best way of caring for their fine wares.

CEREAL FOOD PRODUCTS.

(Continued from page 15).

dant and suitable supply from which to select.

This has not, it seems, been sufficient for human beings. Endowed with teeth they fail to properly chew their food, with acute olfactory nerves and keen eyesight they fail to properly select their food. With masticating conveniences they fail to satisfactorily mix their food and so it goes into the stomach a mass improperly selected, improperly chewed and becomes a burden many times instead of the blessing intended.

The tiny one-celled organism has the advantage of us after all. If it doesn't like the food with which it comes in contact it bounds away and places its affection elsewhere. In man particularly he is burdened not only with selecting the food, but he must provide likewise for the removal of the rejected material. Man's greatest trial is to provide some regular scheme which will promote the onward movement of the products in the alimentary canal and thus bring about the removal of the burned and rejected material—the food residue.

Cereal breakfast foods have taught men something. They have studied themselves more and the effect has been good.

Part of our family is very fond of one kind of cake icing, which the rest do not like, so when I make a cake I often have one-half of it frosted with one kind of icing, and the other half with another. I fix layer cakes in the same way.—E. S. T.

Cereal Food Products

By FLOYD W. ROBISON.

PROBABLY the greatest stimulus to the study in general of dietetics has been brought about through the examination of the cereal breakfast foods. As we have stated before, the origin of this class of products came about through a desire to establish a scientific foundation for the use of a certain type of food products. A considerable amount of success attended the efforts of those who were prescribing a special prolonged preparation of vegetable, and particularly cereal foods, as cures for stomach troubles. Disturbances of digestion seemed to be a very prevalent form of illness among our people and it was not unnatural to ascribe this to a lack of careful preparation of the food previous to consuming it.

How Should Breakfast Foods be Prepared.

Inasmuch as breakfast porridges of which oatmeal particularly, and in addition wheat meal, formed a large part of the diet, the question of how these products should be best prepared to make them not only wholesome and nourishing, but to secure the greatest amount of nutrients which they contain, has been a rather broad topic of discussion. Many maintain that oatmeal, for instance, should be cooked at a boiling temperature for two to four hours before it is suitable for eating. Others have claimed that it was simply necessary to stir into boiling water a cupful of oatmeal and allow it to simmer a few minutes, when it would be entirely ready for food. The real fact of the preparation of these foods is that very seldom have they been sufficiently cooked. Oatmeal is rarely cooked enough, corn meal is rarely cooked enough, and wheat meal has very rarely indeed been cooked sufficiently long to make the cooking process of any special significance, and coupled with this the prevailing mode of eating among a good many people, that is, hurrying through the meal, has rendered an abundance of opportunity for the appearance of gastro-intestinal disturbances. Stomach troubles and troubles of digestion generally have indeed been very common and it was very natural to look to the food and to the mode of preparation of the food to ascertain the source of this trouble. Science was called into play to see if a food could not be prepared artificially so that some of the labors of the digestive organs would be performed before the food product itself was eaten. This idea did not arise because of any desire to lighten the burdens of the digestive organs, as many manufacturers have advertised, and as some dieticians have claimed, but arose because it was realized that the natural digestive processes were not given ample opportunity to perform their function properly and the digestive fluids did not have a properly prepared food material to operate upon. It was thought, therefore, that by a pre-treatment mechanically the digestive processes could in this way be assisted.

When Digestion Begins.

The first act of digestion is a combination of grinding and masticating, by which the food material, if sufficiently and properly chewed, becomes ground quite fine and intimately mixed at the same time with the saliva of the mouth. The saliva is a juice secreted by the glands of the mouth, alkaline in reaction, and contains a very active chemical ferment called ptyalin. Inasmuch as this is practically the only portion of the digestion process which is under the control of the individual, it is apparent that this phase is one which would first be inquired into, and we find as a matter of fact, that this salivary digestion exerts almost entirely chemically its influence upon the starches, that particular constituent or proximate principle for which cereals and vegetable foods are essentially noted. A disturbance of digestion caused by cereal or vegetable foods would therefore (a priori) indi-

cate a lack of mechanically grinding the food between the teeth, or it could indicate likewise an insufficient mixing of the food with the saliva and an insufficient time for any considerable activity of the ferment.

The Factory Treatment.

As a matter of fact, in our ordinary diet individuals are at fault on every one of these counts on the average. Not only do we not chew our food fine enough, but it is not chewed long enough. The term Fletcherize has been used, which simply is a term named after a man, and is used to indicate the advocacy of the prolonged chewing of food. Some have maintained that food should be chewed until there is no longer any taste to it, which is an indication that it is then fit to be swallowed into the stomach. The cereal breakfast foods therefore have been treated mechanically to make it possible for them to be pulverized with comparative ease. This mechanical treatment has been brought about by flaking the grains, which flaking is usually done by passing the product over hot rolls after the kernels have been cooked and then drying them and toasting them in a hot reel oven. The cooking of the food is designed to take the place of cooking in the home and many manufacturers maintain that they have given the product a much more thorough cooking than it would ever get in any home. In the process of toasting a portion of the starch is converted into soluble sugars which is analogous to the conversion of the starch into maltose in the mouth by the ptyalin ferment. Other manufacturers still further supplement this mechanical and heat treatment by mixing the flour with malt flour which contains the active diastase ferment. This mixing is done at a temperature which permits the malt diastase to attack the starch which has been liberated from its cellular walls by the heating process and converts it into malt sugar and dextrose.

The First Act of Digestion is to Put the Food in Solution.

Starch is insoluble in water or in the juices of the body. Maltose is soluble in water and in the digestive juices, and as the first real act of digestion consists in putting the food into a form where it may be dissolved in water, in other words, into a soluble condition, it may be seen that this introductory mechanical preparation of the food does really perform some of the functions that it is necessary for the digestive juices to perform. In this way it is expected that some of the evils of hasty eating and insufficient masticating of the food will be overcome.

Digestion in Man and Higher Animals is a Very Interesting Phenomenon.

The lower organisms, like the bacteria and one-celled structures, go out in search of their food and having found it begin the phenomenon of absorption at once directly through the cell wall. An amoeba wanders apparently aimlessly along until mere chance brings it in contact with food. An oyster, while itself practically stationary, has the power of directing a concerted action of its ciliary or hairs which bring a current of water in its direction and thus a supply of food. But before any food is accepted it must prove acceptable to the vital sense of the one-celled body and the judgment or instinct displayed is almost unerring.

The way animals have of securing their food is by having it pass in review as it were, along down the intestinal canal and the various fluids and agencies present along this canal reach out and select what they can find especially adapted to their needs.

Nature has provided animals with apparatus to so modify the food which they have at their command that the body commissary will have an abundance of food in solution.

(Continued on page 14).

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Farm Commerce.

Why Legislate on Marketing

THIRTEEN states have marketing officials endeavoring to aid in distribution of farm products. There is a general awakening to the fact that food is not necessarily a matter of private distribution, nor a matter of public indifference. When the federal government once began to aid production it was but the logical thing to aid also in distribution.

In fact, the consumer has even a greater claim in this direction for aiding in production is but little help to him.

The collection of the great staples from the farm is largely in the hands of a class called buyers, and these in turn sell to jobbers, manufacturers, wholesale dealers and finally retail dealers. Too often buying of farm products is in too many hands. Formerly it was supposed that many buyers got the producer the best possible price. But in many cases this competition was more of pretense than of fact. The volume of business did not allow each buyer to work up to efficiency. Much has been written to show that the farmer was wasteful and was not entitled to much consideration on that account. But careful analysis shows that between him and the consumer distributive waste as well as productive waste, was put on the producer especially when the crop was large, and upon the consumer when the crop was small.

Governmental Interest Needed.

The actual percentage that transportation or railroad haulage took was carefully guarded by federal and state government, and to the credit of the railroads, this was done at very reasonable rates. The price of produce on the farm, and the final price paid by the consumer has left an almost imperative demand for government investigation. Like Mark Twain said about the weather, "everybody had complained about it but no one had remedied it." Economic laws are not quite as certain as those ascribed to the Medes and Persians but the general trend of action was in favor of larger units of sale in distribution. The carload shipper of products saw that he was receiving greater returns than when he was selling in small quantities. If the individual producer did not have a full carload why he could co-operate with his neighbor and ship together, and economically co-operation became a fixed idea in selling and buying.

The weak point of co-operation even handled otherwise correctly, was the inability to co-ordinate these larger units to prevent them from competing and thus causing losses in price and waste in product. In fact, it was better that produce waste on the farm than on the market when transportation and packing expenses had been added. It is at this point that economists have agreed, and beyond lies the problem.

Reducing Number of Retailers.

Germany has used the official organization of agriculture, with tariff regulations to make compensatory prices an imperial question and then passed the word down from the Imperial Chamber of Agriculture to the remotest local organization after the supply had been determined from the local organization up. Denmark, the land of the most successful co-operators, came upon the same problem in preventing the competition among the larger units by a statutory regulation passed in 1912. The right was given any organization or corporation to file with the Industrial Commissioner of the Kingdom the size and form of package or container with unity of contents, and the right to mark the retail price on his goods. There was

a fine of around \$50 in our money for any retailer to sell at a less price than marked thereon, unless under some conditions of bankruptcy or permission of the producer. The object sought by the Danish co-operative societies was to make everyone become a co-operator so as to enjoy this privilege, to prevent unprofitable competition among producers and prevent the consumer from being exploited. Incidentally it tended to reduce the number of retailers who then did a larger volume of business, and the consumer bought in larger quantities at a time.

Fixing Prices.

This idea has been the basis of the Stevens bill introduced in Congress to allow proprietary articles which have or may be trademarked to have the retail price fixed by the producer,

and a fine for the cutting of prices.

The distributors of proprietary articles feel that they are entitled to have their product sold at a uniform price, and argue that where the consumer may get it for a less price in one place that the loss in selling by the dealer, is made up by increasing prices on less known articles. That the introducer of this bill is now the counsel for the Federal Trade Commission is somewhat interesting as to the action of that body in relation to so-called price fixing.

The majority of states have made the market office in connection with the land grant colleges so as to work in conjunction with the federal agencies of state and nation. It looks as if ultimately the states will occupy a somewhat similar relation in marketing to the United States as does the various state railway commissions do to the interstate commerce commission, for trade knows no state lines. A state like New York or Illinois, with large marketing cities, could very easily discriminate against other states, especially when there was a surplus crop. What the various states are doing and propose to do will be given at another time.

Shiawassee Co. J. N. McBRIDE.

Federating Michigan Co-op Societies

IT has been about a year since the co-operative idea began its rapid and phenomenal spread throughout the farming districts of this section. For twice that time, the movement has been in practical working order in some localities. This may seem a short period by which to judge the stability and permanence and success of a great movement. The time, however, is long enough to justify the writer in stating some facts which even the most bitter opponents of the co-operative movement must admit to be true.

In the first place, it is evident that there has never been another great movement in this section, that has taken such a hold on the people in so short a time. It is probable that there is not a single shipping point in Hillsdale county where co-operative shipping associations may not be found operating. With amazing rapidity, the idea spread from neighborhood to neighborhood, from township to township. More than this, from the nucleus at Litchfield the movement has spread into other counties, and at this writing, Branch, Calhoun, and Lenawee counties are awake to the co-operative idea, and have numerous co-operative associations.

In regard to the permanence and stability of the movement, little doubt need be entertained, in the light of the facts. No co-operative association has "shut up shop," and the tendency is rather in the other direction. Opponents of the system have been unable to make any perceptible impression on either the increase or stability of these associations. These organizations have come to stay, and it is evident that as time goes on, the activities and interests of the associations will tend to increase. As yet, the shipping of live stock is the

great stronghold of the co-operative movement in this section. Indeed, so signal has been the triumph of the idea in this line, that the old-time stock buyer has been swept from the map. Farmers everywhere have awakened to the real state of affairs, and in the shipping of live stock the co-operative method has surely come to stay.

In addition to the handling of stock and other farm produce, some associations are doing a thriving and satisfactory business in supplying the farmers with necessities such as barrel salt, mill feed, coal, machine oil, and other needed articles. In this field, too, as far as tried, the co-operative movement works out splendidly.

In setting forth the merits and success of the co-operative system, perhaps it ought to be stated that it is still possible to find in nearly every community, farmers who still view the movement with suspicion. Probably the reasons for this unfriendly attitude would not be found to be identical in any two cases. Disappointed hopes in regard to holding an official position in the association; unwillingness to throw in the individual interests for the common good; dislike for the movement because it has thrown a relative or friend out of the stock-buying business—these and other petty considerations enter into the situation. In any case, it is a failure to grasp the significance of the innovation. It is, above all, a misconception of the true spirit of the times and the real significance of the new order.

In the supervisor's rooms at the court house in the city of Hillsdale, there recently occurred a meeting of significance and importance, that demonstrated the truth of the foregoing paragraphs. The gathering consisted of about 100 farmers, representing the

co-operative idea as worked out in this section. At the meeting representatives from 13 co-operative associations were present. Five counties—Hillsdale, Lenawee, Branch, Calhoun and Williams county, Ohio—sent delegates to the meeting. The principal address was delivered by James N. McBride, State Director of Markets. The purpose of the meeting was to form a federation, for the mutual advantage and mutual protection of the numerous local co-operative associations.

At the gathering thus briefly outlined, a temporary organization was formed to be called the Federation of Co-operative societies. John Hoblinhan, of Montgomery, was chosen as temporary president, and Louis Matthis, of Batavia, temporary secretary. At a future meeting by-laws will be adopted, and a permanent organization will be formed.

If any doubt has been entertained of the permanence and significance of the co-operative movement, surely this step to federate must dispel all such illusions. The meeting at Hillsdale marks a new phase in the co-operative idea in this section. Just as in Denmark co-operation spells success for the farmer, so more and more, it will mean success and protection for the farmers of Michigan and of America. The opportunities are vast, the time is opportune, and the farmers are awake to the situation. The community which has a part in launching the movement, may feel proud of the fact.

Hillsdale Co. J. A. KAISER.

Crop and Market Notes

Michigan.

Berrien Co., Dec. 21.—Wheat and rye well protected with snow. Sleighing good. Corn generally poor, but plenty of good roughage for live stock. Some hogs have cholera, other stock in good condition, but not a great number being fed. Hogs \$5@6; veal 9c; chickens 10@12c; wheat \$1.10; oats 35c; corn 45c per bushel; hay \$14@15; potatoes 55@60c; apples 50@60c; butter 25c; butter-fat 34c.

Mecosta Co., Dec. 20.—Wheat wintering well. Corn crop very poor, so farmers are anxious to sell their stock and cattle prices are very unsatisfactory. Yield of clover seed poor, being about one bushel per acre. Beans better than was expected. Potatoes about 60 per cent of an average crop, and bring 60 cents per bushel. Butter 25c; eggs 29c; hay \$7@8; chickens 11c per pound.

Sanilac Co., Dec. 20.—Ideal winter weather with some snow. A considerable amount of fall plowing was done. All live stock in winter quarters, with more cows kept than usual. Very little produce being marketed. Some hay sold at \$10 per ton; wheat \$1; oats 38c; beans \$3.50 for hand-picked; hogs \$5.50; lambs \$7.25; butter 32c; eggs 30c.

Pennsylvania.

Lancaster Co., Dec. 20.—Fall sown grains are below the average. Farmers have only enough feed for their own use, corn having been a short crop. Much feeding stock on hand. Wheat \$1; potatoes 90c@1; apples 50c per bushel; hay \$18@20; butter-fat 36c per lb; milk \$2 per cwt; steers and hogs selling low and cows at high prices.

Ohio.

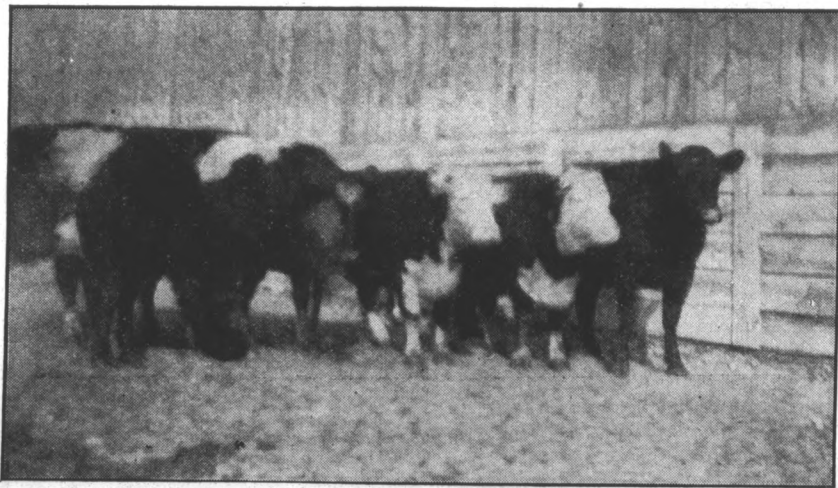
Clermont Co., Dec. 20.—Wheat and rye are in good condition. Most farmers have enough feed for own use. Butchering is the order of the day. Cows high, \$50@100; butter 30c; eggs 33c; wheat \$1.10; corn 55c; potatoes 50c; timothy hay \$14.

Wayne Co., Dec. 20.—Winter weather prevails, which is hard on wheat with no covering of snow. Farmers generally have plenty of feed for own use, and some hay to sell. Feeding cattle not very plentiful and very few hogs being kept over. Fat cattle \$6, live weight; hogs \$7; live; corn 75c; oats 35c; hay \$12; potatoes 75c; apples 40c per bushel.

New York.

Niagara Co., Dec. 20.—Fall sown grains seem in good condition. Farmers have plenty of oats and corn but will have to buy hay and have not very much feeding stock on hand. Farmers are feeding straw to save hay. Apples are not keeping good in storage. They are \$3@4.50 per bbl; wheat \$1; rye 80c; beans \$4.50; hay \$18 poultry, spring chickens, heavy, 11c others 9@10c; turkey 20c; butter 28c; eggs 36c; sugar 7c.

I cannot help but think that all the characters of a region help to modify the children born in it.—Holmes.



Best Bunch of Cattle to Arrive on the Detroit Market in Years. Were Fed Near Clare, Averaged 1750 pounds and Sold at \$9.00

Starch from Potatoes

THE great potato growing district of northern Maine is also a great starch manufacturing district. Scattered throughout Aroostook county, in almost every village and hamlet, are factories for the turning of surplus potatoes into starch. Some years when potatoes are cheap, it is not only the smaller and unsalable ones that are ground up, but the large tubers as well. There is no money in raising potatoes primarily for the starch factory, for, as a large planter told the writer, they cannot afford to grow them for less than 40 cents per bushel. In fact, that is about the average cost. It is well enough to sell the culls for the small price the factories usually pay. There are one or two factories of large capacity and any number of smaller ones. One turns out eight to ten tons of starch per day.

The process of making starch is not a complicated one. In a factory which the writer visited some time ago the potatoes were hauled in upon the second floor and dumped into the bins. From these receptacles the tubers are shoveled into a chute and carried through a revolving tube where they are washed by streams of water under heavy pressure. In this way all the dirt is washed away. From the tube they pass directly onto the grater. This is a sort of cylinder over which are nailed strips of perforated iron, making a rough, file-like surface. From the grater the pulp falls upon a moving screen where it receives the force from streams of water. This pressure forces the starch through the screen into a trough below. The waste pulp is carried on and either falls into the river, from which the plant receives its power, or upon a dump to be carted away. The starch passes through several troughs and finally into a large vat upon a lower level. In this vat the starch sinks to the bottom and forms a sticky mass. The next morning the water is drained into still other vats and receives a violent agitation before being allowed to settle. The starch is also shoveled over into the other vats, water turned on and agitated a given length of time, after which it is again allowed to settle. By this time the starch is clean and pure. Again the water is drained and the starch shoveled into baskets and taken to the drying floor. Here it is spread upon slats placed above a clean dry floor. As it dries it is raked over until it falls through to the floor below.

The dry-house is usually a separate building and the slatted floor is in the second story. As the starch dries and falls through it is shoveled into great heaps until the building is full. It is usually put up in barrels holding 500 pounds each and shipped direct from the factory to all parts of the country. This starch is used principally by manufacturing concerns. Power to run these factories is furnished by the numerous never-failing rivers and brooks of northern Maine. Usually the plants run only during the fall to grind up the unsalable potatoes. Sometimes, however, when the market is poor, as was the case some years ago, the tubers that were placed in winter storage are taken out in the spring and hauled to the factories.

New Hamp. C. H. CHESLEY.

MICHIGAN BEAN GROWERS INVITED.

The mid-winter meeting of the Michigan Bean Growers' Association will be held at the Hotel Cadillac in Detroit on January 27, commencing at 1:30 p. m. President Orr, of the Michigan Bean Growers' Association, announces that arrangements have been made with Dr. Howard, of Washington, D. C., to talk on "Bean Diseases," and that the general attendance of the bean growers of the state will be welcomed.



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Bumper Grain Crops

Good Markets — High Prices

Prizes Awarded to Western Canada for Wheat, Oats, Barley, Alfalfa and Grasses

The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa. No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. There is no war tax on land and no conscription.

Send for illustrated pamphlet and ask for reduced railway rates, information as to best locations, etc. Address

M. V. McINNES,

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Canadian Government Agent.

MAKE 1916 YOUR BANNER CROP YEAR.

1916 promises bigger crop demand—better crop prices—than ever before. Make it your banner year by giving your land the producing capacity. Scientific draining with "American" Vitrified, Frost Proof, Tile will do it. "Once laid—always working." Sizes, 3 in. to 27 in.

Ask for Carload Prices.

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SAW 25 TO 40 CORDS PER DAY



IRELAND Drag Saw Machine

Big timbers or small irregular-shaped logs it's all the same to an Ireland. Saws in any lengths without leaving lever. No turning for last cut. Durable, compact, simple, no vibration. Many advantages over other straight line sawing rigs. Write for convincing circulars. Also details on our wood saw machines, saw and shingle mills, canvas belting and hoists.

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prices. We save you money. Buy now before advance. Crop Field Seeds of any kind until you see our samples and prices. We specialize on high quality tested Clover, Timothy, Alfalfa, Sweet Clover and Alsike; guaranteed the best, sold subject to your approval and government test. Write today for samples and special prices and big Profit-Sharing Seed Guide. **AMERICAN MUTUAL SEED CO.,** Dept. 131 43rd and Roby St., Chicago, Illinois.

WANTED-BOYS:

A prominent automobile company in Detroit employing over 500 office employees, has openings for bright, ambitious, courteous, neat appearing boys, who have completed their Grammar or High School education. Rapid promotions recently from the messenger service have made openings for a number of live young fellows, whose education will permit us to advance them when thoroughly familiar with their surroundings and work. Many men holding responsible positions in our establishment have worked their way up from the messenger service. Answer in own hand writing, and state age, height, weight, number of years Grammar or High School education, subjects in which you made your best grades, whether you have any physical defects, salary you must receive to start, and earliest date you could report for duty. Give names and addresses of three persons (not relatives) who can vouch for your character. Do not reply if you use intoxicants or cigarettes. Address P. O. Box 48 N. E. Station, Detroit, Michigan.

SWEET CLOVER \$5.50 PER BU.

White Blossom. Biggest bargain in unbleached Sweet Clover this season. Have scarified baled seed at low prices. Wonderful money-maker. Best paying crop on the farm today. Builds up worn out land rapidly and produces heavy, money-making crops while doing it. Splendid pasture and hay; inoculates your land for Alfalfa. Keep up with the times. Investigate. It will pay you to get our free samples and prices and big Profit-Sharing Seed Guide and Grass Seed Guide. It's free. **AMERICAN MUTUAL SEED CO.,** Dept. 981 43rd and Roby St., Chicago, Ill.

Government Farmers Wanted. \$50 to \$125 monthly. Write, **OZMENT, 17 F. St. Louis.**

For Sale-Northern Grown Seed Potatoes. N. W. Sec'y. of Manton Potato Assoc., Manton, Michigan.

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At \$15 an acre and up on easy terms. Mild climate, rich soil, abundant rainfall, plentiful and cheap labor. Convenient to Eastern markets, also to good schools and churches. Write for free illustrated farm home booklet, "Country Life in Virginia", and low excursion rates. Address

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FOR Sale or Trade for small improved farm, Grocery store, stock and fixtures. Building with new cement garage \$2500. Stock \$1500. Fixtures about \$500 including Ford Delivery car. Doing \$2000 per month business. Will stand close investigation. Box M. 12, in care of Michigan Farmer.

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OWN YOUR OWN FLORIDA HOME. Easy terms, grove now bearing, will pay for self. Ask N. A. BARTLETT, JACKSON, MICH.

FOR SALE 80 acres of good farm land. Good buildings, good Wire Fences and land suitable for any kind of Grain or Fruit growing. For particulars write, **W. J. MERRIAM,** Almont, Mich.

100 Acres stock farm near Howell; sandy loam, clay sub-soil, 8 room house with furnace, basement barn, silo, windmill, buildings all nearly new. 8 acres in wheat, 7 acres hard maple timber. \$300 per acre. Gilmore & Chvaenelle, 412 Hammond Bldg., Detroit, Mich.

WANTED—To hear from owner of good farm or unimproved land for sale. **H. L. Downing, 104 Palace Bldg., Minneapolis, Minn**

FARM Bargain 126 Acres, Jackson Co. Near Electric. 110 Plough, good seedling, timber, two orchards, buildings. Sickens, will sacrifice, \$45 acre. B. Stillson, Jackson, Mich.

WANTED—To rent 40 to 80 acre farm for one or two years, with view to buying. Have the money. Prefer share rent with stock and implements furnished. Southern Michigan. Address L. 1425 E. 5th St., Pueblo, Colo.

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A. A. Palmer, Estate
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Brood mares, Fillies and Young Stallions. Priced to sell. Inspection invited.

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

Markets.

GRAINS AND SEEDS.

December 28, 1915.

Wheat.—Further advances were made in wheat values last week. Despite continuous heavy receipts in both the winter and spring wheat districts, the bulls were able to crowd values to higher values, there being however, a slight weakness in the tone of the trade following the Christmas holiday. The strength is apparently dependent upon foreign buying. Last week purchases by foreign countries amounted to ten million bushels. The United States visible supply increased 4,263,000 bushels, while wheat in bond decreased 5,817,000 bushels. One year ago No. 2 red wheat sold here at \$1.26½ per bushel. Local prices last week were:

	No. 2	No. 1	
Wednesday	1.23	1.20	1.29½
Thursday	1.25	1.22	1.30½
Friday	1.26	1.23	1.31½
Saturday			
Monday	1.26	1.22	1.31½
Tuesday	1.23½	1.19½	1.28

Chicago.—December wheat \$1.23½; May \$1.24½; July \$1.16½.

Corn.—Export sales of this grain, the large amount of inferior grades and unsettled weather gave a firmer tone to the deal at the opening Monday and allowed the bulls to advance values one cent. Offerings are small and the demand lively. One year ago No. 3 corn was quoted at 70c per bu. The visible supply increased 1,305,000 bushels. Last week's prices were:

	No. 3	No. 3	
	Mixed.	Yellow.	
Wednesday	70	71½	
Thursday	71	72½	
Friday	72½	74	
Saturday			
Monday	73½	75	
Tuesday	72½	74	

Chicago.—December corn 71.7c per bushel; May 75.6c; July 76.4c.

Oats.—After having ruled steady for about two weeks, oats advanced a ½c at Monday's session of the board. Last week's export sales were more liberal than for some time past. Domestic demand is normal. One year ago standard oats were quoted at 52½c per bushel. Last week's local quotations were:

	Standard.	No. 3	
		White.	
Wednesday	46	44	
Thursday	46	44	
Friday	46	44	
Saturday			
Monday	46½	44½	
Tuesday	46	44	

Chicago.—December oats 42.3c per bushel; May 47c.

Rye.—Dull at 96c for No. 2.

Peas.—Chicago's market steady and quiet with field peas at \$2.35@2.65, sacks included.

Barley.—Chicago's market is higher at 64@73c.

Beans.—Sales are few; cash quotations steady at \$3.55; January up 10c at \$3.45. At Chicago pea beans, hand-picked \$3.85@3.90; prime \$3.70@3.75; red kidneys \$4.65@4.75.

Clover Seed.—Prime spot \$12.20 per bushel; March \$12.10; prime alsike \$10.25.

Timothy Seed.—Prime spot \$3.85.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$6.20; seconds \$6; straight \$5.60; spring patent \$6.50; rye flour \$5.80.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$22; standard middlings \$25; fine middlings \$30; cracked corn \$30; corn and oat chop \$28 per ton.

Hay.—No. 1 timothy \$18@19 a ton; standard timothy \$17@18; light mixed \$17@18; No. 1 mixed \$14@15; No. 2 mixed \$10@12; No. 1 clover \$10@12.

Straw.—Wheat and oat straw \$6.50@7; rye straw \$7.50@8 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—The demand is steady but the feeling is somewhat easier than last week. Prices are unchanged. Extra creamery 34c; firsts 31½c; dairy 22c; packing stock 18c.

Eggs.—The market has eased up some but prices remain the same. Storage stock is being pushed. The quotation, based on sales, is 34c.

Chicago.—Holiday accumulations and late arrivals have kept the market well supplied. The trading was slow. Prices are lower. Extra creamery 33@33½c; extra firsts 31@32½c; firsts 26@30c; extra dairies 30c; packing stock 19@19½c.

Eggs.—Increased receipts have caused a decline of 1c in prices. Current receipts are quoted at 27c; candled firsts 30c per dozen.

Chicago.—More liberal supplies of fresh eggs have eased the market and brought lower prices for all grades. Firsts 27½@28c; ordinary firsts 26½@27c; miscellaneous lots, cases included 22@27½c; refrigerator April extras 21@21½c.

Poultry.—The holiday demand has brought a firm, active market, and higher prices for all kinds of poultry. Turkeys 18@20c; spring turkeys 23@24c; fowls 9@13½c, according to quality; spring chickens 13@15c; ducks 18@19c; geese 15½@16c.

Chicago.—Large receipts brought lower prices notwithstanding a good demand. Turkeys, young and old 16c; fowls 9@11½c; springs 12½c; ducks 13c; geese 10@13c.

FRUITS AND VEGETABLES.

Apples.—The market is quiet and prices are lower. Greenings at \$2.50@3; Spys \$3.50@4; Baldwins \$2.50@3; Steel Red \$4.50@5. At Chicago the market is well supplied and trading is quiet. Prices for some varieties are slightly lower. No. 1 Greenings \$2.50@3; Jonathans No. 1, \$2.75@3; Baldwins \$2.50@3.50; Wageners \$2.25@2.75; Spys \$2@3.75.

Potatoes.—Last week's prices prevail. The demand is good. Michigan and Minnesota whites are now quoted at 80@85c; Minnesota reds 80@82c. At Chicago the market is firm and prices are higher. Fancy Michigan Rurals sold for 78@80c. Other prices range from 70@80c.

GRAND RAPIDS.

Growers with large quantities of apples in storage do not like the way the market is acting. The situation was encouraging in the fall, with indications that growers who lost out on peaches would make it up on apples, but the market has not taken the right turn as yet. Very good apples are being peddled around town at 50c@1 per bushel, with storage stock quoted at \$1@1.75. Potatoes are somewhat higher, with quotations outside at 62@65c, while some sales in Grand Rapids are reported as high as 75c. Eggs brought up to 34c for the Christmas trade, but are now back to the 30c mark. The poultry market is steady.

DETROIT EASTERN MARKET.

Apples were the chief commodity on the Eastern Market Tuesday morning with the bulk selling between 90c and \$1.25. No potatoes offered. Onions 75c@1.50; parsnips 75@80c; cabbage 50@65c; celery of inferior quality 20c per bunch, eggs 40c; loose hay moving slowly with prices around \$20 per ton.

LIVE STOCK MARKETS.

Chicago, December 27, 1915.

Cattle. Hogs. Sheep. Receipts today..19,000 25,000 12,000 Same day 1914..17,291 32,407 16,240 Last week.....43,668 249,620 48,628 Same wk 1914..13,235 205,521 52,997 Shipments from Chicago last week amounted to 8,952 cattle; 32,758 hogs and 6,621 sheep, comparing with 11,822 cattle, 53,983 hogs and 15,880 sheep, a week earlier, and 3,156 cattle, 20,868 hogs and 2,265 sheep a year ago. Hogs received last week averaged 189 lbs.

The week opens today with unusually small live stock receipts and a firmer cattle market, while hogs are 15@20c higher, selling at \$5.65@6.70. Sheep and lambs are 15@25c higher with prime ewes selling at \$6.40, and prime lambs held as high as \$9.85.

Cattle prices closed weak to a little lower for the less desirable offerings on the opening day last week, but later much reduced receipts brought about a reaction, with average prices higher. No strictly prime long-fed beefs and fancy yearlings were offered. The best lots brought \$9.50@9.75, while the bulk of the steers marketed found buyers at \$6.75@9. A good class of steers at \$8.75@9.45, medium class short-fed \$7.50@8.70, inferior to fair stalk-fed lots \$4.75@6.50. Choice beefs have been closely marketed, and from now on there is expected to be a lack of this class. Butcher stock has had a good sale at \$4.65@6.85 for cows and at \$4.40@8.50 for heifers. Cutters brought \$4.05@4.60; canners \$2.75@4; bulls \$4.25@7. Calves were in good demand, with sales anywhere from \$4@7.75 for the heavier lots up to \$8@9.85 for light vealers of fair to prime grading. Had any fancy heavy steers or yearlings been offered, it is probable that as high as \$10 or perhaps more would have been paid. Cows and heifers sold off 15@25c.

Hogs held up remarkably well during the early days of last week, not-

withstanding the enormous offerings, the Monday receipts aggregating 64,306 head. On that day good shipping hogs sold as high as at the close of the previous week, and the commoner light hogs actually sold a dime higher. Later in the week, however, prices declined under increasing supplies, and sales took place at the lowest figures of any time of this year. Recent receipts have gained in weight, but the average weight has been only 191 lbs., comparing with 229 lbs. a year ago and 215 lbs. two years ago, the increase in average weight since the latter part of November being 11 lbs. Eastern shippers have been taking decidedly fewer hogs than a week earlier, and this helped to depress prices for hogs of the shipping class. After prime hogs sold at \$6.50, there was a rally on Friday that left quotations at an extreme range of \$5.50@6 for light bacon hogs, \$6.05@6.25 for light shipping, \$6.10@6.40 for heavy packing, \$6.45@6.55 for heavy shipping and \$4@5.40 for pigs. A week earlier hogs brought \$5.90@6.80.

Sheep, yearlings and lambs arrived last week in greatly reduced numbers. Prime lambs showed especial animation and firmness. At times sheep were too scarce to warrant quotations. It is well at this time to sound a warning to sheepmen to market no stock that is not prime and fat. Prices closed the week as follows: Lambs \$6.10@9.60; heavy lambs \$7.50@8.50; yearlings \$6.25@8; wethers \$6@6.75; ewes \$4@6.15; bucks \$4.50@5.25.

Buffalo.

December 27, 1915.

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

Receipts of stock here today as follows: Cattle 105 cars; hogs 110 d. d.; sheep and lambs 38 d. d.; calves 450 head.

With 105 cars of cattle on the market here today the shipping cattle sold from 25@40c lower than last week and the butcher cattle sold from 15@25c lower. Butchers seem to be all filled up with Christmas cattle and today there is hardly any demand for the beef and our butchers staid right out of the market. The bull trade was a quarter lower. Extra good cows and springers \$2.50@5 a head higher and common cows about steady. No demand for late springers. Stockers and feeders about steady.

We had just as many hogs as expected today, but receipts at all western markets were short and market 10@15c higher than Friday's close, pig weights as much as 25c higher. Bulk of the sales around \$6.75, with a few fancy loads at \$6.80@6.85; pigs and lights generally \$6.25; roughs \$5.75@6; stags \$4.50@5; about everything sold at the close and it looks like we should have a fair trade for the next few days.

The sheep and lamb market was active today and prices 25c higher than the close of last week. All sold and we look for steady to shade lower prices the balance of the week.

We quote: Lambs \$10.40@10.50; cull to fair \$7@10.25; yearlings \$7.50@9; bucks \$4@5.25; handy ewes \$6.25@6.50; heavy ewes \$6.25@6.50; wethers \$6.75@7; cull sheep \$3.50@5; veals good to choice \$12@12.50; common to fair \$8@11.50; heavy \$6@9.

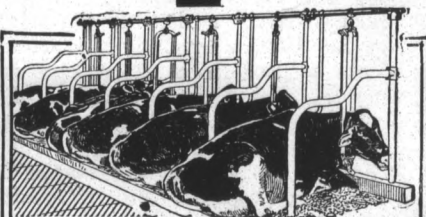
VETERINARY.

Luxation of Stifle.—I have a three-year-old colt, in good condition, but his stifle joints are loose, and I might mention that both of his joints dislocated last summer. J. J. Harrisville, Mich.—Clip hair off stifle and apply one part powdered cantharides and four parts lard every two weeks. You can safely apply any of the commercial blisters that are regularly advertised in this paper.

Wounded and Infected Joint.—I had a colt cut on barb wire about ten weeks ago. The fore part of hock joint was cut open; our local Vet. has been treating the case without much success. The joint has now opened in three different places and the colt holds leg up most of the time. E. H. Eaton Rapids, Mich.—Dissolve 1 dr. permanganate of potash in a pint of clean water and apply to wound two or three times a day. Recovery in this case is very doubtful.

Light Milker.—Two weeks ago I had a cow come fresh; calf was very small and cow gives only a pint of milk at a milking, but when she came fresh a year ago she gave an abundance of it. She appears to be perfectly healthy, has a good appetite and so far as I can tell is not sick. M. S. L. Lawton, Mich.—Massage udder gently three times a day for not less than or 15 or 20 minutes. Milk her clean each time. Also change her feed, feeding her silage, clover or alfalfa, well cured corn fodder and not forgetting to feed her some roots.

\$4.75
For This
JAMES
Stall



INCREASE your barn profits—
—save labor and time—by putting in the great line of JAMES Sanitary Equipment. Prices are within reach of all.

Stalls for \$4.75 each—same as the \$10 stalls except on the latter some special features are added—include same steel piping used in all JAMES stalls; square horizontal pipe to hold dust-proof fittings securely; Triple Curve Stall Partition; stall post anchors for easy installation; JAMES stanchion with cow-proof lock of door-knob type, lock open clip, everlasting hinge, Double Chain Hanger with flat links, wood lining; baked-on enamel finish. Shipped assembled, knocked down for easy handling and erection.

JAMES line includes celebrated Stalls; Stanchions, Pens, Carriers, Ventilators, Watering Buckets, etc., designed and built by originators of sanitary barn equipment ideas.

Tell us how many cows you own and when you expect to build a new barn or remodel the old one, and receive free book, "The James Way," showing how to build and equip a dairy barn. Write today.

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D. V. 31 Cane Street, Ft. Atkinson, Wis.

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Duplex Mill & Mfg. Co., Box 408, Springfield, O.

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Of Mulefoot Hogs, Jan. 12th., 1916. At the farm six miles South of Saline and six miles west of Milan, Mich. 40 head of Pure bred hogs all ages. Commencing at 1 o'clock P. M. sharp. Papers furnished with every hog sold. Crates furnished for buyers from a distance. Time will be given on approved Bankable notes. Come to this sale. Saline is on the Lake Shore and Trolley lines from Detroit and Ypsilanti. Milan is on Y. & A. A. R. also Wabash. C. F. Bacon, P. O. Britton, Mich., R. 3. Macon Phone.

RUFUS B. HOLMES CO.

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Poultry, Live or Dressed, Dressed Hogs, Calves, Sheep and Eggs. Reference, Peninsular Savings Bank, Sullivan Packing Co. Shipments Solicited. Satisfaction Guaranteed.

HAY Ship your good quality to us. Highest Market Prices. E. L. Richmond Co., Detroit.

HAY OUR NEW LOCATION.
623-625 Wabash Bldg., Pittsburgh, Pa.
Daniel McCaffrey's Sons Co.

FARMERS—We are paying from five to eight cents above the highest official Detroit Market quotation for your eggs shipped direct to us by express. Write us for information. It will pay you. American Butter & Cheese Co., Detroit, Mich.

THE HARPSTER COMMISSION CO., Union Stock Yards, Toledo, O. Sell live stock on commission, get highest prices and best fills. Try them. Daily market, force of six looks after your interest. Financially backed by over \$1,000,000.

MOLASSES in DRY FORM

Cheapest, best and only practical form in which to add molasses to your own regular feed. Try it. Write RYDE & COMPANY, Chicago, Ill.

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Is today in great demand both by Powder and Fertilizer manufacturers, TOMORROW the demand will be from the progressive farmers in your community, who will purchase the brands that contain the highest percentage of Potash, other elements being equal.

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Renderers & Fertilizer Company,
CLEVELAND, OHIO.

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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 MARKET.

Thursday's Market.
December 23, 1915.
Cattle..

Receipts 1418. The run at the local yards was only about half what it was a week ago and fairly good service was rendered by the local railroads. The yards will be closed on Christmas day. Anything arriving will be cared for, but the scales will not be open and no business will be done. It is expected the same will apply on New Years, but as yet the question has not been definitely settled.

There was no change in the cattle situation, the quality was common as a rule, and the trade, while being fairly active was no higher than last week. A few stocker buyers were on hand and had no trouble finding what they wanted. Milch cows were dull and good ones scarce. The close was dull as follows: Best heavy steers \$7 @ 7.25; best handy weight butcher steers \$6.75 @ 7; mixed steers and heifers \$5.50 @ 6.50; handy light butchers \$5 @ 6; light butchers \$4.50 @ 5.25; best cows \$5 @ 5.50; butcher cows \$4.25 @ 4.75; common cows \$3.75 @ 4; canners \$2.50 @ 3.65; best heavy bulls \$5.50 @ 6; bologna bulls \$4.75 @ 5.25; stock bulls \$4 @ 4.50; feeders \$5.50 @ 6.50; stockers \$5 @ 6; milkers and springers \$4 @ 7.5.

Bishop, B. & H. sold Charles 4 cows av 905 at \$3.65, 3 do av 807 at \$3.25, 3 av 910 at \$3.50, 4 av 780 at \$3.50, 2 av 850 at \$3.60; to Hammond, S. & Co. 3 stockers av 990 at \$6.50, 11 cows av 1114 at \$4.75, 2 bulls av 1365 at \$5.60; to Breitenbeck 4 butchers av 1070 at \$6, 7 do av 1060 at \$6.75, 4 cows av 1167 at \$4.50, 7 butchers av 900 at \$6, 2 do av 890 at \$5.50; to McDonald 6 feeders av 720 at \$5.50, 10 do av 803 at \$5.40; to Lintel 6 do av 745 at \$5.50, 11 do av 846 at \$5.40; to Bray; cows av 1005 at \$4.50, 6 do av 1000 at \$4; to Bresnahan 2 butchers av 635 at \$5, 2 do av 635 at \$5, 1 cow wgh 1320 at \$5, 1 do wgh 1220 at \$5.25; to Bray 7 cows av 1017 at \$3.80, to Miller 8 stockers av 571 at \$6; to Sullivan P. Co. 2 steers av 925 at \$6, 4 do av 1175 at \$7, 2 cows av 840 at \$5, 6 do av 895 at \$4.25, 1 bull wgh 1530 at \$5.50, 6 cows av 983 at \$4.15, 2 cows av 960 at \$4, 2 steers av 1085 at \$6.75, 3 cows av 1030 at \$4.75; to Parker W. & Co. 27 stockers av 980 at \$6.25.

Roe Com. Co. sold Bray 2 cows av 990 at \$3.75; to Stevenson 2 stockers av 645 at \$6.25, 1 do wgh 700 at \$6.50; to Golden 3 cows av 937 at \$4.50, 7 butchers av 646 at \$5; to Hammond, S. & Co. 1 cow wgh 990 at \$3.75, 1 do wgh 1030 at \$5, 2 do av 835 at \$3.60, 1 do wgh 1150 at \$3.75, 2 do av 1070 at \$4.25; to Miller 3 feeders av 700 at \$6.25; to Bresnahan 3 heifers av 817 at \$5.40; to Golden 2 butchers av 635 at \$4.50; to Parker, W. & Co. 1 cow wgh 1030 at \$5, 2 do av 835 at \$3.60, 3 do av 1053 at \$3.85; to amman, B. Co. 2 do av 885 at \$5.75; to Sullivan P. Co. 2 cows av 1050 at \$4.60, 2 do av 970 at \$4.50; to McCoy 18 steers av 906 at \$6.

Veal Calves.

Receipts 696. The veal calf trade was a trifle stronger than early in the week and just about the same as last week. Best grades brought \$10 @ 10.50; common and heavy \$7 @ 9.

Sandel, S. B. & G. sold Hammond, S. & Co. 2 av 115 at \$8, 2 av 160 at \$10, 2 av 130 at \$8.50, 4 av 140 at \$9.25, 3 av 165 at \$10; to Nagle P. Co. 2 av 180 at \$10, 6 av 145 at \$9, 9 av 125 at \$8.50; to Burnstine 4 av 165 at \$10.

Sheep and Lambs.

The run of sheep and lambs was very light and the market about steady; one or two small bunches of lambs brought \$9.60, but the bulk of the best went at \$9.50. Swift & Co. bought three or four loads for their New York houses and the close was steady as follows: Best lambs \$10.50 @ 9.65; fair lambs \$8.50 @ 9; light to common \$7 @ 8; yearlings \$8; fair to good sheep \$5.50 @ 5.75; culls and common \$4 @ 4.50.

Sandel, S. B. & G. sold Nagle P. Co. 16 lambs av 70 at \$8.75, 30 do av 80 at \$8.75, 23 sheep av 125 at \$5.75, 5 do av 90 at \$4.60, 88 lambs av 8, at \$9.25, 68 do av 80 at \$9.15, 9 do av 75 at \$9, 4 do av 70 at \$9, 10 sheep av 143 at \$5.35, 4 do av 95 at \$5.50.

Roe Com. Co. sold Nagle P. Co. 26 lambs av 75 at \$8.75, 10 do av 62 at \$8.25, 7 do av 60 at \$8.25, 26 do av 73 at \$8.75.

Reason & S. sold Thompson Bros. 32 lambs av 75 at \$9.25, 21 do av 80 at \$9.50; to Nagle P. Co. 58 do av 75 at \$9, 25 sheep av 105 at \$5.

Hogs.

Receipts 17,077. In the hog division the trade was dull; in fact nothing was sold until late. All markets are lower and the market here was big 10c lower than on Wednesday. Pigs \$5.50; yorkers and heavy \$6 @ 6.10.

I'll Rid Your Hogs of WORMS

GILBERT HESS,
M. D., D. V. S.

Your hogs are almost certain to be troubled with worms right now; in fact, at all seasons of the year. Unless you treat for worms and get rid of them you can't fatten your swine at a profit.

How about the spring pigs? The chances are that your brood sows are worm-infested. This means stunted litters—pigs from a wormy sow can't get the right start.

I guarantee that if you feed my Stock Tonic regularly as directed, you will rid your hogs of worms, they will keep toned up and vigorous, resist disease better and fatten quickly and cheaply.

Dr. Hess Stock Tonic

25-lb. pail, \$1.60. 100 lbs., \$5.00.

A Fine Conditioner—A Sure Worm Expeller

Your horses, cattle and sheep are apt to be out of fix right now, because animals off pasture and on dry feed are deprived of the laxatives so plentifully furnished in grass.

Feed my Stock Tonic to your animals now. It contains tonics for enriching the blood, tonics to help their digestion and help them assimilate their feed better, as well as laxatives for keeping the bowels regular and clean.

Remember, when you buy my Stock Tonic from your local dealer you save peddler's horse, team and traveling expenses, and the small dose quantity will prove that my Stock Tonic is the most economical, too. Now read this guarantee:

So sure am I that Dr. Hess Stock Tonic will positively rid your hogs of worms and keep your stock healthy and vigorous, that I have authorized my nearest dealer to supply you with enough for your stock, and if it does not do what I claim, return the empty packages and get your money back.

25-lb. pail, \$1.60; 100-lb. sack, \$5.00; smaller packages as low as 50c (except in Canada and the far West and the South). Why pay the peddler twice my price?

Dr. Hess Poultry Pan-a-c-e-a

I guarantee that this fine poultry tonic will help your hens lay. It will keep them toned up, arouse the dormant egg organs and keep your poultry healthy. Easy to feed and very economical—1 cent's worth a day is enough for thirty fowl. Never sold by peddlers. 1 1/4 lbs. 25c; 5 lbs. 60c; 25-lb. pail, \$2.50. (Except in Canada and the far West.) I guarantee it.

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks or, if kept in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. Comes in handy sitting-top cans. 1 lb. 25c; 5 lbs. 60c. (Except in Canada and the far West.) I guarantee it.

Send for my book that tells all about Dr. Hess Stock Tonic—it's free.

DR. HESS & CLARK, Ashland, Ohio



If you have a sick or injured animal, write me, giving symptoms, and enclose 2c stamp and I will send you a letter of advice and prescription free of charge.

HOW MUCH DOES YOUR MILK COST?

33 cents worth of UNICORN plus 26 cents worth of roughage made 100 lbs. Milk in Official Holstein Tests made by Bayliss Griffin, Sylvania, Ohio. 1 pound of UNICORN made 4 1/2 lbs. of milk. Hundreds of UNICORN feeders are doing as well. YOU CAN TOO.

UNICORN DAIRY RATION

is equally as profitable for tests or every day dairying. TRY IT.

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Know How Much You Make This Year

No one shall pay a cent for Bickmore's Farm Account Book. Mr. Farmer, simply send us your name and address. Business farming puts money in the bank. This book is arranged to keep all accounts in simple form—more simple, and certainly more practical than trying to remember them; shows what to charge against crop production; has a laborer's time record; and section for personal accounts. 64 pages; for ink or pencil. Not a cheap affair. Its quality is in keeping with

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A soothing, healing salve, the old-time reliable horse remedy. Horses are now too valuable and too high priced to take chances of losing their services. Get full value out of yours. Bickmore's Gall Cure heals and cures. Harness and Saddle Galls, Rope Burns, Cuts, Scratches, Grease Heel, etc. Keeps them sound and in condition for work. You don't have to lay the horse off. Bickmore's Gall Cure cures while the horse works. Great thing for sore teats in cows. Look out for substitutes and cheap imitations. Be sure to ask for Bickmore's Gall Cure at the store. The work-horse trade mark on every box. Farm Account Book is ready. Send today.

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Tells why chicks die

E. J. Reefer, the poultry expert, 4381 Reefer Bldg., Kansas City, Mo., is giving away free a valuable book entitled, "White Diarrhoea and How to Cure it." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 98 per cent of every hatch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

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Will You Take Orders?
Your spare time is worth \$10 a day demonstrating the 1917 Model Steel, 18-in. 1 Automatic Hand-Tool. Equals separate tools costing \$160. Lifting and pulling jack; fence building tool; stump and post puller; baler; press; hoist; vise; etc. No experience needed. Demonstrator free. Credit given. Exclusive territory. Write for special factory agency offer. Chas. E. Benefield Co. 295-A Industrial Bldg., Indianapolis, Ind.

POULTRY.

BARRED ROCKS—Parks 200-egg strain stock and eggs in season. FRED ASTLING, Constantine, Michigan

Barred Plymouth ROCK COCKERELS, large, farm raised from prize-winning Rock. \$3 each, two for \$5. J. A. BARNUM, Union City, Mich.

Barred Rock Cockerels—200 big husky vigorous birds. A few pullets. W. C. Coffman, R. 3, Benton Harbor, Mich.

Bird Lawn Farm. A few exhibition Buff Rock Hens for Cockerels \$1.50 to \$3. Blue Orpington Cockerels \$3 to \$10 each. Our Buff Rocks won thru firsts and one fifth Chicago 1914 on four entries. Bird Lawn Farm, Lawrence, Mich.

BRED-TO-LAY R. C. Rhode Island Reds, Breeding Cockerels. A few extra good ones from Vibert, 255 egg strain. J. C. Greene, St. Johns, Mich.

FOWLER'S BUFF ROCKS. Cockerels \$2 to \$5. Hens \$1 to \$3. White Holland Turkey Toms \$5; hens \$3. R. B. FOWLER, Hartford, Michigan.

Golden Wyandotte Cocks and Cockerels, also a few. F. W. ALEXANDER, Vassar, Michigan.

PINE CREST WHITE ORPINGTONS, why wait until Spring to purchase stock, by buying now, you get the benefit of reduced rates and get eggs all winter. Mrs. Willis Hough, Pine Crest Farm, Royal Oak, Mich.

Rose Comb Brown Leghorn Cockerels From Mad. Sq. and Mich. and Ohio State Fair winners \$1.50 each. CLAUDIA BETTS, Hillsdale, Mich.

R. and S. C. R. I. Red Cockerels, W. Runner Ducks, R. B. O. Ducks. Eggs in season. Fine stock. Prices reasonable. O. E. Hawley, Ludington, Mich.

RHODE ISLAND REDS and PLYMOUTH ROCKS. Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 9 1/2 lbs., eggs 15 for \$1.00; P. R. eggs \$5 per 100. Mammoth Bronze Tom Turkeys, 8 to 38 lbs. according to age \$3 to \$25, 10 eggs \$3. A. E. Crampton, Vassar, Mich.

SILVER WYANDOTTES. Large, vigorous cockerels Sat \$2.50, from Blue Ribbon and Sweepstakes winners. Triangle Poultry Yards, H. J. Gettings, Hillsdale, Mich.

Silver Golden and White Wyandottes. First prize winners at Iowa. Choice cockerels reasonable. Send for circular. C. W. Browning, R. 2, Portland, Mich.

Standard bred S. C. W. Leghorn Cockerels. Pure White, five point combs. We won 1st cock, 2nd hen, State Fair this year. Prices \$2 to \$25. Wishbone Leghorn Farm, A. B. & J. M. Wiley, R. 6, Ann Arbor, Mich.

White Wyandotte a fine lot, male and female at low price and write your wants. DAVID RAY, 202 Forest Ave., Ypsilanti, Mich.

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

Mammoth Bronze Turkeys Toms \$5; Hens \$4. Fawn and White Indian Runner. White egg strain, \$1 each. Collar Bros, Conklin, Mich., R. 2.

CLOSING Out my White Indian Runner Ducks—Y. R. C. Fishel strain. These ducks cost me \$5 apiece. Offering while they last. Drakes \$3; Ducks \$2. A rare bargain. RIVERVIEW FARM, R. 2, Vassar, Mich.

Pekin and Rouen Drakes \$2.00 each or 3 for \$5.00. Sheridan Poultry Yards, Sheridan, Michigan.

DOGS

FOX, COON, SKUNK AND RABBIT HOUNDS Broke to gun and field. Prices right. Fox and Coon hound pups \$5 each. Stamp for reply. H. C. LYTLE, Fredericksburg, Ohio.

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

Four Useful Collie Dogs and a Few Female Puppies G. A. WIGENT, WATERVLIET, MICH.

Grange.

ANNUAL MEETING OF STATE GRANGE.

(Continued from last week.)

On the subject of co-operation the master said that one ounce of practice was worth a pound of theory, and he hoped that this economic phase of Grange work would be brought into greater prominence in the future. The Grange has been very successful in co-operative buying, but there is a very great need for co-operative selling, as was shown especially in the marketing of the peach crop this year, and Mr. Ketcham hoped that the Grange would give more attention to this side of co-operation.

On Wednesday afternoon the lecturer's open program was given. At this time she gave her report, which will be given in detail in a future issue of the Michigan Farmer. Other features of the program were organ selections by Earl Moore, head of the pipe organ department of the U. of M., a drill by Burton Grange and an address by E. C. Lindemann, state agent for boys' and girls' club work in Michigan. Mr. Lindemann's talk was illustrated by lantern slides and in an interesting manner it showed the great value of this work. In conclusion he told of the 1915 boys' potato club contest and of how Howard La France won the state championship. A feature of this part of his talk was to introduce the boy himself and have him read his excellent essay on how he grew his potato crop. This essay appeared in the last issue of the Michigan Farmer. Following this address Ivan Chapel a Lansing boy, gave a declamation entitled, "Only a Boy," which was an eloquent appeal for the cause of prohibition. The program was closed by the "Pantomime of Peace," which simply but effectively symbolized Faith, Hope and Charity. After this program the ladies of the Grange were invited to the gymnasium, where they saw a class of girls at work and were served tea.

Wednesday evening was devoted to a round-table talk on "Co-operation." Among those who took part in this were C. H. Bramble, who spoke on the extent of co-operative buying and selling in this country; N. P. Hull, who discussed Grange life insurance, and R. H. Ellsworth, who told of the experiences of the Grand Traverse co-operative association. Mr. Ellsworth urged the Grange to work for legislation providing for inspection and standardization of perishable products and also for legislation which will provide speedy settlement by common carriers of just claims of the shippers. He hoped that in the future the interstate commerce commission would have it as part of its duty to publish all transportation tariffs, as this would have a great tendency toward equalizing the freight rates of the country.

Thursday the Grange delegates were guests of the University and were taken through many of its interesting buildings. In the afternoon they were tendered a reception by President Hutchins and other University people in the Alumni Memorial Hall. Thursday evening was devoted to conferring the fifth and sixth degrees.

Secretary's Report.

In her secretary's report Miss Jennie Buell said that during the year ending November 30, 1915, one Pomona Grange was reorganized and 33 subordinate Granges organized. During the fiscal year 830 subordinate Granges sent reports and dues for one or more quarters, but as 35 of these Granges did not report for the quarter ending June 30, the number of active Granges in the state was placed at 795. The Granges that have reported during the year show a membership gain of 315 over last year. Of the 72 Pomona Granges which reported only 33 held

summer rallies, a small number when the possible benefit of such an occasion is estimated. Reports to the secretary indicate that the Granges are active in community betterment, the projects engaged in including local option campaigns, farm bureaus and county agents, standard schools, Grange Day at fairs, good roads, breeding associations, watering troughs and sign-boards on rural roads, Grange warehouses and public rest rooms.

Treasurer's Report.

In presenting his report, Treasurer Coward explained the loss of total resources of \$358.65, as compared with last year as being due to expenditures authorized by the last State range for the purpose of assisting in the organization of the new life insurance company. This amount, however, promises to be returned many times over in the future, as by an agreement with the insurance company the Grange will receive a small percentage on the renewal premiums. He also brought attention to good showing of the trade contracts account which showed an increased percentage of nearly \$300 over last year. In closing he gave a word of caution regarding various interests which are working through their agents in the endeavor to curtail service and increase rates. He suggested that the Grangers use care in supporting any changes which the public service interests would advocate.

The following is a condensed form of the treasurer's financial report:

Invested Securities.	
Bonds and securities on hand Dec. 1, 1914.....	\$42,000.00
Bonds and securities paid in 1915	1,000.00
Bonds and securities on hand Dec. 1, 1915.....	\$41,000.00
Notes of Patrons Mutual Fire Insurance Co.....	4,000.00
Cash on hand Dec. 1, 1915..	2,545.00
Total invested funds.....	\$47,545.00
Cash on hand in general fund Dec. 1, 1915.....	1,714.59
Total resources of Michigan State Grange Dec. 1, 1915..	\$49,259.59
Invested Funds Cash Balance.	
Cash on hand Dec. 1, 1914..	\$1,903.49
Interest collected 1914.....	450.00
Interest collected 1915.....	2,095.00
Grange Life Insurance Co., note paid	1,000.00
Total	\$5,448.49
Transferred to general fund	2,903.49
Cash on hand in invested funds	\$2,545.00
Classification of Receipts.	
On hand Dec. 1, 1914.....	\$1,244.55
From co-operation	5,349.99
Fifth and sixth degree fees..	260.00
Transferred from invested funds	2,903.49
Dues from subordinate Granges	11,790.53
Supplies sold	1,213.95
National Grange Extension Fund	650.00
Lecturers' Bulletin	36.36
Grange Life Assurance Association payment of loan..	500.00
Miscellaneous	46.25
Total receipts	\$23,995.12
Classification of Disbursements.	
Session of State Grange....	\$7,196.42
Expenses of executive committee	826.47
Expenses of special committees	314.98
Sixth degree fees paid National Grange	93.50
National Grange dues.....	2,280.59
Fifth degree fees returned to Pomona	20.00
Supplies purchased	830.79
Printing and stationery....	973.93
Salaries of state officers....	2,780.00
Co-operation	962.21
Organization	982.14
Supervision	1,222.14
Rallies	926.59
Lecturers' department	354.85
Secretary's office expense..	115.92
Miscellaneous (Life Ins. Co.)	2,086.24
Postage	313.78
Total disbursements	\$22,280.55
Cash on hand.....	1,714.57
	\$23,995.12

As usual, the Friday sessions were devoted to the consideration of recommendations of committees and the day was a busy one, the work being carried well into the night. The only relief from this final siege of work was an illustrated talk on the value of birds, by Mrs. Munger of the Audubon Society, and a musical program by the University Glee Club, which were given before the opening of the evening business session.

Farmers' Clubs

Associational Topic for January.—"What can our Club do to help the State Association the coming year?"

CLUB DISCUSSIONS.

Will Promote Corn Clubs.—The December meeting of the Columbus Farmers' Club was held at Cardiff Vale Farm with Mr. and Mrs. C. M. Davison. The spacious house was made beautiful with decorations of Christmas greens. A Christmas basket filled with simple gifts, to which all the members had contributed, added to the festive occasion. Mr. Clarence Cook, the efficient and active young president, had charge of the meeting. The subject for discussion, "Live Stock for Profit," was subdivided into horses, cattle, sheep and hogs. Emphasis seemed to be given to the cattle and sheep. The matter of being more cleanly in taking care of the cream and the cans in which it is taken to the factory was given much attention. Music was furnished by the Misses Gertrude and Alice Boyce and Alice Davison and Effie Reading. Phyllis Every recited "Mother's Lullaby." The next meeting is being planned as a public one, with a state speaker and the schools of the township to be invited in the interest of forming corn clubs. The delicious roast pork and baked apple sauce, scalloped oysters and pumpkin pie dinner was much enjoyed by the company of about 60, including four of the teachers, who spent this most pleasant and profitable day for them.—Maude Smith, Reporter.

Two Good Meetings.—The Salem Farmers' Club held their November meeting at the pleasant farm home of Mr. and Mrs. Fred Bird. A goodly number assembled and a very interesting program was given, consisting of music, recitations, readings, etc. Rev. Carter gave a helpful address on the subject of "Tithing." Thought farmers especially should bring all the tithes into the store house, as they have been blessed with the bounties of God. Report showed our petition for a rest room in the court house at Ann Arbor was lost for this year at least. The annual meeting of the Club was held at the town hall, Salem, December 1. About 60 guests and members were present and partook of the fried chicken-pie dinner, and enjoyed the social hour. The program consisted of music, readings and recitations, also an address by Rev. Baker on his early experiences on the farm, which was both helpful and enjoyable. Officers for the new year were elected as follows: President, G. H. Thompson; vice-president, Irving Johnson; treasurer, Ira Soper; recording secretary, Grace Geiger; corresponding secretary, Helen C. Thompson.

Held Annual Meeting.—The Ray Farmers' Club held their December meeting Thursday, December 9, at the home of Mr. and Mrs. J. T. Wyman. After an elaborate dinner served by the ladies of the Club, the meeting was called to order by the president, J. A. Priest. Music was rendered by the Club, and a prayer by chaplain, Mr. Mills, was followed by the election of the following officers for the ensuing year: President, J. A. Priest; vice-president, Mrs. Lewis Broughton; secretary, Miss Inez Wyman; treasurer, Wm. Rowley; corresponding secretary, Mrs. J. A. Jewell; organist, Miss Hazel Jewell. It was anticipated that the report of the state delegates Mr. and Mrs. Herman Curtis, would be the principal feature of the program, but as the convention did not close in time for their return, a question box was instituted instead, which brought forth many very humorous discussions. Two very pleasing songs were rendered by the women of the Club, also several solos by Miss Hazel Jewell. The next meeting will be the annual oyster dinner, January 13, at the church.—Mrs. E. M. Frost, Cor. Sec.

Elect New Officers.—Washington Center Farmers' Club held its December meeting at "Riverside," the home of Mr. and Mrs. C. N. Curren. The Club was called to order by President Crowl, minutes read and approved and considerable miscellaneous business disposed of before adjourning for dinner. The social hour is one of the most enjoyable features of the Club, as well as the excellent dinner which is always served. Roll call was well responded to by telling "what a home ought to have." After a select reading, the delegates gave an interesting report of the State Association of Farmers' Clubs, held in Lansing December 7-8. The Club elected the following officers for the ensuing year: President, S. Y. Crowl; vice-president, Mrs. F. L. Cook; recording secretary, Mrs. S. N. French; treasurer, Mrs. Frank Heinlen; corresponding secretary and organist, Mrs. B. S. Gillman. Next meeting will be held at Elmwood with Mrs. and Mrs. S. N. French the second Thursday in January.

Poultry.

THE TREATMENT FOR ROUP.

In a genuine case of roup there is a very peculiar and offensive odor about the mouth and nose. A little later on the eyes often swell entirely shut. Upon noticing the first sign of roup in the flock, we put all the sick birds in a warm, dry, and well ventilated place all by themselves and where there is plenty of light and sunshine. This should be somewhere away from out-buildings which can afterwards be thoroughly disinfected. The next thing to do is to remove all the litter from the hen house and runs and disinfect the house and runs thoroughly with a good coal tar disinfectant. Also lime should be scattered about the floors.

For preventing roup, ventilation without drafts is most effective. Have an opening near the floor of the house to take out all the bad air, if it is nothing but the exits left open and covered with screening. Poultry houses often breed this dreaded disease on account of not being properly constructed. A poultry house should be plenty large, well lighted, well ventilated, sanitary, and fairly warm through the winter. After meeting these requirements there will be very little roup in the flock.

Many people believing that bad air in a poultry house collects near the ceiling, make openings there. This is a great mistake. These openings take off all the pure warm air, but the bad air which breeds roup, settles close to the floor. So in addition to the shutter, curtain, or open front, it is well to have a small opening near the floor in the front part of the house, in order to complete ventilation and take care of the bad air.

Where the proper precautions are taken there will be little roup. In a bad case of roup and where ideal conditions failed to make a cure the best thing to do is to kill the birds before it spreads among the flock. I once had a valuable bird but rather than have the disease spread I had to remove him and after trying all cures we know of he died. This is the only one we ever lost with roup.

Penn. H. A. SWOPE.

THE CHAMPION HEN.

Escorted by a platoon of mounted policemen and accompanied by a brass band, Lady Eglantine, the champion hen of the world, arrived in New York to take a conspicuous part in the great Palace Poultry Show in Palace Garden. This little White Leghorn lady, who tips the scales at a trifle more than three and a quarter pounds, won the right to the title of champion by laying 314 eggs in 365 consecutive days in the International Egg Laying Contest conducted by the experiment station of the Delaware State Agricultural College at Newark, Delaware, thus establishing a new world's record for egg production.

New York was not slow in honoring this newly crowned queen of poultrydom, and a public reception attended by many prominent city officials was only one of the events arranged in her honor.

Lady Eglantine arrived in New York from her home at Eglantine Farms, near Denton, Md., on a Pullman, for when traveling Temple Smith, her breeder, never lets her out of his sight for a minute. On the way north, the party stopped off at Philadelphia, and several thousand residents of the Quaker City turned out to pay homage to her ladyship.

But New York outdid old Philly in the matter of showing its appreciation of the economic importance of her accomplishment. She was met at the railroad station by a delegation several hundred strong, headed by a brass band. A platoon of mounted policemen escorted her through the streets, and when the little lady reach-

ed the hotel, she found the lobby crowded with an enthusiastic throng anxious to make her acquaintance.

Lady Eglantine was taken to the desk where the clerk tied a pen to her leg and placed her on the hotel register. Maybe Lady Eglantine didn't sign her name, but she sure did make some chicken marks, and at that there wasn't so much difference between her autograph and some others on the same page.

"It may be of interest to those not familiar with the chicken business to know the economic importance attached to Lady Eglantine and what she means to the United States and the entire world," said Mr. Smith, her breeder. "The poultrymen are striving to produce more chickens that will lay more eggs, so that you may be able to buy better eggs at a lower price."

"The results aimed at will be achieved through improved breeding along scientific lines; and just as surely as it is with horses bred for draught or speed, or cows bred for milk production, so it is that in chickens the ability to lay a large number of eggs is an inherited trait."

"This bird performed the amazing work of laying 314 eggs in a year. She was a member of a pen of five which averaged 242 eggs each for the year."

"Her bill of fare is varied, coarse bran, corn meal, gluten feed, ground



Lady Eglantine, Champion Egg Producer.

oats, middlings, fish scrap, beef scrap, low-grade flour, cracked corn, wheat, white oats, barley, kaffir corn and buckwheat being the chief articles of her diet. Dry mash and meat scrap are kept before the birds in open hoppers at all times, and the scratch feed if fed in deep litter three times a day.

"We do not believe in coddling, but keep our hens in open front houses the year round, being careful, of course, to see that strong draughts do not strike them, and the birds are stronger and more vigorous for this treatment."

Penn. H. KNAPP.

POULTRY SHOW HINTS.

If you possess good birds do not be afraid to place them in competition with the neighbor's stock. Even if no prizes are won the effort will be worth something and you will learn just what your flock is lacking in order to come nearer to the Standard of Perfection.

Visit the poultry show early in the day when the birds are lively and the owners of blue ribbon stock are looking over their entries. It may give you an opportunity to converse with experienced breeders and learn practical points. At least you avoid the crowd of partially interested observers who clog the aisles and know little about the poultry business.

Study the winners. Some man who knows the poultry business has acted as judge and placed certain birds as first, second, third, etc., and disqualified others. Try and learn why he gave certain birds the ribbons they have earned and why other birds with considerable quality are not placed among the winners.

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now crowding the 300 lb. mark, for sale, prices from
\$20 up. We are now booking orders for Fall pigs for
January delivery. Can furnish choice Trios, not akin,
for \$45 to \$50. We Guarantee Satisfaction.

Swigartdale Farm, Petersburg, Mich.

Berkshires of best breeding. Special price
on two Spring Boars.
D. W. SMITH,
Wixom, Michigan.

Berkshires at cut prices. Choice spring boars. Open or
Berkshires bred gilts. Sow farrow in December. Fall
pigs, no akin. Chase's Stock Farm, Marlette, Mich. R. L.

Berkshires Have a choice lot of gilts. I am breed-
ing for spring farrowing. Write me
your wants. A. A. Pattullo, Deckerville, Mich.

Modern Berkshires. I have for sale young Boars and
sows of May farrowing. Also
a few sows about ten mos. old of approved types, and
aristocratic breeding that I will sell at prices below market
values. Correspondence solicited. M. I. Ogilvie, 30 k.s. Mich.

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

Capitol Herd Duroc Jersey Swine. Established 1888.
Spring pigs for sale, satisfaction guaranteed. Ex-
press 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.

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

Duroc Jerseys—Fall and spring pigs either sex, from
choice strains. S. C. STALLMAN,
CHERRY LAWN FARM, Shepherd, Michigan.

J. W. KEENEY, Erie, Mich. Breeder of Duroc
Swine D. M. & T.
local from Monroe or Toledo, Keeney Stop.

DUROC Jersey, Mar. & Sept. pigs either sex sired by
a son of Volunteer. And two Holstein bull calves
and 2 Holstein cows. E. H. Morris, Monroe, Mich.

DUROC JERSEYS—A few choice sows bred or
open. Also two extra good
spring boars. Wm. W. Kennedy, R. 3, Grass Lake, Mich.

Duroc Jerseys—Choice spring boars and sows of best
heifers due in Dec. Priced to sell. E. R. Cornell, Howell, Mich.

Duroc Jersey Boars of the growthy, heavy boned
type, also a few gilts. In-
tention invited. E. D. HEYDENBERG, Wayland, Mich.

DUROCS of the best of breeding. April farrow.
Either sex. The gilts will be bred for Apr.
farrow. Price \$20.00 to \$25.00 while they last.
H. G. Keesler, R. No. 5, Cassopolis, Mich.

FOR SALE Registered Duroc Brood Sows and
August Pigs. E. J. ALDRICH, R. 1,
TEKONSHA, Calhoun Co., Michigan.

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

Registered Chester White males and females. Reg.
Holstein male calves, and cows.
Parham's Pedigree Stock Farm, Bronson, Mich.

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

HAMPSHIRE SWINE. The kind
that makes such big gains on pasture. Have a few choice
fall pigs for sale, also one July boar. I have a very
choice herd of breeding sows of the best blood lines,
headed by a mammoth son of the Great Look Out. Am
booking orders now for spring pigs, can furnish pairs
and trios not akin. Geo. E. Starr, Grass Lake, Mich.

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

Registered O. I. C. Swine
Stock For Sale—All Ages
Correspondence Solicited, Visitors Always Welcome

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

O. I. C. Serviceable boars, choice Gilts not bred, Spring
pigs not akin, also Toulouse Geese. Write for
low prices and photo. Alvin V. Hatt, Grass Lake, Mich.

O. I. C's—yearling sows, gilts, fall pigs. Very
reasonable. Satisfaction guaranteed.
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.

Breeders' Directory—Continued on page 23.

Feeders' Problems

Corn Silage for Fattening Sheep.
Kindly advise if silage is good for fattening sheep.
St. Clair Co. SUBSCRIBER.

Silage is a valuable feed for fattening sheep or lambs and is now used by the majority of commercial sheep feeders. It should not, however, be fed too liberally. For lambs one and one-half pounds per day should be considered a maximum ration, while sheep may be fed two pounds per day with good results.

An average of seven experiment station trials shows a marked decrease in the amount of hay and corn required per 100 pounds of gain. In these trials 100 pounds of corn silage saved eight pounds of corn and 44 pounds of clover hay, which at one cent a pound for the corn and \$10 per ton for the hay, gave the silage a feeding value of \$6 per ton or at least twice its estimated farm cost. At present prices of corn and hay, the saving would be still greater.

Besides cheapening the gains, the addition of silage to the ration usually results in a higher finish and consequently a better selling price for the lambs, as the addition of this succulent feed increases their thrift.

Oats for Feeding Steers.

I am feeding steers 20 lbs. of corn silage, once a day, corn in bundle once a day, and mixed hay once a day. The corn I am feeding and the silage, is not very good; would yield about 75 bushels, mostly soft corn. I have not got enough silage to feed twice a day. Which would be the cheapest grain ration to feed with ensilage, ground oats (that are colored) at 30c per bushel, cottonseed meal at \$40 per ton, or shelled corn (old corn) at \$1.40 per cwt?

Shiawassee Co. G. B.

In the proper answer to this inquiry something would depend upon the age and present condition of the feeders, the length of the feeding period contemplated and the degree of finish which it is desired to secure.

With silage, shock corn and mixed hay of the quality mentioned, and with the available supplementary grain feeds at the prices quoted, there is, however, no question in the writer's mind but that the ground oats would be the cheapest available supplementary feed and would give excellent results, particularly during the first part of the feeding period. Ground oats at 30 cents per bushel make a very cheap feed. We are not accustomed to giving oats much consideration as supplementary grain for steer feeding, because oats are usually high in price as compared with other grains which might be used as the sole supplementary concentrate in feeding operations.

In experiments conducted at the South Dakota Experiment Station, in two trials of 101 and 115 days respectively, oats were found to be nearly if not quite equal to corn for fattening steers when fed in connection with corn silage and a small feeding of oil meal. At the Montana Station oats were found to have a high value for fattening steers, particularly in the first part of the feeding period.

If made the sole additional grain concentrate with the ration now being fed these steers, oats will balance the ration better than corn, but will still leave it a trifle deficient in protein. As the feeding period progresses it would perhaps be profitable to add some corn and a little cottonseed or oil meal to the ration if a high finish is desired. If, however, a maximum growth and reasonable flesh covering is desired, it is possible that the cheaper ration of silage and shock corn with oats and mixed hay would give the greatest net profit on the feeding operation. As above noted, this phase of the problem can be properly solved only when the size, age and quality of the cattle and the market for which they are being fitted is considered.

Flaxseed Meal for Calves.

Can flaxseed meal be safely fed with skim-milk to a calf one week old? Leelanau Co. N. G.

After a calf has been fed whole milk for a week or ten days, skim-milk supplemented by the addition of a jelly made by mixing flaxseed with boiling

water to supply a substitute for the fat taken from the milk in the form of cream. This substitution should be gradual in order to avoid digestive disturbances, and at first about a tablespoonful of flaxseed made into a jelly should be used to each quart of skim-milk.

As the calf becomes older, this amount can be somewhat increased and in the course of a month or six weeks, corn meal and other farm grains can be gradually substituted for the flaxseed meal as a supplement to the skim-milk.

RAIN WATER FOR STOCK.

With reference to using water that runs off the barn or house, would say that it is the best of water for the family or for live stock, if it is run through a filter.

I have had some experience in that line. I worked on a farm in Kansas where it was impossible to get water close to the house. The landlord dug a cistern 22 feet deep, walled it up with sandstone, then laid a small tile from the center to the corner of the house. Where the eave troughs came to the ground he took a large barrel, bored a hole in one side to fit the tile, let the barrel in the ground so the tile connected with the barrel, then put two or three layers of cobblestone in the bottom of the barrel, then put in a couple of bushels of charcoal, then filled the barrel with coarse gravel to within six or eight inches of the top. The conductor pipe emptied into the barrel, the water running through the gravel and charcoal was filtered and was fine to drink, and also for cooking. We used it for all purposes. We had a spring well at the barn and a good one, but I preferred the soft water to drink. The cistern being so deep the water was very cold, only a few days following a big rain.

I had the same experience in Illinois. No one need be without water in a locality where it is a big task to find water by digging. I would say dig the well where you want it and if you do not find water make a cistern out of it.

St. Clair Co.

H. SCHLEE.

GROUND FEED FOR STOCK.

Is it advisable to grind feed for stock? A great many farmers have settled this point for themselves, but three are also many who are in doubt. In our own experience, we have concluded that for young stock, and for animals advanced in years to that point when their teeth are failing, ground feed is the best. It is not infrequently that animals with good teeth eat so fast that no small amount of grain passes into the stomach without being broken, consequently but little of the food elements contained in such broken grain is absorbed in passing through the system.

If ground feed is fed in the dry state, it cannot be eaten faster than the saliva will moisten it, and is therefore more readily digested. Sometimes, owing to the pressure of a particular job of work, horses can only be allowed a short time to eat their morning or noonday meal. In such cases we feed ground feed that has been moistened at the rate of a pint of water to six quarts of feed. If dampened hay be fed, the horses will be able to eat twice the quantity in a given time than if fed dry. Of course, no one would doubt the wisdom of feeding ground feed to cows in milk.

A point often asked in connection with the matter of ground feed is, does it pay to own a feed grinder? To this we would say that a feed grinder together with a gasoline engine to run it can in these days be obtained so cheap that the average 80-acre farmer can certainly afford to own a feed grinder to grind his own feed.

Indiana.

D. L.

A. E. Bacon & Sons, Sheridan, Mich., under date of December 13, write:

"Shropshire rams all sold, Hampshire rams all sold. The Michigan Farmer certainly sells stock. Please change my advertisement to Pekin and Rouen drakes, and oblige."

A "365" Day Liniment

YOU ARE SAYING TO YOURSELF—

"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once." Get It. Gombault's Caustic Balsam will give you immediate Relief. A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

Gombault's Caustic Balsam The Great French Remedy Will Do It

It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that." —Ed. Rosenberg, St. Ansgar, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, \$1.50 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

THE LAWRENCE WILLIAMS CO., Cleveland, Ohio

HOGS

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. Sows bred for March and April farrow. Priced to sell. From best of stock. E. B. MILETT, Fowlerville, 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.'S 3 July boars. Bred gilts with size and quality. \$22 to \$30 each. C. J. THOMPSON, Rockford, Michigan.

Way Brothers Stock Farm. The home of the big bone O. I. C. Hogs. Stock for sale. Registered free. J. R. Way, Three Rivers, Mich.

O. I. C. serviceable boars, tried sows, gilts bred for March and April farrow, summer and fall pigs. I pay express. G. P. ANDREWS, Danville, Mich.

O. I. C. Gilts bred for March, April and May farrow. Recorded in buyer's name. H. W. MANN, Danville, Michigan.

O. I. C. and CHESTER WHITE SWINE Big type with quality. We have the undefeated breeders young herd at seven State fairs this year. They were sired by Abo 2nd, one of our many good herd boars. Special prices on all boars for the next 30 days. Get a Gilt bred to the Great Schoolmaster, the highest priced boar of the breed, Champion over champions. Write for our big catalogue with history of the best herd in the whole country. Come and see them. Rolling View Stock Farms, Cass City, Mich.

O. I. C. Choice Spring boars and bred Gilts. We pay Express and Register free. Glenwood Stock Farm, Zeeland, Michigan.

O. I. C.'s Spring Boars and gilt bred sows. Write JULIAN P. CLAXTON, Fint, Michigan, R. 8.

Registered O. I. C.'s. Attractive prices on fall pigs and last spring gilts. All from large litters. Elmer E. Smith, Redford, Mich.

O. I. C. Service boars and fall pigs not akin and 25 Mar. boar, wt. 300, big type, heavy bone. Come and see them. ½ mile west of depot. Otto E. Schulze, Nashville, Mich.

POLAND - CHINAS From our thousand pound Grand Champion Boar and Big Stretchy Sows, of best breeding. Spring Boars at a bargain. Hillcrest Farm, Kalamazoo, 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, Bayview, Mich.

POLAND CHINA gilts bred for March and April farrow. Fall pigs, satisfaction guaranteed. G. W. HOLTON, Kalamazoo, Michigan.

POLAND CHINAS of the big type. Boars ready for service. Barred Rock Cockerels. A. A. WOOD & SON, Salline, Michigan.

Large Strain P. C. two extra good Summer Yearling Spring pigs that are beautiful. Bred gilts are all sold. The boar that everybody goes wild over. Come and see him. H. O. SWARTZ, Schoolcraft, Mich.

Large Type P. C. Largest in Mich. Boar pigs ready for first order gets first choice. Priced to sell. Sired by two largest boars in State. Free Livery to visitors. W. E. LIVINGSTON, PARMA, MICH.

LARGE TYPE P. C. Some very choice April and May Boars for sale. Brood Sow Sale in February. W. J. HAGELSHAW, Augusta, Mich.

Heavy BONED POLAND CHINA Spring Boars and gilts not akin. Also older stock. Prices right. CLYDE F. SHER, St. Louis, Mich.

Spring Pigs at Half Price:—Bred from the largest strain of Poland Chinas on earth, none bigger. If you ever expect to own a registered Poland China, this is your opportunity. Get busy and order at once. Pairs and trios not akin \$15 each. A few bred sows at \$25. J. C. BUTLER, Portland, Mich. Bell Phone.

Big Type Poland China—Western bred extra large boned. Stock for sale. Prices not akin. Satisfaction guaranteed. W. BREWBAKER & SONS, Elsie, Mich. R. No. 5.

Big Type Boars all sold. Have several good Gilts bred to Smooth Jumbo, Jr. Top Boar of J. D. Collin Sale. Priced right to go quick. A. D. Gregory, Ionia, Mich.

BIG Type Poland China Gilts, bred to a good son of Wonderful Wonder. He sold in Iowa for \$625. This will please you. Robert Martin, R. 7, Hastings, Mich.

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

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

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

Heavy Boned Poland Chinas. Both sex and all ages at bargain prices. Also, B. P. Rock Cockerels. ROBERT NEVE, Piersen, Michigan.

A. G. Meade, for sale 100 head of Registered Poland China Boars and Sows. Prices reasonable.

Yorkshire Service Boars—Also sows and fall pigs, pairs not akin. No Cholera. Send for Photos. CHAS. METZ, Ewart, Mich.

Large Yorkshires Gilts bred for spring farrow. Service boars. Pigs all ages. Prices Reasonable. W. C. COOK, Route No. 1, ADA, MICHIGAN.

Mulefoot Hogs Gilts, Young service Boars, Pairs not akin. Write for prices. C. F. Bacon, R. 3 Britton, Mich.

SHEEP.

Oxford Down Sheep. Good Yearling Field Rams and ewes of all ages for sale. M. F. GANESLEY, Lennon, Michigan.

Oxford Down Sheep and Polled Durham Cattle For Sale. J. A. DeGarmo, R. No. 25, Muir, Mich.

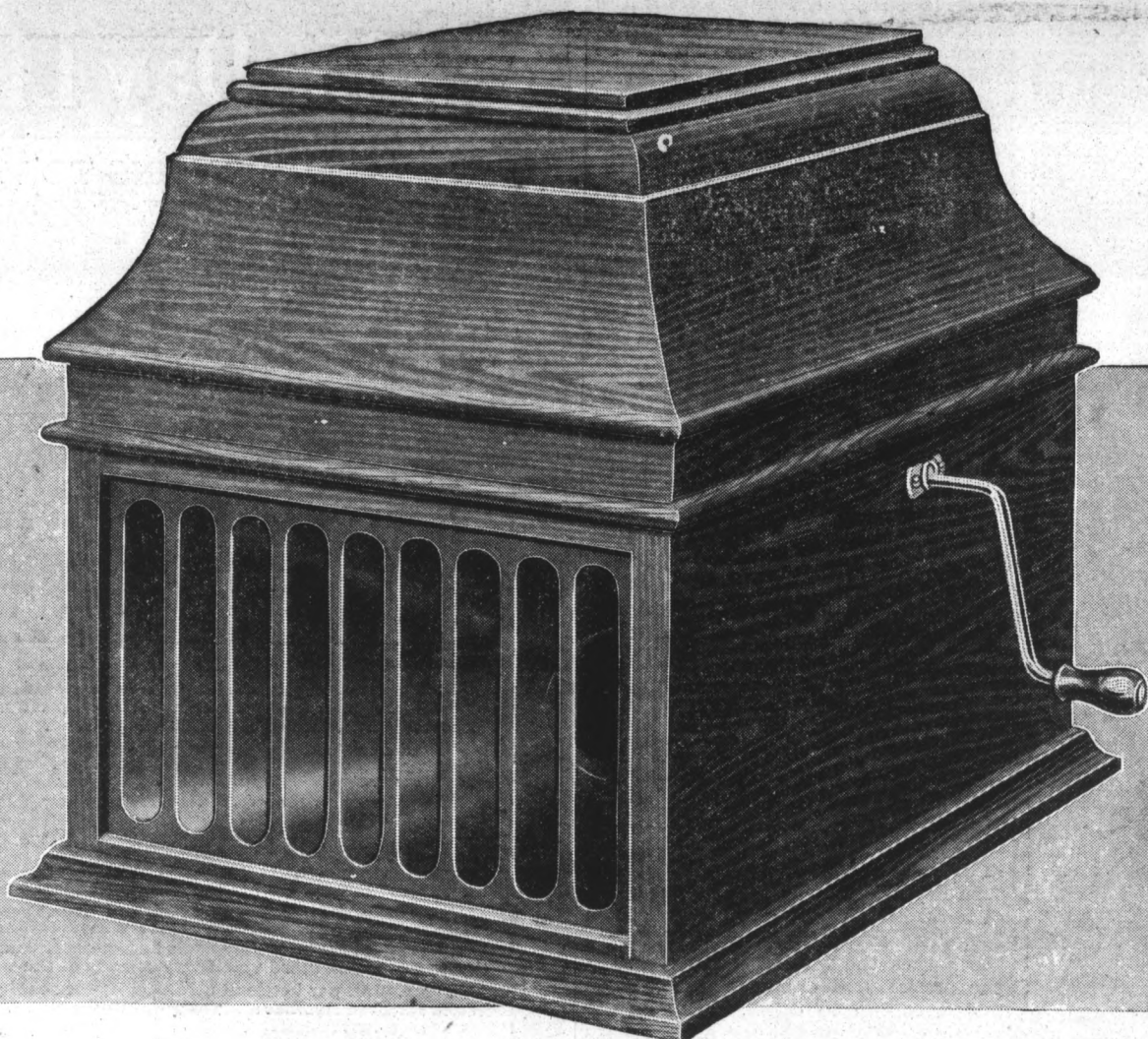
Registered Oxford Down Sheep. Ram Lambs, Yearling Ewes. L. N. OLMSTED, J. SPAANS, MUIR, MICH.

OXFORDS—no more for sale. O. M. YORK, MILLINGTON, MICHIGAN.

Start the Boy Shropshire and Oxford ewes bred to imported rams. KOPE KON FARM, Kinderhook, Michigan.

Shropshire Ewes For Sale DAN BOOHER, R. 4, Ewart, Michigan.

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



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