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MICHIGAN FARMER

AND LIVE STOCK JOURNAL.
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FARM NOTES.

Seeding New Land.

I have been cutting off about 50 acres of timber on my farm in Lapeer county and will have the brush piled and ready to burn when it is dry enough in the spring. Would like to get this into a pasture for sheep until the stumps are rotted and should be pleased to hear thru the Michigan Farmer from someone who has had the experience, what the best way would be to handle it to get a good pasture as soon as possible, and not let the brush get started so it will have to be cut again. Whether to crowd the sheep the first year or so or to give the grass a good chance the first year and take chances on the sheep-killing back brush that may have started. Also, what is the best grain to sow? The land is slightly rolling clay loam. Would Merino or fine woolled sheep be better to do this job than coarse wools?

A. W. WEIDEMANN,
Lapeer Co.

The best way to handle newly cleared land is to sow it to clover and timothy seed as soon after it is burned off as possible. When the burning is done, in the late summer, the seed will get sufficiently well covered by simply sowing it on in the early spring as other land is seeded. If the land is comparatively level and the seed can be sown soon after the burning and before a heavy rain falls, considerable of it will be sufficiently well covered to grow and even a partial stand of these tame grasses will greatly improve the pasture and will many times repay the cost of the seed required. The sheep will take kindly to the tender browse and will kill much of it back, but it will be necessary to sprout this new ground off once or twice before the grubs are all killed. The fine woolled breeds of sheep will better endure continuous grazing on the same land than will the coarse or middle woolled breeds, but whatever kind of sheep you have can be profitably utilized as suggested.

Of course, a crop of wheat can be grown and the grass seeded in the wheat, but the labor of fitting this new ground and of harvesting the wheat by hand will reduce the profit to a low point, and all things considered, it is questionable if this course would prove as satisfactory as the one first suggested.

Spurry as a Forage Crop—Fertilizer Question.

I have an eight-acre field of high sandy soil that had not been plowed for 20 years, and last spring I planted it to corn. It grew fairly well until the dry spell came on, then stopped, so I suppose the soil was lacking in humus. This I was not in a position to know, being a farmer of only two years' experience. Here and there on this field are patches of moss and places where sour grass springs up and it is 35 ft. down to water. I wanted to sow this field to some crop that would make feed for cattle and make a pasture afterward, if it is possible. I saw a seed in one of the catalogues last year called giant spurry, and planted a small piece on land similar to this field which grew fairly well, and made its growth in six weeks. It had a top root seven inches long, about the size of a lead pencil; but I wanted to know if this plant gathered nitrogen from the air the same as clover, and have not as yet had anyone to tell me. I also have several barrels of oak ashes and chicken manure and would like to know how to use them in the garden to the best advantage. That is, shall they be mixed or kept separate and when shall they be put on the land?

Muskegon Co. C. G. SEELY.

Spurry is not a legume, and consequently has not the power to gather nitrogen from the air which makes clover such a valuable soil improver. It has, however, a value as a forage crop, and a crop to supply humus on very light sandy lands. It is, however, very much inclined to become a troublesome weed. It belongs to the purslane family, and is a very persistent grower and being an annual plant which matures quickly it scatters its seed plentifully. Cattle will not eat it readily at first but learn to like it better after they have become accustomed to it. It is questionable if this plant has a very useful place in Michigan agriculture. Some of the leguminous crops might be more profitably used to supply humus to the soil or pasture for stock. It would pay better to seed the land to clover if it is possible to get a stand of clover upon it and if the soil is fairly well fitted and the clover is sown alone, it will seldom fail. It is, however, difficult to grow a crop which will make feed for cattle, and seed this kind of land at the same time.

Ashes should not be mixed with any kind of manure before applying to the land, the lime in the ashes liberates the nitrogen from the manure, and it is lost in the form of volatile ammonia. For this reason ashes should always be applied to it independently of manure, the manure being plowed down and the ashes applied to the surface and harrowed in to mix with the surface soil.

Sand Vetch for Michigan.

For some time there has been a good deal of interest among Michigan Farmer readers regarding the adaptability of

sand vetch to Michigan soils, and its usefulness as a forage plant and a soil renovator. To inquiries regarding it, advice has generally been given in our columns to the effect that while it is undoubtedly a vigorous grower on thin soils and of considerable value as a soil renovator or improver, yet there are some serious objections to its use, one such objection being that it is inclined to become a weed where it is grown to any considerable extent, which fact, together with the comparatively high price of the seed, makes it of questionable value where the clovers can be successfully grown. It has, however, many strong advocates among the farmers on our lighter soils, who do not fear any weed which is acceptable to live stock and who claim that the seed is easily grown under Michigan conditions.

The tendency of this plant to spread as a weed is shown by a recent inquiry from a Muskegon county subscriber who sent a sample of sand vetch for identification stating that his land was well covered with it, and desiring to know whether it would make a good feed for goats, sheep or other animals. With regard to this plant, Dr. Beal, of M. A. C., says that it is probably the most promising of all the vetches for Michigan, and that cattle and other stock will eat it if they can get no feed that they like better. It is often the case that live stock at first refuses to feed upon plants to which make very good forage when they learn to like them. Sweet clover, for instance, is regarded as wholly a weed in Michigan, but in many sections of the south, it is utilized both as green forage and for hay, and there are instances on record in which animals have cultivated a taste for it in our own state. In such cases it has proven a valuable forage and there is a possibility that with proper handling, it could be made of some economic value as a forage plant and a soil improver in Michigan. Where one has difficulty in securing a stand of clover upon light or thin land, we believe it is much better to resort to a hardy legume such as sand vetch, or even sweet clover, in preference to an annual plant like spurry, which is more of a menace as a weed than any plant which has the power of gathering nitrogen from the air, and will supply as much or more humus to the soil.

However, where our common clovers can be successfully grown, it is undoubtedly better to grow them in preference to these legumes of more questionable value, and wherever alfalfa, that greatest of leguminous forage plants can be successfully grown, we believe that even the common clover will in time give place to it right here in Michigan. The question of soil improvement by the growing of clovers of this nature must, however, remain largely a question for the personal solution of the individual farmer. He knows his own soil conditions better than anyone else, and by giving the question his best thought and experimenting with plants which are new to him on a small scale, he will be able to decide their relative merit for the up-building of his soil, as well as their relative value for the production of forage needed for the live stock maintained upon the farm.

BEAN ANTHRACNOSE INVESTIGATIONS.

For more than three years the Cornell Experiment Station has been devoting considerable time to observations and experiments on the anthracnose or pod-spot of beans. Bean Anthracnose is known to growers under a number of different names, depending largely upon the locality. Perhaps the most common one applied to this malady is "rust." However, as a matter of fact the disease is not rust at all, tho the spots do have a reddish yellow color in their early stages. There is a true rust of beans which is rarely met with in ordinary bean fields. Pod-spot is a name which is frequently applied to the disease, as it appears in the pods. Blight is also commonly used, but incorrectly so, as there is a true bacterial blight of beans, which is not only very common, but frequently quite destructive. Whatever name may be locally given to the anthracnose, it is still one and the same disease that most bean growers have in mind. The disease is readily recognized by the appearance which it gives to the infected pods, and it is here that the trouble is usually first recognized.

The disease is caused by a fungus which lives as a parasite in the tissues of the bean. This fungus is a plant, as much a plant as the bean on which it lives. It works its way into the tissue

of the bean to obtain food for its growth and development and it produces spores that serve the purpose of seeds by which it spreads to healthy beans and so reproduces itself.

So far the experiments of the Cornell Station have shown that there are three or four possible means of combating the disease, but of them the planting of clean seed is best. Clean seed will grow clean beans. In the spring of 1904 a variety of Black Wax beans were brot from Indiana and planted in a garden where no beans had been grown for many years. These beans gave a crop perfectly free from the anthracnose and this was more remarkable, since practically all the beans grown in the neighborhood were badly spotted that season. The following year seed saved from this crop was planted in a garden where, the previous season, beans had been badly affected with the pod-spot. Again they gave a crop perfectly free from the anthracnose, while the same variety grown from seed purchased in the city market gave a diseased crop. In 1906 another planting was made alongside of one from seed of the same variety purchased in open market. Shortly after the beans were up the disease became quite virulent in the plants grown from the purchased seed, while none was to be found in that grown from selected seed of the previous season. This clearly indicated that the absence of the disease the two preceding years had not been due to varietal resistance. It could be explained only on the basis that there had been no disease in the seed. These and other experiments indicated—first, that the disease is carried over entirely in the seed; second, that the disease is not ordinarily carried for any considerable distance by natural agents, such as rain, wind, etc., and third, that if perfectly clean seed is planted and ordinary precaution taken to prevent the introduction of the disease on tools, or by workmen, a perfectly clean crop can be produced, even in seasons the most favorable to the development of the fungus.

Considering the manner in which the fungus finds its way into the seed, it seems evident that if no spots are to be found on the pods, none of the seed within will be diseased. That is to say, healthy pods contain healthy seed. The selections should be made at the time when the pods begin to shrivel but before they have become perfectly dry. It has been found that hand-picking and sorting of these pods is not nearly so difficult a problem as one might expect. The anthracnose cankers are so large and readily recognized that any person of ordinary intelligence and care may be depended upon to sort out the healthy pods. It is necessary, however, to examine both sides of every pod.

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

MICHIGAN AT THE NATIONAL CORN EXPOSITION.

Michigan's representation at the National Corn Exposition held at Omaha, December 6-18, was a very creditable one. The entries in the Michigan class were not only well filled but there was a very good representation in exhibits of small grains entered in the classes open to the world and a fair proportion of these prizes were also pulled down by the Michigan exhibitors. There were 13 exhibitors from Michigan in these various classes who won a total of 36 premiums accounted for the report of Mr. O. J. Bemiss, who superintended the placing of the Michigan exhibit, as follows:

Classes Open to Michigan Only.

Ten ears dent corn, and color—R. C. Rawling, Caledonia, 1st; A. W. Jewett, Mason, 2nd; G. J. Friedrich, Brooklyn, 3rd; Frederick Graff, Ionia, 5th.
Ten ears flint corn, any color—G. J. Friedrich, 1st; R. Hayward, Bay City, 2nd; A. W. Jewett, 3rd.
Best single ear dent corn, any color—Jessie W. Pickett, Caledonia, 1st; A. W. Jewett, 2nd; G. J. Friedrich, 3rd.
Best peck of wheat—A. W. Jewett, 2nd; G. J. Friedrich, 3rd.

Classes Open to the World.

Best peck of barley, and variety—R. Hayward, 5th; A. W. Jewett, 13th.
Best peck of rye—G. D. Grossman, 5th; A. W. Jewett, 11th.
Best peck of buckwheat, any variety—A. W. Jewett, 2nd; G. D. Grossman, 8th; R. Hayward, 10th.
Best peck of navy or pea beans—A. W. Jewett, 2nd.
Best peck of beans other than navy or pea—G. J. Friedrich, 1st; A. W. Jewett, 2nd; R. Hayward, 6th.
Best peck of field peas, marrowfat varieties—A. W. Jewett, 6th.
Best peck of field peas, navy variety—A. W. Jewett, 7th.
Best peck of cowpeas—G. D. Grossman, 2nd.
Best peck of soy beans—G. D. Grossman, 10th.

Best sheaf of flax for fibre—A. W. Jewett, 3rd.
Best sheaf of buckwheat—A. W. Jewett, 1st.
Best four-inch sheaf of red clover—R. Hayward, 4th.
Best peck of timothy seed—A. W. Jewett, 11th.

CEMENT DRAIN TILE.

With regard to cement tile, mentioned by Mr. Redmond in a recent article, will say that I see no reason why they would not be entirely practical. Few of them have ever been used. I know nothing about them from actual experience. I have seen these tile. They look good and I have no doubt they are good, and if a four-inch tile can be manufactured for \$10 per 1,000, as he states, I believe that I would lay them in preference to any other tile, because I have no doubt they will last in the ground or anywhere else just as long as the other tile. Up to this time, however, and even at the present time, there are no cement tile on the market. If a man can buy a tile machine and make his own tile, well and good, otherwise he must content himself with the kinds on the market.

COLON C. LILLIE.

FREE BOOK ABOUT CANCER.

The Leach Sanatorium, of Indianapolis, Ind., has published a book on cancer which gives interesting facts about the cause of cancer; tells what to do in case of pain, bleeding, odor, etc., instructs in the care of the patient, and is, in fact, a valuable guide in the management of any case. The book is sent free to those interested who write for it, mentioning this paper.

Good News for Buyers of Manure Spreaders.

We want to give all our readers a bit of good news. The American Harrow Company, of Detroit, Mich., (well known to farmers of America for over a quarter of a century), say, that in spite of all the great improvements in their manure spreaders, they were going to be able to make a cut of many dollars in the price of every size. The drop in price is due to improved factory facilities. They have turned out machines that are right, have sold direct at small profit over actual cost, and have followed a remarkably liberal policy in their dealings. For instance, they give credit to any farmer that a dealer would trust. Some of the big advantages of their improved spreader are these: More steel is used than in any other; cylinder or beater is all steel and so is rake, which also serves as end gate. It has the only direct chain drive used on a spreader—no gears to break or cause needless draft. The feed mechanism is wonderfully simple and effective, and six changes are possible without leaving seat or stopping horses. The roller bottom equipped with force feed is a splendid feature. Altogether, the manufacturers point out 19 improved features of importance, all found on no other spreader. We are sure everyone of our readers who considers the purchase of a manure spreader this season would be greatly interested in this company's new book and their cut prices, freight prepaid. Address a card to American Harrow Co., 1048 Hastings St., Detroit, Mich., and they will be pleased to send the book and complete price-list.

One Big Industry that Makes Its Business Grow.

The Mayer Boot & Shoe Company, Milwaukee, the largest shoe establishment in the Northwest, has attained this enviable position in the trade thru the genuine merit of the goods which it places on the market. Because of the high standard of that product, and the consequent favor with which Mayer shoes have been received by the buying public, the Mayer line of shoes have become universally and popularly known as "shoes of merit." The leading brands are "Honorbilt" fine shoes for men; "Leading Lady" fine shoes for women; "Yerma" Cushion shoes for both men and women (these are exceptionally fine shoes for people troubled with tender feet); the popular "Martha Washington" Comfort shoes, which have the largest sale of any shoes of their kind in the world, and the "Special Merit" School shoes (a strong and sturdy line of seamless school shoes that wear like iron). In addition to these brands, the Mayer Boot & Shoe Company make a complete line of every-day and Sunday shoes for all purposes. In fact, there is a Mayer shoe for every purpose and for every member of the family. The next pair of shoes or boots you buy get a "Mayer." They are the best and you can then prove it.

Page Fence Sales Boom.

The Page Woven Wire Fence Company is doing a great business. The new plan of sending out actual samples showing Page wire and the Page construction, has attracted widespread interest, and we understand that this distribution of wire has had much to do with the record-breaking sale of Page Fence. The Jubilee Edition of the Page Fence catalog, which is now being mailed, gives much information of value to the prospective purchaser of wire fence. Copies may be obtained free, together with a free sample of Page Wire, by addressing The Page Woven Wire Fence Co., Box 254, Adrian, Mich.

Please Send In Your Renewal Early.

One year .75 cents.
Three years \$1.50.
Five years \$2.00.
A premium free with each subscription.

THE BUSINESS SIDE OF FARMING.

Markets.

Patten, who has made such phenomenal success in the speculative grain markets, in his contention as to the operation of grain trading in futures, justifies himself on the ground that he is a student of crops and of their demand. The farmer is primarily the first to sell and with the modern means at hand can be reasonably posted. No farmer ought to be without his agricultural journal. An examination of the mailing lists of the Michigan Farmer in Michigan will show a perspective of the general status of the farmers in their respective communities. It is among these farmers that an intelligent knowledge of the markets exist. Not only the actual prices but market rules and classifications. Live stock buyers have a regular "Dun" and "Bradstreet" of the radius in which they buy. The non-reading farmer is simply at the mercy of any shrewd and not over scrupulous buyer. The farmer who is not posted in the ways of the market is not able to calculate as to whether it pays to finish or not. While no one can foretell the markets, certain calculations can be made with some degree of accuracy. The reading farmer is the easiest to buy from and the buyer simply calculates cost of handling and does not aim at an excessive profit. To make up for lack of knowledge of the markets the non-reading farmer adopts a code of ethics which compels the buyer to always pay money on the stock to "bind the bargain," as the buyer mentally marks such in his ratings as "tricky;" "will not deliver the goods unless cinched," is another rating. Swinton, the historian, says that "no human institution has ever been able to radically change human nature," yet the checks and counter checks that a knowledge of the markets gives of business makes for good citizenship.

Somewhat aside from the matter of markets, but nevertheless correlated. I have that what the effect would be in a series of years if on Michigan farms there was posted, neatly but not excessively conspicuously, the farmer's name and "The Michigan Farmer read here." The ordinance of the Northwest Territory, of which Michigan is a part, adopt-

The farmer who several decades ago used the plow, drag and a crude cultivator, now can master the mechanics of the mowing machine, binder, manure spreader and gang-plow. Likewise he can learn the necessary technical expression of the farm by actual association, use and comparison.

A Chicago paper printed the following jingle:

"Some necessary things you will note
Can never be learned by rule,
You cannot learn to milk a goat
In a correspondence school."

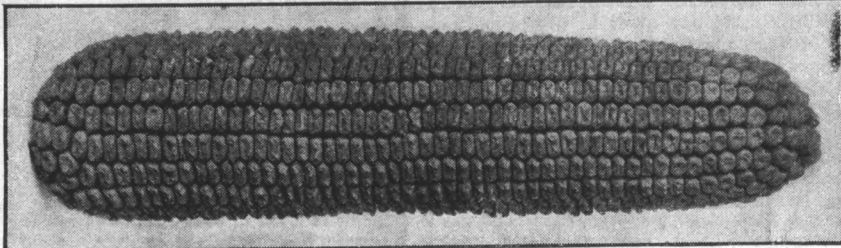
Likewise one cannot expect to learn all about farming from others' experience. Unlike the legal digests of cases and medical reports, there are so many variable factors and ensuing combinations that the farmer must discriminate. It is the necessity of knowing the effects of nitrogen, potassium, etc., that will enable the farmer to intelligently approach the use of commercial fertilizers. In many

by this habit of outdoor life. The proper privacy belonging to the family and the adjustment of labor to the conditions of changed or changing farm life is imperatively demanded in the removal of the burden of hired help from the house. No one thing has done so much to embitter the women of the farm home toward farm life as the hired help question. Familiarity breeds contempt on the part of both employer and employe. Adjustment to environment is the title to a chapter in evolution, and it is the business of the farmer to do some adjusting in the matter of hired help—or else change the environment.

Shiawassee Co. JAS. N. McBRIDE.

THE CHAMPION EXHIBITS AT THE CORN SHOW.

The accompanying cuts are from photographs of the exhibits winning highest



The Grand Champion Ear of Corn at International Corn Exposition.

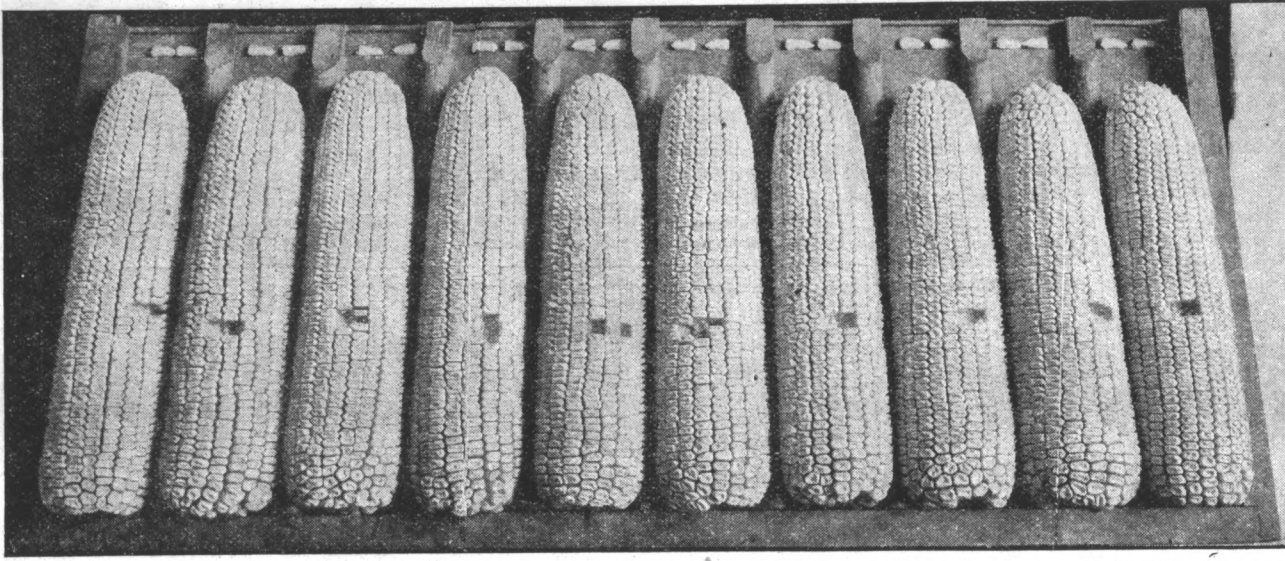
portions of the country the word phosphate is used for all fertilizers and is as ambiguous as the Missourian's use of "gears" for harness. A bulletin on the technical terms appertaining to farm subjects would be a welcome addition to agricultural literature.

Hired Help.

Farm employes have been more of a problem than the shop workman in the cities. Among other reasons for this fact is the matter of housing and boarding. Hired help is an actual necessity, and yet the unsatisfactory conditions are like Mark Twain's observations regarding the weather, "while everybody has complaints, nobody has done anything to remedy it." No hard and fast rule will apply in all cases and what the business

honors in the world class at the International Corn Exposition, at Omaha. The ear winning the grand championship is an ear of yellow corn shown by Fred C. Palin, of Indiana. Mr. Palin is not a seed corn dealer, but a feeder who has developed this excellent type of corn thru the cross pollination of two varieties for two years and by rigid seed selection thereafter. The fitting reward for his effort is the winning of the famous Kellogg trophy, worth \$1,000, on this single ear of corn.

J. R. Overstreet, another Indiana man, won the grand championship in the ten ear class, with the exhibit of white dent shown in the accompanying cut. The quality and uniformity of this exhibit is plainly apparent from the cut, which



The Ten-Ear Exhibit Winning the Championship in its Class at the International Corn Exposition.

ed in 1787, declared that "religion, morality and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged." Agricultural journals are one of the means of education and should forever be encouraged, for they give a knowledge of the markets to the farmer, as well as a knowledge of many other subjects.

Knowledge of Farm Technical Terms.

In the mechanical professions the terms belonging are used with a sort of professional pride, and their use is the entree to the line. The electrical engineers talk of watts, amperes, voltage, transformers, etc. The mining engineer discusses tunnels, adits, winzes, shafts, etc., with ease, as they are necessary terms in his vocation. The time has come when the farmer must be familiar with and use the technical terms relating to his business such as protein, carbohydrates and ash, in feeds. In soil matters he should use and understand such terms as nitrogen, potassium, phosphorus, calcium silica, humus, etc. In matters of the dairy, butter-fat, casein, lactometer, etc., should be familiar terms to him. Language is given to express ideas and, as a business expands in knowledge, additional terms must be used to express that knowledge.

farmer will do is merely suggestive. The farmer will plan in one of two directions, viz., to decrease his business to the operations of his own household, or increase it sufficiently to take the hired help out of the household. Several decades ago the latter proposition was not so easily accomplished as now. The summer season hand at present commands approximately the same sum of money that would hire him for the whole year, and justly so, for when the work season is ended he must shift for himself and, unfortunately, cannot fly southward with the wild geese on the approach of winter. The problem is, then, to employ the help by the year, and increase the farm operations by dairying, stock feeding and other forms of winter employment. A neat cottage on the farm is a standing invitation for competent help. A ramshackle tenant house will get an employe of similar description. The western ranch house has men's quarters, usually a separate building, where the men sleep and live; but they board at the ranch dining table, where often a man cook is employed for the household as well. The western laborer provides his own blankets and bed and more often rolls out from the alfalfa stacks than elsewhere. Many a case of incipient tuberculosis has been conquered

shows the type of the kernels as well as of the ears.

C. L. Krelm, still another Indiana man, won the first prize for the best bushel of 70 ears in the world class, thus making a clean sweep for Indiana in the sweepstakes prizes.

We want to direct the special attention of our readers to the advertising of Atkins Silver Steel Saws, which will appear from time to time in this paper. These well-known saws have every modern feature of design and are well worth getting acquainted with. The makers, E. C. Atkins & Co., Inc., Indianapolis, Ind., have issued a booklet telling how to select saws and how to take care of them. This should be of interest to any farmer who realizes the value of first-class tool equipment. This book is sent free to those who write to E. C. Atkins & Co. for it.

H. C. Cramton, Metamora, Mich., the well known breeder of Shropshires, writes: "Please discontinue my advertisement as I am nearly sold out. I have sold all my surplus stock except two, at prices ranging from \$12.50 to \$40.00, and the results from my 'ad' in your paper have been very satisfactory, and I will have an ad. ready for you next fall."

Our Choice of a Christmas Gift.

If among the thousands of things we might choose as a Christmas gift was the renewal of your subscription, and we had but one choice we would choose that.

APPLETON QUALITY
WOOD SAWS

SAW your own wood and save time, coal and money; or saw your neighbors' wood and

MAKE \$5 TO \$15 A DAY

Hundreds are doing it with an Appleton Wood Saw. Why not you? We make six styles—steel or wooden frames—and if desired will mount the saw frame on a substantial 4-wheel truck on which you can also mount your gasoline engine and thus have a

PORTABLE WOOD SAWING RIG that is unequalled in effective work and profitable operation.

We make the celebrated Hero Friction Feed Drag Saw also, and complete lines of feed grinders, corn shellers, corn huskers, fodder cutters, manure spreaders, horse powers, windmills, etc. Ask for our Free Catalogue.

Appleton Mfg. Co. 20 Fargo Street
Batavia, Ill., U.S.A.

BOWSER

(Sold with or without elevator)
CRUSH ear corn (with or without shucks) and **GRIND** all kinds of small grain. Use Conical Shape Grinders. Different from all others.

LIGHTEST RUNNING.
(Our Circular Tells Why.)
Handy to Operate. 8 Sizes—2 to 25 h. p. One size for wind-wheel use.

Also Make Sweep Grinders; both Geared and Plain.

D. N. P. Bowser Co.
South Bend, Ind.

FEED MILLS

TREES THAT GROW

Apples 6c, Peach 5c, Plum 12c, Cherry 15c. Best quality, good seedlings. Concord Flower and Forest Tree Seed. Farm Seeds. Our large illustrated catalogue free. Also free Sample packet of "New Coreless" Tomato, the best of all tomatoes.

GERMAN NURSERIES & SEED HOUSE
CARL SONDEREGGER, Pres.

German Nurseries,
Box 127, Beatrice, Neb.

SAVE YOUR BACK
Save time, horses, work and money by using an

Electric Handy Wagon

Low wheels, broad tires. No living man can build a better. Book on "Wheel Sense" free.

Electric Wheel Co. Bx 58, Quincy, Ill.

BROWN FENCE

STOUT—STRONG—DURABLE—CHEAP
Let us prove to you that Brown Fence will outlast any other because of heavier wires and heavier galvanizing. Investigate before you buy. 160 styles for all purposes. 15c per rod up—We Pay the Freight. Send today for prices and free sample of all No. 9 Rust Proof fence.

The BROWN FENCE & WIRE CO., Dept. 49, Cleveland, O.

SAMPLE FREE

FENCE Strongest Made

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.

COILED SPRING FENCE CO.
Box 21 Winchester, Indiana.

Ornamental Fence Cheaper than wood for Lawns, Churches, Cemeteries, Public Grounds. Also Wrought Iron Fence. Catalogue free. Write for Special Offer.

THE WARD FENCE CO., Box 677, Decatur, Ind.

14 1/2 Cents a Rod

For 23-in. Hog Fence; 15 3/4-in. for 26-in.; 18 3/4-in. for 31-in.; 22c for 34-in.; 25c for a 47-in. Farm Fence. 60-inch Poultry Fence 33c. Sold on 30 days trial. 30 rod spool Ideal Barb Wire \$1.55 Catalogue free.

KITSELMAN BROS.,
Box 278 MUNCIE, IND.

CEDAR POSTS for sale. Write for prices.
JESSE L. BARRETT, Missaukee, Mich.

LIVE STOCK

FEEDERS' PROBLEMS.

Charcoal for Swine.

I would like a reply thru The Farmer as to whether slack from soft coal in unlimited quantities is beneficial to fattening hogs or otherwise?
Monroe Co.

O. J. L.

Hogs that are kept under the more or less artificial conditions prevailing upon every farm, seem to crave substances which contain little nutriment and which would not seem to be the result of a healthy appetite. This craving is sometimes satisfied by the feeding of coal slack. While it is probable that this is not the best corrective of the kind which may be employed, yet, if their appetite for it is satisfied at the start there cannot be any danger in feeding them all of this material that they will consume.

Experienced hog feeders generally prefer charcoal to coal slack for this purpose, that made from corn cobs being considered best. This can easily be made by digging a hole in the ground three or four feet across at the top, and small at the bottom, and by starting a little fire in the bottom of this hole and adding the cobs gradually until the hole is filled, thus keeping the flame at the top then covering the hole with a sheet iron or other metal cover, and throwing a little dirt about the edges to keep out the air, the cobs will be converted into charcoal. A little salt and air-slacked lime added to this charcoal at the rate of 8 lbs. of salt and 4 lbs. of lime to 6 or 8 bushels of charcoal makes an ideal mixture which can profitably be kept before the hogs at all times. This satisfies their craving for mineral substances. The lime in the mixture furnishes material for bone, and the charcoal prevents indigestion, where a heavy grain ration is being fed.

Coal slack will answer the same purpose fairly well, but either wood or coal ashes will probably answer as well or better for occasional use, in case the mixture above advised is not to involve too much trouble.

A PLAN FOR PRESERVING VALUABLE INFORMATION.

The Michigan Farmer contains a department which may be made of considerable value to any farmer who keeps stock. Each week there are prescriptions for diseases which are likely to be found useful at some time by every stock owner. At different times the writer has found occasion to consult the veterinarian who edits this department, regarding some disease of his domestic animals, but as a rule it has been concerning something that has appeared in the Michigan Farmer only a short time before. The paper has been destroyed, however, and there has been no way of gaining the information except to describe the symptoms and ask for the prescription again. But in the meantime several days must elapse and the disease run its course while awaiting the reappearance of the prescription.

The thot has occurred, why not save these articles as they appear and so be in a measure, prepared for these emergencies. So for some time these prescriptions have been cut out and filed away for future use. The result is a collection of matter covering nearly all of the ordinary diseases that the farm stock is subject to and very many that are not so common. I expect soon to cut these apart and classify them so that in case of need I can readily refer to just what I want. This is going to make a collection that will be more valuable than any medical work I know of.

There are different ways of arranging this matter. It may be pasted in a scrap-book or may be kept in envelopes or in a portfolio for the purpose. Perhaps with some, the simplest and easiest manner of classifying would be to put the matter relating to each ordinary disease by itself, and make a general collection of that which concerns special diseases. The common diseases are not so many that such an arrangement would be found cumbersome. The plan I have in mind for myself is to classify the diseases. One division will cover diseases of the skin, another those of the nerves, another those of the digestive organs, still another of the respiratory organs, one will relate to diseases of the circulation and one to the kidneys and their related subjects, one to the reproductive organs and their functions, and so on.

This information will possess a special value for the ordinary farmer because the

diseases are described in the language of the ordinary farmer and not in the terms more familiar to specialists and the medical profession. The directions for treatment, too, are clearly stated and easily comprehended. Then again, the man who arranges matter like this for himself will be more familiar with it and will more readily refer to just what he wants than he would if he had to look it up in some work with which he is not especially acquainted.

A very safe thing to do, too, is to keep a medicine chest or closet containing a supply of a number of the simple remedies which are likely to be called for. A quart of raw linseed oil, a supply of both epsom and glauber salts, some of the remedies for colic found in these prescriptions, as well as some for difficulties of the bladder and kidneys may be found quite advantageous and timely in cases of emergency. And probably among not the least of the benefits gained will be the efficiency derived from the thot and observation that one gives in the preparation of such material.

Alleghan Co.

E. H.

THE FEEDING VALUE OF CORNSTALKS.

In the November 27 issue of the Michigan Farmer a subscriber inquires as to the feeding value of cornstalks compared with timothy hay. As I happened to be interested in the same problem I made an experiment to determine just how much cornstalks would be worth per ton, assuming that the available portion has practically the same feeding value as timothy hay. I purchased cornstalks this fall at three cents per bundle, delivered at my barn; which is considered a good price here. They were about six feet in length and averaged three bundles to the shock, which was cut eight hills square. If each hill contained three stalks, each bundle would consist of 64 stalks. I counted out this amount, dried them, tied into a bundle, weighed it and found that it weighed 22 lbs. I think that it is safe to say that bundles of this size would average 20 lbs. each. At this rate 100 bundles would make a ton, and cost \$3.00. The New Jersey experiment station found that in feeding cornstalks 30 per cent remained uneaten. This is nearly one-third and so we may say that one ton of cornstalks costing \$3.00 contains two-thirds of a ton of available food, which would make the real cost \$4.50 per ton. So one ton of timothy hay at \$12.00 would buy over two and one-half tons of cornstalks, of equal feeding value. These conclusions are based on a full stand of good sized corn, not frozen, cut into shocks of 64 hills, and tied three bundles to the shock. Many, and I presume most, farmers make four bundles to the shock, and if these were sold at 2½c or 3c each it would bring the price a little higher per ton. But they would still be much cheaper than timothy hay. If the shocks were made into four bundles, each would weigh 15 lbs., and it would take one hundred and thirty-three and one-third bundles to weigh a ton. At 2½c per bundle a ton would cost about \$5.99 and at 3c, \$6.00 for the available food.

Cornstalks are a better food than timothy hay for cattle; they relish them fully as well—and I believe much better—and will thrive and maintain their liking for them as an exclusive diet for a longer period than any other dry food that I know of, for winter feeding. Horses like them, too, but it is claimed that they cause worms in horses, and some will not feed them on that account.

I have no way of knowing how freezing affects the cornstalks. Tho if cut immediately after freezing they do not appear to suffer much damage.

Wexford Co.

P. G. BACHELDER.

GREAT HARNESS HORSE DIES.

"Directum, 2:05¼, champion trotting stallion for seven years and one of the greatest harness horses the world has ever known, is dead at the International Stock farm, Savage, Minn. In some unknown manner the horse sustained a slight scratch over the groin, blood poison set in and after two days of suffering the famous animal died.

"At four years of age Directum set a mark of 2:05¼ in a race, getting three records by the performance. It was the fastest mile ever trotted by a four-year-old stallion, the fastest heat by a four-year-old in a race and the fastest third heat ever trotted.

"Directum was 20 years old and started in 29 races, winning 20 first places, one second and one third, and was unplaced seven times. In the latter instances it was when he started against his record. His total winnings during his racing days footed up to \$40,000, and as a sire he has brot thousands of dollars to his owner.

ONLY \$91.25

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The Sensation of the Season is the Caldwell Special Gasoline Engine

I challenge the world to produce an engine of equal merit to my Caldwell Special that can be bought for the price I offer you my engine. Give me a chance and I will prove to your satisfaction that the Caldwell Special is the engine for you to buy, because I can give you better value for your money than any one else. I sell my engine direct from factory and can save you the dealers', jobbers' and catalogue house profit. If this money is as good to you as to the other fellow, write me and I will prove to you all that I say.

All I ask is for you to take the engine, try it free for sixty days on your own farm and if you are not fully satisfied with the engine and convinced that I have saved you money, return the engine to me and I will pay freight charges both ways and it will not cost you one single cent to secure the proof I offer.

I have satisfied and saved money for thousands of purchasers and know that I can satisfy and save you from \$25 to \$100 on the price of your engine.

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J. D. Caldwell, Pres.
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GALLOWAY SAVES YOU \$50 to \$300

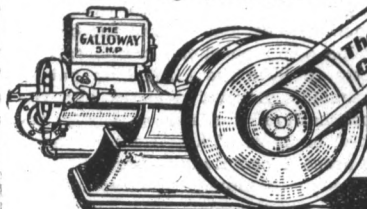
SAVE from \$50 to \$300 by buying your gasoline engine of 2 to 22-horse-power from a real engine factory. Save dealer, jobber and catalogue house profit. No such offer as I make on the class of engine I sell has ever been made before in all Gasoline Engine history. Here is the secret and reason: I turn them out all alike by the thousands in my enormous modern factory, equipped with automatic machinery. I sell them direct to you for less money than some factories can make them at actual shop cost.

All you pay me for is actual raw material, labor and one small profit (and I buy my material in enormous quantities).

Anybody can afford and might just as well have a high grade engine when he can get in on a wholesale deal of this kind. I'm doing something that never was done before. Think of it! A price to you that is lower than dealers and jobbers can buy similar engines for, in carload lots, for spot cash.

An engine that is made so good in the factory that I will send it out anywhere in the U. S. without an expert to any inexperienced users, on 30 days' free trial, to test against any engine made of similar horse-power that sells for twice as much, and let him be the judge. Sell your poorest horse and buy a

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One man can make from 300 to 400 perfect cement tile a day with an IDEAL CEMENT TILE MACHINE

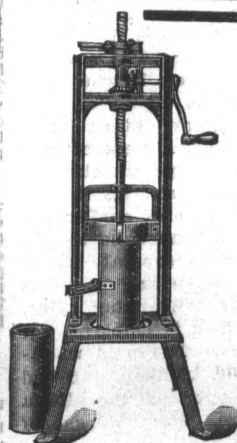
at one half the cost of other tile, including labor. You can drain your farm more cheaply with cement tile than with the ordinary clay tile and they are better.

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A SAFE, SPEEDY & POSITIVE CURE.



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SUPERSEDES ALL CAUTERY OR FIRING.
 Impossible to produce any scar or blemish. The safest best Blister ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

WE GUARANTEE that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
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Will reduce inflamed, strained, swollen Tendons, Ligaments, Muscles or Bruises, Cure the Lameness and Stop pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone. Horse can be used. Horse Book 2 D free. \$2.00 a bottle at dealers or delivered.

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EARLY BUYERS SAVE MONEY
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Engines, 1 1/2 to 16 H.P.
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Fourth large importation within the year arrives November 23rd., which, added to our present stock, offers intending purchasers the finest collection in America. If you want the best horses, horses with bone, quality, size, action, and best breeding, stallions or mares; if you want fair and liberal treatment; if you want lowest prices consistent with good merchandise, visit Oakland. Catalog shows the place and the horses.

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Prairie Stock Farm

The Leading Horse Importers in the State Of Michigan. We have opened the eyes of all Michigan horsemen by our large exhibit at the State Fair. In the previous issue of the Michigan Farmer they gave the startling news of our wonderful success, not alone over our Michigan exhibitors, but over all exhibitors of the several States that were represented in competition. We won every prize in the stallion and mare classes except the 4th prize in the 2-year-old stallion class. All our horses are now at our Barns ready for sale for less money than a good horse can be bought elsewhere with a guarantee that has stood the test for the past 23 years. Come and be convinced. Terms to suit purchaser.

E. Metz Horse Importing Co., Niles, Mich.

FEEDING BEET-TOPS.

Some time ago I wrote an article for The Farmer, stating that feeding beet-tops had caused heavy loss in my stock, especially among the sheep. Since then I have been investigating further and believe this to be the cause of the unusually heavy losses among many farmers who have been feeding beet-tops.

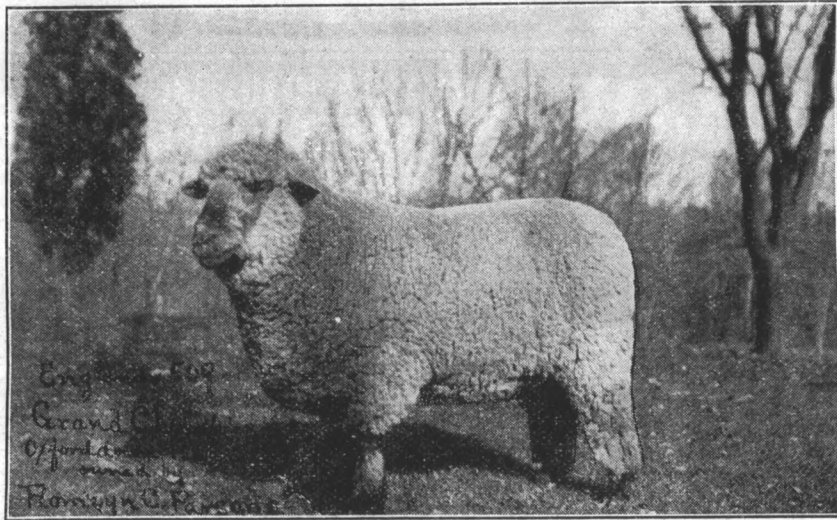
Mr. Lillie, in his reply to my previous article, evidently believed that only "excessive feeding of beet-tops would cause injury." As, "too much of any kind of feed would be injurious."

Altho I hardly think that a fair statement, it would be true to a limited extent, under certain conditions. I infer that he got from my article, where I said, "that I gave them what they wanted," that they were given free access to the beet tops, as I have known many farmers to do, turning stock right into the field to help themselves.

This was not true in my case. During the first four years I raised beets and fed the beet-tops, I put them in a silo and fed but a small ration so that they would last as a succulent food for my stock all winter. The largest feeding during this time would be about a beef-fork full twice a day to a cow, which was certainly a very limited quantity.

During this time I fed a bunch of steers for market, giving them a ration of corn, clover hay and beet-tops, with the result that after a winter's feeding I was unable to put them on the market.

I also lost two cows from then, unknown causes. And a bunch of eight-



grade heifers I was unable to grow into good dairy cows and sold them to the butcher. They simply did not thrive except in the summer when on pasture. My loss in sheep was fully 20 per cent during this time.

The fall of 1908 I put up corn silage that I did not wish to open until cold weather so fed beet-tops from the middle of October until into December. The largest feeding I gave stock was at this time when I fed 30 to 40 lbs. per day to a cow, and about half as much to the sheep, (counting ten sheep for a cow).

| | Parts in one thousand, dry matter basis. | Sulphur |
|---------------------|--|---------|
| 1 Apple | 1.4 | 4.27 |
| 2 Gooseberry | 33.9 | 10.87 |
| 3 Strawberry | 34.0 | 5.94 |
| 4 Orange | 30.8 | 9.31 |
| 5 Potato | 37.9 | 18.89 |
| 6 Sugar beet | 38.3 | 16.89 |
| 7 Sugar beet leaves | 148.8 | 32.44 |
| 8 Turnip | 80.1 | 30.19 |
| 9 Turnip leaves | 116.4 | 22.63 |
| | | 2.79 |
| | | 4.2 |
| | | 2.79 |
| | | 2.96 |
| | | 7.18 |
| | | 3.08 |
| | | .83 |
| | | 2.54 |
| | | 15.18 |
| | | 5.85 |
| | | 8.16 |
| | | 2.78 |
| | | 1.29 |
| | | 3.71 |
| | | 4.38 |
| | | .14 |
| | | 1.08 |
| | | 1.40 |
| | | .26 |
| | | .29 |
| | | .31 |
| | | .56 |
| | | .45 |
| | | 1.29 |
| | | 3.71 |
| | | 4.38 |
| | | .86 |
| | | 2.91 |
| | | 2.05 |
| | | 1.49 |
| | | 2.79 |
| | | .99 |
| | | .64 |
| | | 3.16 |
| | | 3.59 |

This certainly could not be called excessive, as it is less than corn silage and in comparison with beet-pulp as given in experiments at Cornell University, where they fed 100 to 125 lbs. per day and considered 88 lbs. a limited quantity.

This year my loss was over 40 per cent among the sheep, and digestive troubles with three cows. And as I stated previously, excessive urination and thirst of the animals, and the deposits of lime in the kidney and bladder ducts in the animals examined by Doctor Geltner and myself forced me to believe that beet-tops must cause a great strain on the kidneys carrying off so much mineral matter.

In "Feed and Feeding," W. A. Henry, Dean of Agriculture, Wisconsin, makes a very clear distinction between beet-pulp—and beet-tops. In speaking of the beet-tops he says: "Because of the oxalic acid in the leaves they can be fed to stock only in limited quantities without injurious effects." And he says further, "In Europe beet leaves are builded up in layers and lime sprinkled over each layer for the purpose of neutralizing the ox-

alic acid. The heaps are covered with earth until required for feeding."

When we remember that Europe has grown beets for so many years and that every product of the farm is carefully preserved and made the most of, and that so much trouble is incurred in saving the beet-tops with the added labor and expense of using the lime, a process deemed necessary by long experience, is certainly worthy our investigation.

I asked Doctor Marshall, of M. A. C., concerning the matter and he said there had been many losses of sheep reported but they had not taken up the matter in the feeding station here as Iowa College was making extensive experiments feeding beet to sheep and other stock.

I wrote the Iowa station in regard to the matter, stating practically what I have said here about my experience, and they replied that their bulletin was not yet printed, but Prof. H. R. Kildee of the Animal Husbandry Department, wrote me the following letter:

"Your letter of Oct. 23rd, in reference to feeding beet-tops to sheep, has just been referred to me. From our experience here at the station in feeding sugar beets and mangels to sheep I would conclude that there is no doubt but what your trouble lies in feeding the beet tops to your sheep. The large amount of the phosphates present in the beet-tops is no doubt responsible for the formation of the renal calculi or gall stones in the sheep. We have carried on experiments during the past three years with these roots and while the sheep make good gains and apparently do well for a short time, it was found that all contracted the kidney trouble and some of them died before the conclusion of the test.

"In a lot of ram lambs fed the winter of 1908 and 1909, all of the lambs getting the sugar beets and mangels were found

to have the gall stones at the conclusion of the test, while the lambs getting dry feed, with no roots, were found to be perfectly healthy. So you see that it is a very dangerous practice to feed sugar beets or mangels to sheep, especially to the rams. We have found less trouble in case of the ewes, but have found that there is some danger in the case of bulls also, as one of the bulls at the experiment station died from the formation of stones in the bladder, due apparently to the feeding of roots."

According to the following table from the Ohio Experiment Station beet-tops contain a very much higher per cent of mineral matter than the beet.

When turned out to pasture last spring my sheep began to pick up, but none of them did as well as they should this summer, and many of the lambs were small and runty. This fall I sold the whole flock to the butcher and bot a new bunch which will not be fed beet-tops.

Ingham Co. F. M. STOCKMAN.

Good for Man and Beast.
 Fort Wayne, Ind., Feb. 13, '09.
DR. J. B. KENDALL CO.
 Sirs:—Please send me your Treatise on the Horse. Have used your Spavin Cure for treatment with my horses, also for Sprains, etc., on myself, and have always had the very best results from its use. Yours respectfully,
 D. W. Bitner, 2916 Calhoun St.

Satisfactory Advertising Results.
 J. E. Bartlett Co., Jackson, Mich., dealers in feeds of various kinds, write: "The results received from our last week's ad. were very satisfactory. The same identical ad. placed in the did not bring a single inquiry or order, whereas, the Michigan Farmer produced us ten orders with cash attached, the first two days after the advertisement appeared."

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Scott's Emulsion

It is the recognized treatment and prescribed by Physicians all over the world for this dread disease. It is the ideal food-medicine to heal the lungs and build up the wasting body.

FOR SALE BY ALL DRUGGISTS

Send 10c., name of paper and this ad. for our beautiful Savings Bank and Child's Sketch-Book. Each bank contains a Good Luck Penny.
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New Autostyle Buggy—Twin Auto-Belgian type seat, with large round corners and beautiful curves. Handsome, stylish, comfortable. All wrought gear and best second growth hickory gear woods. Axles—arch, high arch, or very high arch, as desired. Soft, easy riding springs, oil tempered. 2,500-mile long distance, dust-proof axles. Our A-grade select hickory wheels and high-bend select white hickory shafts, with 36-in. leather tips. Latest auto design top with "automobile" leather. Painting and trimming optional.

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Your buggy is an investment of good hard dollars. You can't afford to take chances on a vehicle you never saw. That's just what you do when you sign your name to a letter agreeing to receive a vehicle direct from the catalogue house.

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Quality for quality, your Reliable Michigan dealer will sell you a vehicle as low or lower than you can get any vehicle by mail. You don't have any freight to pay when you buy of the Reliable Michigan dealer.
 Your Reliable Michigan dealer—a man you know—is there all the time to come back to, in case you are ever dissatisfied. We authorize him to make good any defect of workmanship or material not only in one year but any time after your purchase. Write us and we will send you our new Catalog "A," showing our newest types and patterns, the handiest you ever saw. 256 models to choose from.
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 We also manufacture the famous Holdfast Storm and Stable Blankets, in which the Reliable Michigan standard of quality is rigidly maintained. (2)

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"BULL DOG"

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We Can Save You Money
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JOE'S HONEST HARNESS CO., Caro, Michigan.

LIVE STOCK NOTES.

The hog "crop" is without doubt the smallest in years, but it is generally reported that young hogs are unusually healthy, extremely little sickness prevailing in breeding districts. Stock hogs were never before so scarce, and farmers refuse to part with their brood sows as a rule, altho more are coming on the market than might be expected at such a time. Were it not for the extraordinary shortage of hogs thruout the country, it would be in the natural order of events to expect the usual marketing at this time of brood sows, but selling them now is bad business judgment, as every prolific sow will be needed for assuring a fair pig "crop" for another year. The well tested old sows that have not outlived their usefulness should be retained, and all the promising young sows will be needed and should not be sold. It will pay the farmer to give his sows the best of care and feed. The country is growing rapidly in population, while the production of hog meats has been undergoing a lamentable falling off in recent years. No better means for making money on the farm than by raising hogs is known at the present time.

The extraordinary scarcity of lard tends to make the demand for fat, heavy lard hogs unusually strong in Chicago and other leading markets of the country, and such consignments continue to sell at a handsome premium over the lighter weights. Recent sales have been made at the highest prices of the year, and the market has been the best ever witnessed in December.

Thos. Studley, of Bureau Co., Ill., believes in raising hogs these times with plenty of weight, and a short time ago he sold some hogs in the Chicago market that averaged 410 lbs. Every additional pound counts now.

Many farmers who had been planning to stock up with stocker and feeder cattle late this year have been greatly disappointed in their hope that they would be able to secure plenty of suitable cattle at reduced prices in the Chicago and other western markets. Within a short time an unexpected demand has been seen, numerous Michigan and Ohio farmers who failed to obtain lambs to fatten deciding to buy feeder cattle instead. There has been a growing demand for the better class of feeder cattle for short feed, while supplies have fallen off, causing a high range of prices.

The great stock show has been a great success in instructing stockmen how to successfully mature stock in from eighteen to thirty months.

Visitors to the International were practically unanimous in reporting a shortage of matured beef cattle, as well as a great decrease in the number of swine in feeding sections, and current marketings of both fat cattle and hogs corroborate their statements, both being few in number and in lively demand.

The Chicago stocks of provisions on December 1, amounted to only 43,170,725 lbs., compared with 38,170,185 lbs. a month earlier and 83,574,161 lbs. a year ago. In all the principal western markets stocks on the first day of this month aggregated \$2,848,000 lbs., being 94,564,000 lbs. less than a year earlier. During November, 1908, such stocks underwent an increase of 46,558,000 lbs., but during November this year the increase was only 3,365,000 lbs. The packers are unable to make any considerable headway in increasing their stocks of provisions with such greatly reduced marketings of hogs and a big call for fresh meats.

Compound lard has been selling about four cents a pound below the price asked for pure lard, and it is stated that very few Chicago bakers now use the pure kind, while the big bakeries are buying compound lard by the car, owing to its relative cheapness. This substitution may be expected to continue as long as lard sells at present high prices.

A. A. Neale, of Montrose, Col., the famous Shorthorn breeder, who carried off the honors for feeder cattle in the recent International Live Stock Exposition at Chicago, describing his methods of handling his cattle, says: "I cull my herd very closely each year, keeping only the best. The cattle are run in fenced pastures and during the winter are roughed thru on alfalfa. I usually allow twelve acres to each animal during the summer pasturing, which lasts about eight months of the year with us. It is profitable to handle pure-bred cattle in the west under fenced pastures. This year I sold yearling bulls as high as \$65 and bull calves at \$50."

Hogs in the Chicago market have been selling at the highest prices seen in 27 years, owing to their scarcity, and \$9 hogs are predicted.

Fat sheep, yearlings and lambs sold recently in the Chicago market at the highest prices recorded since last summer, there being a pressing local demand for fat mutton flocks for the Christmas holidays.

The grand champion hogs from the International Live Stock Exposition, bot at \$9 per 100 lbs., yielded 82 per cent with heads on. The champion wethers dressed 51.80 per cent. The grand champion load of steers bot by Armour & Co., at \$15 per 100 lbs. dressed 66.2 per cent beef. That percentage was exceptionally high and compared to a yield of 65.5 per cent from the highest dressing cattle bot by Chicago packers out of last year's show.

Exporters are in the Chicago cattle market once more, and recent sales for shipment to England show good gains, the purchases being mainly for the Christmas holiday trade. Prices are too high for the usual British market trade.

The week's export of hog products from this country are only 14,444,000 lbs., compared with 24,666,000 lbs. a year ago. The falling off is due to the almost unprecedentedly high prices of pork, bacon and lard.

VETERINARY

CONDUCTED BY DR. W. C. FAIR, CLEVELAND, OHIO.

Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else.

Bunch on Upper Jaw.—I have a 4-year-old cow that has a lump on upper jaw about the size of a man's hand, caused by a blow. M. C. M., Saline, Mich.—Apply tincture iodine to bunch daily; also give 1 dr. iodide potassium in feed night and morning.

Pin Worms.—My horse is troubled with what I suppose are pin worms, small white worms from one to two inches long and pointed at both ends. The anus is frequently covered with a dry, brown sort of powder. M. H., South Haven, Mich.—Drop 4 ozs. quassia chips into 2 qts. of warm water and after letting it remain in the water one hour wash out bowel with the liquid. These applications should be made two or three times a week for two weeks.

Malignant Tumor on Hock Joint.—I have a 5-year-old horse that has a bunch on hock joint that cracks open every now and then and when healed does not remain so. He is not lame but I would like to have him cured. F. L. M., West Branch, Mich.—I am inclined to believe that the bunch on hock is malignant and will be benefited by a little burning with caustic or a red-hot iron. Use the iron or nitrate silver pencil, lunar caustic.

Hide-bound.—I have an old horse that I am very anxious to fatten. He does little else than eat. He is fed two quarts of shelled corn and one quart of bran twice a day, with plenty of corn fodder. I have given him tobacco, sugar and linseed meal, but he shows no improvement. G. H. L., Hart, Mich.—First of all you should ascertain if his teeth are in a proper condition. You will perhaps find that the sharp edges should be filed off the outside of upper grinder teeth and the inside of lower rows.

Hard, Dry Hoofs.—My horse's feet are inclined to harden when standing on a plank floor; would pack with clay, but fear thrush. Would you advise me to apply Neat's foot oil and bran? A. G., Union City, Mich.—You will obtain fairly good results by using linolin, but, of course, the horse should be exercised. These applications should be made daily.

Diabetes.—Have a horse 14 years old that passes water too often; besides, his water is of a high color at times; it seems as tho he urinates with difficulty. What should I do for him? B. C., Freeland, Mich.—Give your horse 1 dr. iodide potassium and 2 drs. powdered sulfate iron at a dose in feed three times a day until he shows decided improvement, then give the medicine twice a day until a recovery takes place. Be sure and supply him with a good quality of food.

Weakness.—I have a large horse that has been gradually losing flesh for the past three months; at last he became so weak that he was unable to get up without help. This horse passes considerable blood with urine. However, he does not appear to be very sick. E. F., Grass Lake, Mich.—Give 1 dr. fluid extract ergot and 2 drs. powdered sulfate iron at a dose in feed three times a day for three or four days, then give ½ oz. ground gentian, 1 oz. ground ginger and ½ oz. powdered charcoal at a dose in feed two or three times a day until he recovers.

Diseased Molar Tooth.—I have a mare that I bot last March which has had a discharge from one nostril and has run down in flesh until she is quite thin. I imagine she improved somewhat during the summer while on grass, but since winter came on she is stabled and is as bad as ever. How had I better treat her? A. H., Kewadin, Mich.—I am inclined to believe that the discharge is caused by a diseased grinder tooth and after the tooth is extracted the discharge will cease and the mare improve. It must interfere with her masticating food. Give ½ dr. ground nux vomica, ½ oz. ground gentian, ½ oz. ground ginger and 2 drs. powdered buchu at a dose in feed three times a day.

Thin Milch Cow.—I have a 6-year-old cow that has always been thin and low in flesh but since milking she is altogether too thin. What had I better give her to build her up? G. F., St. John's, Mich.—It is just as natural for some animals to remain thin as it is for others to lay on flesh and I believe your cow is one of the good milkers that should be excused for looking bad and keeping thin. This is on account of her giving milk in return for the food which she consumes. Now, in order to build her up increase her food supply, giving more starch and fat producing food. If this fails then she must remain thin. I take it that your cow is perfectly healthy for you do not mention her having any symptoms of disease. Give her 1 oz. ground ginger, 1 oz. ground gentian and 1 oz. bicarbonate soda at a dose in feed night and morning.

Abortion.—I would like to know how to treat a mare that foaled six weeks too early. I am unable to state what caused it. Can anything be done for the mare that will prevent her from having a miscarriage again? Is there such a thing as a mare being too fat? I would also like to know how to treat a mare that is inclined to bite herself. However, I might say that she seems to be in perfect condition. A. S., Mt. Clemens, Mich.—If your mare suffers from infectious abortion and did not meet with any accident then you will have to treat her thoroly for some time, or else she may have a

(Continued on page 563).



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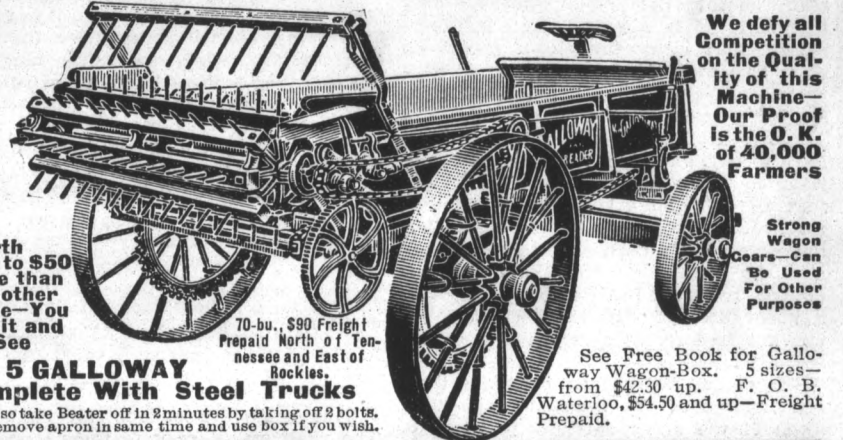
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on it. They all tried it 30 days free, just like I ask you to try it—30 DAYS FREE. Drop me a postal, and say—"Galloway, send me your Clincher Proposition and Big Spreader Book, Free, with low prices direct from factory." T. F. Stice, Oswego, Kans., writes me—"Often pull it with my small buggy team. Does good work. Have always used the... before. Galloway much the best. If going to buy a dozen more, they would all be Galloways. Thousands more letters like these.

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When writing to Advertisers mention the Michigan Farmer.

POULTRY AND BEES

ECONOMY IN BUYING FEEDS.

To make poultry raising pay, good judgment and economy must be exercised in every phase of the business. However, to the man with a big outside income, who has bot a farm for pastime, it matters little whether his flock of poultry pays a profit or not. He may indulge in the luxury of building an elaborate house for his poultry, with all the modern conveniences, and he may feed all the high-toned and high-priced feed mixtures that are to be found on the market. His poultry may do well or not, and it matters little whether he is producing market meat and eggs at a profit or is losing all the time.

The remainder of us, however, go into the poultry business to make money, and if the balance is the wrong way we soon quit. That competition is strong, as in everything else, and that profits are not easy, are proved by the fact that many go into the poultry business only to give it up in a year or so. It is apparent that every branch of the work must be managed with economy, and especially is this true in the matter of supplying feed.

The feed bill is a bugbear to those who have to buy, and some are tempted to put their fowls on half rations. One might just as well quit at once as to do this, for poultry are profitable only when they are doing their best, and they will not do their best unless they have the best of treatment and attention. It makes a great deal of difference whether you can get feed for 1 1/2c per lb. or are paying 2 1/2c.

Many small poultrymen, especially those on village lots, are tempted to purchase some of the many specially prepared or mixed feeds which are so highly recommended as fatteners and egg producers. Many of these feeds are very excellent, but the price is considerably over what the staple feed can be bot for from the farm. Much of this prepared food consists of cracked corn, with a small percentage of wheat, kafir corn, millet, etc., and perhaps a few sunflower seeds. There is nothing better than the staple products of the farm for poultry—corn, wheat, oats, buckwheat, clover and cabbage—and while it is advisable to feed these in variety, often one can save considerably by feeding more largely of some one particular kind which may, for the time being, be low in price.

There can be no doubt that farmers who make a specialty of poultry have a decided advantage from the fact that they can produce feed more cheaply than it can be purchased. If one has but a small piece of land it can be profitably used for growing feed for the chickens; at the same time it can be made fertile and kept so by utilizing the poultry manure. Most all feeds are high at the present time. Clover with me is one of the cheapest, considering its market value, and this is a feed not to be despised by the poultryman, not only because it is lower priced, less than 1/2c per lb., but is a very valuable source of protein feed and may be used to balance up the corn, which is fattening and which is about the next cheapest feed. Corn can be purchased from farmers for about one cent a pound. Corn meal and a little wheat bran, mixed with cut clover hay, makes a very cheap feed and for results in eggs has no superior. Wheat is an ideal food for poultry, adapting itself well to feeding in litter. It can be bot for 1 1/2c per lb., and oftentimes one can get screenings or low grade wheat at the mills for much less. However, I seldom use the screenings, preferring the better grade.

Oats are good for poultry and may be kept before them. They are usually better used in this way than given in the litter, as the fowls do not like them so well and there will be waste when fed in litter.

Grit, charcoal, etc., are sometimes used in the prepared feeds referred to above, but I have found that the most rational way to use these is to have them in self-feeding hoppers, from which the hens can help themselves, as they will not eat enough of such to hurt them. I might add that I usually make an exception in the case of young chicks, as I believe that the prepared food cannot be excelled for young chicks. While it costs more, it does not require much for small chicks.

Illinois.
R. B. RUSHING.

(As this writer intimates, the securing

of economical protein feeds with which to balance the highly carbonaceous or fattening grains is one of the greatest problems confronting the poultryman who is working for profitable egg production. As he says, clover hay which has been chopped and steamed is a fairly economical source of protein and it increases the palatability of the ration. However, there are other sources, from some of which this much needed element can be obtained more cheaply than from good clover hay. Skim-milk and the cheaper meats are sometimes relied upon, and both are excellent for the purpose, but under present conditions it is hardly possible to employ either without increasing the cost of the ration. Fresh bone, however, is almost as good and, where an ample and continuous supply is available, constitutes the cheapest source of protein. The expense and labor of preparing it for the hens is no greater than that of preparing clover hay. In fact, the advantage would appear to lie with the bone, since the cost of a cutting box for preparing the clover, and of a good bone cutter for slicing the bone would be about the same. As to the labor involved there is little to choose between the two processes. In the case of the bone, it is ready for feeding when it comes from the cutting machine, while the clover must go thru another process in its preparation—that of steaming. Where fresh bone or cheap meat scraps are available, their value as a part of the laying ration should, therefore, not be overlooked.—Ed.)

IN ANSWER TO INQUIRIES.

I have a trio of geese and would like to know what is the name of the breed. I bot them for thoroughbreds but the breeder could not tell me the breed. The geese are white and very large. The gander is white with a light gray back. The bill and feet are yellow.
Jackson Co. Mrs. D. BOWER.

Your geese are undoubtedly Embdens. The presence of gray feathers, however, would seem to indicate that they are not full-bloods. There are only two of the recognized large breeds of geese which have the yellow or orange bill and feet—the Embden and the Toulouse. The standard calls for pure white plumage in the first named, while the plumage of the Toulouse ranges from dark gray on the back and wings to light gray below, shading off to white on extreme under part of body. The eyes are also distinguishing marks, being bright blue in the Embden and dark brown in the Toulouse.

A Case of Crop Bound.

Please tell me what to do for chickens affected in the following manner: A pullet was found, on Monday morning, standing around looking quite sick; on examination I found the crop packed full, altho they had not been fed since 2 p. m. Sunday. On Tuesday the fowl died with its crop still distended as tho from over-eating. Having never had experience with sick fowls I guessed at a remedy, giving a little black pepper and milk, also powdered charcoal. I feed oats every morning, either cooked or chopped, raw potatoes mixed with bran, and wheat at night; I think they have plenty of grit.
Montana. FORMER MICHIGANDER.

The pullet was crop bound, this condition being due, no doubt, to her eating something which the crop could not handle, such as long spears of dry grass, grass roots, pieces of string, etc. This trouble seems most common during the latter part of the season, quite a number of cases having been reported this fall, which inclines us to the belief that the long dead grass to which many fowls have access is largely at fault. A patch of blue grass which has remained unclipped thruout the season is, we believe, very apt to cause considerable trouble of this kind if fowls are allowed to run upon it. At any rate a close examination of the crop in all ailing fowls is advised during the latter part of the season.

The ease with which relief may be given will depend upon whether the trouble is discovered early or late. If early, the packed contents of the crop may often be broken up and made to move on to the other digestive organs by giving a dose of sweet oil, or a tablespoonful of castor oil in a like quantity of hot water, and kneading or manipulating the crop with the fingers for some time. When this proves ineffective the fowl is sometimes hung up by the feet and the crop manipulated until its contents are removed thru the mouth.

Where these means fail an operation is the only recourse, but even this is neither difficult nor dangerous where ordinary regard for cleanliness is observed. The knife and any other instrument used should be boiled a few minutes before beginning. Remove the feathers from a spot about as large as a dollar, high up

on the fowl's breast and with a sharp knife make a slit an inch long in the outer skin. Then slipping the outer skin downward, so that the opening to be made in the crop will not coincide with the outer opening, cut a 1/4 to 3/8-inch slit in the wall of the crop. Insert a small rubber tube and flush the crop with warm water, endeavoring to wash out, thru the opening, the entire contents. If string or long grass is found it may easily be taken out with the aid of a buttonhook. When the crop has been emptied, wash it out with warm water containing a few drops of carbolic acid. Some prefer stitching the openings with silk thread, but some good poultrymen now claim it is not necessary. The inner slit will, of course, be covered by the outer skin, which, no doubt, is sufficient, but a few stitches in the outer wound would seem desirable. For a day or two after such an operation the fowl should receive nothing but water. Salicylic acid in the water, one or two drops to the quart, is advised by one authority. Then give soft food only, for a few days more, by which time the fowl should be ready for a little grit and a gradual return to the regular ration.

BEES AID THE FARMER.

All said and done, the only argument the vast army of farm folk have against the bee is that it has a sting, tho a few go further and say, "Really, I have no time to attend to bees."

I have argued the matter with farmer friends many times, and used to take this latter statement as a whole; now, however, I do not, for I have found that it was not a lack of time but the possession of ignorance of bees and their ways which kept the vast majority of my rural friends from conserving the swarms the good Lord sent them in the spring, swarms which any bee man would gladly give \$1 to \$5 for.

With a bee veil, smoker, a pair of gloves with cloth gauntlets to fasten above the elbows, and a pair of bicycle clops to fasten down the pantaloon legs, a man, woman or child can work with bees all day and not get stung. Instead of the clips the women should have bloomers to slip on. In addition to the veil one should have a smoker—a little stove with a bellows attached in which is burnt rotten wood, cotton cloth, corn-cobs, etc. A cloud of smoke blown over the bees will subdue the most irritable swarm, unless it be the blacks and their crosses with other bees, and they will sometimes resist quite a while.

I do not know of anything of value which is so thrown at the average farmer as are bees, for not a spring passes without dozens and even scores of swarms going over every farm. The next thing, of course, is to catch them, and here is how I made my start. Securing a store box, preferably of pine, I gave it one coat of white lead. Then, in one end, close to the back, or what had been the bottom, I put two holes about one-eighth of an inch in diameter and these about two inches apart. Into this I tied a loop of galvanized wire to be used to hang it up by; then across this end, one-half the way down, I put slender stocks from corner to corner and from side to side to give support to the comb the bees subsequently built.

In the front, or what was the top, close to the bottom, I cut a hole one-third of an inch wide and six inches long for an entrance, and over that a little door swung on a screw. A hole in the door covered with wire gave ventilation when the door was closed. I finished by fastening a bit of honey comb to the top of the box.

In the latter part of May I put this box up, with 19 more just like it, and hadn't the last one up when bees were in the first. Taking them down and dumping them into a hive I put the box back in the tree. This swarm gave me about 100 lbs. of surplus comb honey that year.

If any argument were needed to persuade the average farmer to keep bees, it might be mentioned that as much as \$15 per hive is not infrequently made with bees; that they house, nurse and feed themselves, and that, dollar for dollar yielded, they require less work and time than chickens, and, best of all, they require practically no attention at all from October until May.

Iowa. A. F. BONNEY.

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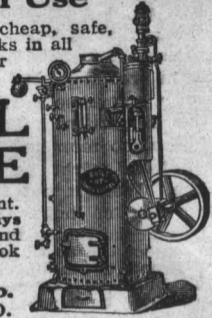
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Buff Rocks and Shropshire Ewes. Choice Cockerels, Ewes and Lambs for sale, cheap. ALBERT WELLS, Saranac, Mich.

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R. C. I. Reds for sale. Cockerels \$2 to \$5, pullets \$1 to \$3, 5-pullets and one cockerel \$10. All good stock. Egg in season. B. A. FRASER, Dept. M. F. Fountain Farm, Rosebush, Mich.

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

A DAIRY AND ICE HOUSE.

A public speaker who was lamenting the sad fact that the purse-proud farmer would soon own all of the land, remarked that good butter would soon sell for \$1.00 per pound, and that \$1,000 would be the common price of a good dairy cow. While we suspect the "Gent" was joking, there is no question but what good dairy products, and good dairy cows, are the same as so much cash. But good dairy products, like all other products, call for proper facilities, proper management, sanitary buildings, etc., if we expect to turn out high-grade goods. Our city cousin readily adapts any new device or improvement that will increase the quantity or quality of his product, or that will save expense in his labor bill.

Now, while it is true we are not all able to build a \$2,500 dairy building and equip same with sterilizing ovens, etc., many of us are amply able to erect a building along the lines herewith illustrated. Many of us have the gas engine, separator, tester, and other dairy fixtures, and the expense for installing the remaining machines shown on the floor plan, would be small. The floor plan requires no explanation, except to say, G. E. is the gas engine, B. the boiler or steam generator, B. W. the butter worker, S. the separator, T. the milk tester, and S. P. steam pipes, for scalding milk cans, pails, etc. As shown, the building is 31 ft. long, 13 ft. of which is used for the ice house, and the remaining space is devoted to the dairy room. The entire structure has a stucco finish, both exterior and interior, that is, the walls are covered with wood or metal lath, which is in turn covered with two coats of a Portland cement plaster. The building is 10 ft. in height, and of the ordinary balloon frame construction, covered with rough boxing, over which is placed the lath and plaster. The floors and porch or drive, is of concrete, the columns are 10-inch round timbers cut in the wood-yard, with the bark removed. The roof is made of composition roofing materials, and a ventilator is built for both the dairy and the ice house. The spaces between the rafters, over the ice house are left open for ventilation, the cornice around the dairy house is plastered with cement.

The studding for the dairy is of 2x4-inch timbers, those for the ice house of 2x8 timbers, the spaces between timbers in the ice house are filled with sawdust, and the boxing on the exterior covered with several layers of building paper. The studding around the cooling room is of 2x4 inch stuff, covered with material to keep in the sawdust. This room has no ceiling but is left open clear to the roof. By using the cool room, much ice will be saved, and it is ample in size for storing several cases of eggs, or crates of fruit.

The trenches for foundation of the ice house are excavated about three feet deep and filled in two feet with broken stone for draining the water away. The floor of ice house is filled in about six inches with clay or dirt, and covered with straw or sawdust. The cost of this building will, of course, depend on location, sand, gravel, etc., but as all the lumber may be of native stock, and the labor done with home help, it should not be prohibitive in almost any section, for the man who keeps ten or more cows.

Missouri. J. E. B.

WHAT COW TESTING ASSOCIATIONS ARE DOING FOR MAINE.

It might prove interesting to Michigan Farmer readers who are more or less familiar with Michigan cow testing associations to compare figures with similar associations in Maine.

The commissioner of agriculture has issued a bulletin giving the results in detail of two associations which make quite interesting reading for dairymen. The results show plainly the need of improvement in a good many herds. A few herds show actual loss, while some show a splendid profit.

The principal grains fed are bran at \$26 to \$33 a ton, corn meal at \$26 to \$37 a ton, cottonseed meal at \$30 to \$35 a ton, and gluten meal at \$30 to \$33 a ton.

It is somewhat surprising to note that corn meal is fed more extensively than gluten, and cottonseed meal leads by a big margin over any other grain fed.

This can no doubt be accounted for in quite a measure when we know that there are still very many that adhere to the old theory that they can feed fat into the milk by using corn meal and cottonseed.

In the Waterford and Norway associations, 31 herds are recorded, aggregating about 320 cows. The figures that tell the result are as follows: Average pounds milk per cow for 12 months was 4,702; average-fat test, 4.6; pounds fat per cow, 218.1; average price of fat, 30.8c; total value butter-fat, \$67.25.

Cost of roughage, (pasture figured at 50c to \$1 a month), per cow, was \$26.06; cost of grain per cow, \$26.23; total cost of feed, \$52.29; average profit per cow, \$14.90. The price charged for hay ranged from \$8 to \$16 for mixed, \$5 to \$8 for swale hay. Ensilage, \$2 to \$4. The mixed hay and ensilage form the largest part of the roughage.

One herd of 22 cows, eighteen of which were in the test the full 12 months, averaged 7,006 lbs. of milk per cow. Only those cows that were in the test for 12 months are considered in the average figures given. Eight out of 12 in another herd averaged 3,222 lbs. in 12 months. Sixteen herds averaged less than 5,000 lbs. each in 12 months. The average test of 4.6, of course indicates that the herds

A good deal of interest is being shown by the members of these associations. Live questions of feeding and co-operative buying are discussed, and no doubt in time, the idea of retaining the best cows will obtain.

The foregoing figures show pretty well what it actually costs in feed to produce a quart of milk. The calf and dressing in these associations is set against the labor of caring for the cows.

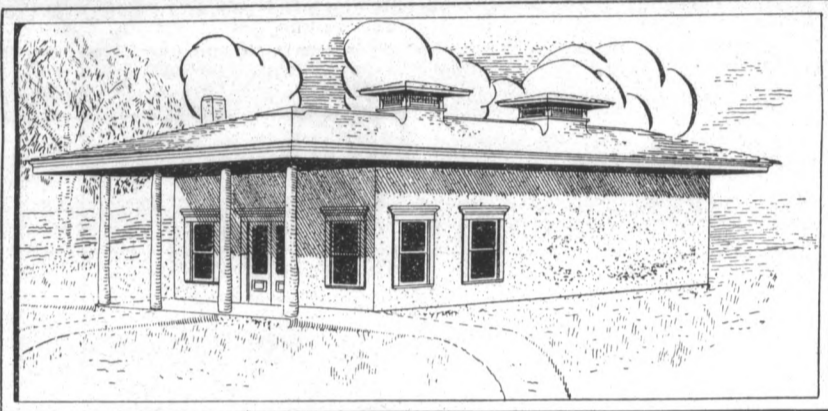
There is no doubt that with good cows well handled, there has not been a period of many years when the dairy had a better chance to give a good account of itself, than the present.

Maine. D. J. RYHER.

A STUDY OF BUTTER COMPOSITION.

The importance of a study of the factors which enter into the composition of butter from the standpoint of science and of commercial butter making, led the Illinois Station to make such a study. The following is a summary of the findings of the station after an extended investigation:

There is a variation in the water content, ranging from 0.1 to 1.0 per cent. between different samples representing the same butter. The average variation is about 0.5 of one per cent. There was



Perspective View of Inexpensive Dairy and Ice House.

in this association are largely Jerseys or their grades.

The herds testing 3.3, 3.6 and 3.9, indicating the milk breeds, average 6,143 lbs. a cow. The average cost of one pound of fat was 23.9c and the average cost of one quart of milk was 2.36c.

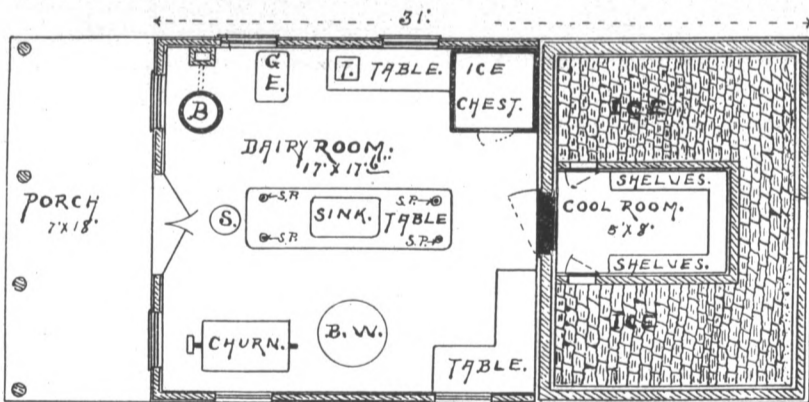
The summaries for the Kennebec Valley Association is:

| | |
|---------------------------|---------|
| Lbs. milk per cow | 4,807 |
| Average test | 5.1 |
| Lbs. fat per cow | 246.8 |
| Average price | 31.5c |
| Total value butter-fat | \$77.95 |
| Cost of roughage per cow | \$27.71 |
| Cost of grain | \$18.72 |
| Total cost | \$46.43 |
| Profit | \$31.53 |
| Cost of one pound of fat | 18.8c |
| Cost of one quart of milk | 1.96c |

In this association timothy hay is figured at \$5 to \$12, with ensilage \$2.50 to \$5.

There is comparatively little difference

no variation in water content between half worked and worked butter or after the third revolution of the churn until working was completed. There was no difference in composition of samples taken from the middle or either end of the churn. The per cent of water in butter is affected by the make of churn. There was no difference in composition of butter made from cream held one to three hours and that held 12 to 15 hours at churning temperature. Butter of the same composition can be made from either pasteurized or unpasteurized cream. Dry and wet salting methods are identical as far as composition is concerned. Churning of butter washed with water, differing ten degrees in temperature, produced butter with an average difference in water content in 40 comparisons of 1.99 per cent. In churning 7241.16 pounds of



Floor Design of Dairy and Ice House. (For explanation see article).

in the cost of grain fed by the members of the different associations. The difference in price of hay as it is charged would make considerable difference in favor of the Kennebec Association.

In commenting on the results we find this:

| | |
|--|-----|
| Number cows in test 12 months | 173 |
| Number loss-making cows | 65 |
| Number loss-making cows sold during the year | 17 |
| Number loss-makers retained | 48 |
| Number profit-makers sold | 37 |
| Number of profit-making cows sold from herds retaining loss-makers | 23 |
| Number of loss-making cows retained in herds from which profit-paying cows were sold | 31 |

The above is for the Waterford Association. The other does not materially differ.

The question arises, why will dairymen who are depending on cows for their income, sell the profitable, and retain the unprofitable cows.

Would You?

Would you buy 40 to 60 milk pails just because someone with pails to sell said you needed that many to milk a cow? **Certainly not!**

Would you buy or bother with an old style cream separator, with 40 to 60 disks in the bowl, just because

someone with that kind of machine to sell said you needed disks? **We think not!**



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HORTICULTURE

MICHIGAN HORTICULTURAL SOCIETY REPORT.

(Continued from last week).
General Observations on the Fruit Industry.

Prof. H. J. Eustace of the Michigan Agricultural College, was the next speaker. He reviewed the present status of the fruit industry. He sees in the present advancement of the industry a healthy prosperity. Better work is being done and those who are making new plantings are taking every precaution to inform themselves regarding the needs of the trees. There is no question now as to the value of spraying. Men are rather inquiring as to how they can spray their trees effectively and at the least expense. The fertility problem is still a matter of study. Usually the fruit grower can not find upon his farm sufficient material to properly feed his orchard trees and how to supplement what he has, is a question that is being thoroly studied by practical men. He advised the use of more cover crops. These crops add to the fertility of the land, hasten the ripening of the wood in the fall, prevent washing of soil on besides and conserve some plant foods that otherwise would be lost. He believes that our system of marketing is sadly in need of being revised. Marketing is largely a local question. He suggested as one means of improvement the method used in northern Ohio where fruit growers take their products to a local market and buyers come and bid off the fruit in competition with each other. The auctioneer is usually paid one cent per bushel for selling the goods. While western fruits sell at a very high figure, it must be remembered that the association there pays a good price for advertising and are to other expenses that the eastern grower does not have. A large part of the better grades of fruit is sold to peddlers in the cities. Many of the peddlers are foreigners and cannot read English. When they once become accustomed to a certain label any change therein is likely to challenge their suspicion. One western grower has cards which he places in the boxes of fruit. These cards tell the customer how the fruit is grown, harvested and packed, and the card tells the truth, which is the important part of the scheme. Prof. Eustace stated the results of some experiments conducted to determine the value of thinning. The work of Mr. Lindsley, of Emmet county, was especially commended and decidedly proved the value of thinning apples. The crop from his trees was shown in the fruit exhibit at the armory. The different grades were each piled by themselves. The trees that had been thinned not only had a larger yield but the amount of fruit in the higher grades was decidedly larger than for the trees not thinned. Mr. Lindsley has promised to give the readers of The Farmer an article on this experiment this winter. Spraying with the lime-sulphur for fungus diseases was also mentioned in the review by Prof. Eustace, who declared that present knowledge pointed strongly to a change from the Bordeaux to the lime-sulphur as a general summer spray. As regards cover crops he stated that several different plants were being tried out but as yet the tests were not carried on far enough to make a basis for conclusions.

Presentation of Visitors, Business, Etc.

Visitors from other states and delegates from local societies were presented to the convention following Prof. Eustace's address. Mr. Heaton spoke for Illinois, Mr. Telfer for Wisconsin, Mr. Farnsworth for Ohio, Mr. Heaster for Pennsylvania, Mr. Falvey for New York, and Mr. Smith for Ontario. The Pere Marquette railway was represented by Mr. Gains, and the Commercial Club of Kalamazoo, by Mr. Clement. Following these presentations reports of the different departments of the society were heard. Treasurer Satterlee's report showed the society to be in good financial condition and also that the Lyon memorial fund was gradually increasing in value and that these accumulating moneys were being invested in well-secured mortgages. Secretary Bassett's review of the work in his office for the past year was to the effect that a larger amount of material had been handled by the society for the period than was ever handled before, and also that the efforts of the society in securing materials for members at reduced cost was getting better quotations in the open market for materials needed in orchards.

The splendid work which the secretary has done and is doing for the organization brot forth enthusiastic applause upon acceptance of the report. The election of officers resulted in the re-election of R. A. Smythe, of Benton Harbor, as president, Charles E. Bassett, of Fennville, secretary, James Satterlee, of Lansing, treasurer, T. A. Farrand, of Eaton Rapids, and Edward Hutchins, of Fennville, members of the executive board.

Making Small Fruits Pay for an Orchard.

A review of the work in his orchard which has been planted six years, formed the basis of the discussion of the above subject by S. B. Hartman, of Calhoun Co. One of his orchards of which one-third was cultivated and the remaining two-thirds kept in sod, cost, for care, \$65.91, or at the rate of 8 1/2 cents per year per tree. Another orchard of 140 trees in sod cost eight cents per tree, while the third orchard consisting of 476 trees demanded an annual expense of 8 1-10 cents per tree. In the last orchard during the first five years corn and potatoes were grown to the amount of \$53.00, potatoes, beans and raspberries to the amount of \$88.68; strawberries and strawberry plants to the amount of \$596.18, making a total net return of \$737.86 from the orchard soil during the first five years after the trees were planted. The total cost of the orchard, including labor, trees, rent

fruit in his young orchard. Tile drains are put in about every 90 feet apart. This furnishes good drainage. He then fertilizes so that neither the orchard nor the small fruit want for plant food. In mulching strawberries and currants, he so manages it, as to throw the straw about the trees after he is thru with it upon the small fruit. Potatoes is a common crop among the young trees. He follows this with rye sown immediately after the potatoes are dug. He has found currants a very successful crop to grow and because the profits are so large, he often leaves them in for from 12 to 14 years, which often is not best for the growing trees. He sprays his plums and currants at the same time during the early part of the season. He has practiced fertilizing with manure and cover crops, for eight or nine years, and he believes it policy to furnish the trees with an abundance of nitrogen so that they will get a good growth before they begin bearing fruit. But where this method is practiced during the early life of the orchard, it may be necessary to take steps later to bring the trees into bearing such as the adding of liberal amounts of potash and phosphoric acid to the soil. As regards cover crops used, the winter sand vetch is a favorite with him because he can cultivate the orchard until the latter part of July and still grow



Nest of Brown-Tail Moth. This Moth is Particularly Injurious to the Pear and Other Fruits. Recently Found on Seedlings Imported from France.

and other expenses amounted to \$322.23, thus giving a total credit in favor of the land of \$415.63. These returns were conclusive in the mind of the speaker in that he finds his trees in excellent condition at the end of the period. From his experience he believe that strawberries are the best and most profitable plants to grow among the trees. He suggested that where one has a market for young plants, breeding plants can be put in the rows of trees while those producing fruit may be planted between the tree rows. From his experience it was found possible to produce enough from a single crop to pay for the orchard and its care, and from two crops to pay for the orchard, its care and the rent of the land till fruit should be borne upon the trees.

Discussion.—Following this interesting talk, Mr. Munson, of Kent county, suggested the use of gooseberries as a good crop to grow between trees while they are coming to the bearing period. Mr. Hartman did not find that the poison falling upon the strawberries while spraying the trees with arsenites would harm the fruit for consuming purposes.

Increasing Soil Fertility.

Profitable crops only come from well-fertilized lands, was the first that in the excellent address by W. W. Farnsworth, of Ohio. The wise grower uses stable manure and supplements this with ashes, commercial fertilizers and other materials that they may bring potash and phosphoric acid to the land. He grows small

a good amount of vegetable matter before the ground freezes; besides, the plant starts early again the following spring and it also makes a splendid protection during the winter months. An advantage of rye is that it can be sown late in the fall and yet make some growth. Clovers are too slow starting in the spring to make ideal cover crops, however, they are quite extensively used and bring much fertility to orchard soil on account of their ability to gather nitrogen from the atmosphere. It may be necessary to starve the orchard a little, especially of nitrogen, to bring it into bearing. But if it once acquires the bearing habit, then one can feed it liberally and get proportional returns for his care. Mr. Farnsworth believes strictly in a good liberal amount of humus in the soil.

Discussion.—He would advocate the mulch system of caring for the orchard under circumstances where cultivation is not convenient and also where mulch can be secured in sufficient quantities to keep the soil supplied with the necessary fertilizing elements. He believes that \$3.00 to \$4.00 per ton could be paid for spoiled clover hay for mulching, with profit. He suggested that the mulch should be kept a short distance from the trunks of the trees in that otherwise mice would be encouraged to do damage. In order to prevent weed seeds from getting distributed among his strawberry plants thru the addition of straw, he spread the straw over an adjacent field

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WESTERN CANADA

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and went over it several times with hay tedder and then raked up the straw and drew it upon his strawberry patch. The results from this operation were satisfactory.

The Vineyard.

This topic was the caption of a very instructive and well written paper by M. H. Pugsley, of Van Buren county. His advice was to select soils that are right, make as thoro preparation as if going into a profession and then use the knowledge at every stage of the work. He suggested that Michigan was in line with the great vineyards of the world, it being the same latitude as France and Bordeaux, as New York and the great vineyards of California as well as those spoken of in biblical history in Palestine. In growing grapes commercially it is important to get the vineyards close to a market. The elevation need not be the highest point in the surrounding country, but it should be well above the lowest parts. A plateau is best for the vines. The low lands would be better if a running stream passes thru them. Air drainage is a necessity. Plant near other vineyards because the community of interests will be beneficial to all concerned. Plant where it is possible to secure plenty of help. Grapes will not stand in soil that is too moist. In buying nursery stock secure No. 1 yearling vines. Dig the holes large and do not prune the roots severely. It is best to have the nursery stock shipped in a box and, if a delay occurs after the stock has been received, moisten it without taking from the receptacle. Plant the vines in the vineyard ten feet each way, and make the rows straight. Use a plow in setting, throwing a furrow each way from where the row will come and set the plants against the land-side of the last furrow. He uses a horse to fill in the furrow after the vines are planted. While grape vines love sunshine, the fruit must be shaded, which is done by the broad leaves of the plant. Corn therefore is not a good crop to put in a vineyard. Potatoes are better. About December first he selects the vines for training. He selects two of medium size that grow straight from the crown of the plant. In trellising a post is placed for every six vines. He suggested that not more than 50 or 60 vines be trained to a single wire, in as much as cleaning out the prunings would be difficult where the rows are longer. He uses a cut-away harrow for cultivating. The sections are put about two feet apart which enables him to completely cultivate between two rows by passing up and down, the harrow crowding one side of the row each time across. He sprays with Bordeaux using a 4:5:50 mixture, applying about 50 gallons per acre when the canes are one foot high. A second spraying is made about the middle of July during the first year of the vineyard. Pruning may be done any time before the sap starts in the spring. The anchor posts should be firmly set and the wires for trellising stretched very tight. In securing the up-right vines to the wires he passes the string around the vine and crosses, then around the wire and ties; with the laterals all that is necessary is to pass the twine about the vines and wire together and tie. When the vines have reached bearing age, they are sprayed four times per season. An argument in favor of planting vineyards is that they will last for 50 or 60 years and the crops are more certain than with other kinds of fruit.

Chautauqua Grape Methods.

While the audience was still in mind of the many good things brot to their attention by the former speaker, Mr. Falvay, of the Chautauqua grape belt, of New York, gave a very interesting description of that famous producing section. For 90 years growers have been producing grapes in that section. The location is from 500 to 700 feet above the lake. In 1830 there were ten gallons of wine made, while in 1880 there were car loads sent out of the district. Now there is 40,000 acres devoted to the culture of the vine. The Concord is the most prominent variety. Rows are planted closer than in Michigan and the later plantings are placed closer than formerly—the earlier vineyards being planted about eight feet each way while the present plantings are about six or seven feet. With vines closer fewer buds are allowed per vine. Commercial fertilizer is used generally. The third year the vines are tied to the trellis. The first wire is placed about 23 inches from the ground and the second from 26 to 28 inches from the first. The tree system

of pruning is used. It is generally considered necessary to take about six years to get a good strong vineyard. In the latter few years the importance of cultivation is being pressed upon the minds of the growers and the work is being done more carefully and more thoroly. The new vineyards are set deeper so that culture instruments can be safely run deeper close to the vines. The best producers are cautious about cultivating too late as the vines are not so apt to winter as safely and the fruit will not ripen as early. By the use of up-to-date machinery it is possible for two men to spray from 12 to 15 acres and even more per day when the facilities are handy by. Today the man who does not spray is the exception. Some years ago the shelling of grapes gave considerable trouble but the exact cause, or causes, of the difficulty has never been determined. At different times it has been claimed that the weather, the composition of the plant foods in the soil, or plant diseases were guilty of the shelling but the trouble disappeared quite as mysteriously as it came and is only now and then troublesome in varying degrees. Harvest time is present about 90 or 100 days following the blooming period. Usually the grapes are packed in the field and drawn to the house and wilted for about 24 hours. There is no regular method of selling. Different men sell in different ways. The largest crop ever sent out of the district was in 1900 when 8,000 carloads were shipped away. The one great need, he held, was a more perfect system of selling. He believes it is a mistake to hold grapes for higher markets, the deterioration of the berries in almost every instance makes up for the advance prices that might be gained and often more than covers the advance.

Western vs. Eastern Fruit Methods.

by Prof. L. R. Taft of the Michigan Agricultural College. "Our fruit growers," stated the professor, "are well up-to-date as to understanding the work and orchard methods. Packing has been and is the chief point where the western man excels us. The associations, which have supervision of the selling of the crop sends inspectors to supervise the packing of all the fruit that goes out to the eastern markets. It costs the westerner as much to put his crop on the market after it is grown as it does the eastern grower to grow his fruit. They use one-year-old trees and plant them carefully, prune so as to get low heads about two feet from the ground. They are much troubled with pockets in the ground where the land is irrigated, as the water settles in these places and the trees die of a root rot, due to the alkali in the land. In some sections they do not irrigate and of course there the pockets do not give any trouble. There are all degrees of thoroughness of cultivation the same as in eastern orchards. Spraying there is more expensive. We have many men in the east who are more careful and more thoro sprayers than the best men of the west. But they thin thoroly and from this they get a better grade of fruit. But the practice is forced upon them because of the market they patronize. The cost of land in the better fruit sections is from \$400 to \$500 per acre and even higher, while in Michigan as good land can be secured for \$50 per acre.

Discussion.—In considering the matter of color of fruit for which the west is so noted it was the general opinion that the application of liberal amounts of potash and phosphoric acid to the orchard land will aid in getting a better color for the fruit. The same effect is aided by having the trees properly pruned that the maximum of sunshine can get to the fruit. In the west the amount of sunshine is larger and for this reason they get color with less effort. In controlling the scab it is generally sufficient to apply three sprays, but the varieties and the season will have much to do with the number of times spraying is necessary. Thinning of fruit was considered a labor-saving operation. The box has proven a profitable package for Michigan apples and growers have found where they did the work carefully that it was possible to secure as much as the westerners do for their fancy packed fruit.

Apples of Gold.

Miss Jennie Buell, of Washtenaw county, lecturer of the State Grange, was assigned this subject. While the paper was not purposed to extend advice for application in real orchards, it was a most happy innovation in the program and furnished an hour that was most

thoroly enjoyed by the large audience present. She reviewed in a charming manner, the life of "Johnny Appleseed," as he was known to his contemporaries, who lived in the early days of the states and who had a mania for planting apple seeds over large areas of the central states. Out of Pennsylvania he would come with large loads of apple seeds and, westward bent, would stop at points in Ohio, Indiana and other places and, where the location seemed good, would plant apple seeds and enclose the plot with a fence. As a result of these plantings the states thru which he ventured became dotted with small orchards, some of the trees even to this time are standing as monuments to the work of a most generous heart. Not only was "Johnny" devoted to this seemingly simple-minded task, but to the scattered settlers he was a most welcome visitor and the children were ever glad at his coming and were made loyal to him by the stories he told of ventures in other parts of the land. This life to us seems almost legendary, yet but few have done more for those who lived after them than "Johnny Appleseed" and it was this generous spirit which moves men to become benefactors of their race that the speaker commended to those present. In our anxiety to gain commercial ends we are prone to forget moral opportunities and to the end that our lives and works should be balanced and healthy we should seek to accomplish some things for which we expect no pecuniary gain. Thruout the reading of the paper the strictest attention from every part of the armory was given.

Labor Problem on Fruit Farm.

The above was the last topic of Wednesday's session and was handled by W. W. Farnsworth, of Ohio. His extensive experience in dealing with a large number of men on his own fruit farms, fitted him for handling this topic. He advised fruit men to make friends with their help. His effort is to enable the men to have and keep good homes and in this way he can secure more valuable services from them, as they are then better contented. Ten hours a day is all that a man should be required to work. If he can not do a day's work in that time, he should not be employed. He endeavors to get his men to take a pride in the farm and in the work they are doing. One of the difficult problems on the fruit farm is to get work to do during the winter months. Mr. Farnsworth has succeeded in overcoming this difficulty by arranging to do as much of the duties about the farm as is possible during colder weather. Among other things, he has the men cut fuel, make berry crates, working in the storage houses sorting fruit, pruning during the milder days, and painting buildings and fences and making such repairs as are necessary about the general farm. He keeps a memorandum of odd jobs that should be done and he finds that it is impossible to clear his note book of these duties. In order to provide fertilizing material for his plantation, he now keeps on hand a considerable amount of stock, and the men are employed not only in caring for the stock, but in hauling straw, hay, grain and other material to supply feed for the animals. Dairying makes a splendid auxiliary work with fruit growing as it furnishes considerable labor during the winter time. In order to make the work more convenient for his men, he has wells all about the farm to supply fresh water and fruit houses supplied with stoves and fuel, and also chairs, tables and other furniture, together with good reading matter so that, should the workmen be caught out in the fields in a storm, they could readily retire to one of these fruit houses and enjoy themselves, perusing some up-to-date magazine. Besides, he finds that his men have a better spirit when they are treated as if they had some intelligence. For instance, he is careful not to give too detailed information regarding the performance of ordinary work, giving the men responsibility for working out the job according to their own ideas. The thinking out of things always makes a man a better workman, and he finds as the men improve in usefulness, he can advance their wages according. Brains is an important thing on a fruit farm, and he endeavors to handle his help in such a manner as to develop them intellectually. As much as possible he gives employment to the wives and children of the men, and they are almost always anxious to secure the work.

(Continued next week).

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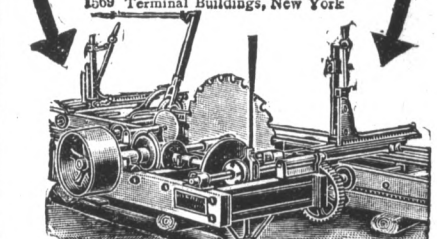
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DETROIT, DEC. 25, 1909.

LEADING ARTICLES OF THE WEEK.

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CURRENT COMMENT.

Our cover design is based upon 1910. a text of four words, part of a verse in the book of Ecclesiastes—"Years should teach wisdom."

In ancient times when trained minds were rare and usually attached to the priestly office, the man of learning was held in great reverence and was clothed about in great dignity and in atmosphere ceremonial.

The wise men of the Babylonian ascendancy, the expounders of the Zend-Avesta of Farther India, the Magi of Persia, and the prophets of Israel, each in the sombre dress peculiar to his particular Order, commanded the respectful regard of all the people of the Orient.

As the disciples of poverty, they traveled with comparative freedom from the violence of the universal brigandage, and the honor of their company was regarded a generous return for their entertainment.

The very few and very precious books that existed in the form of written scrolls, were retained in the sacred keeping of the temple and its priests or prophets or wise men, and only on rare occasions and with most solemn ceremonies were they exhibited and read to the unlettered masses. And then they read with care, as we are told in Nehemiah: "So they read in the book, in the law of God, distinctly and gave the sense and caused them to understand the reading."

In this spirit the venerable wise man in our picture, possibly one of the aged prophets of Israel, reverently unrolls and displays a sacred parchment into which our artist reads four declarations appropriate to the modern New Year.

These are not the hackneyed phrases of the shallow mind indulging in his annual "swearing off" but the deep purpose of the earnest soul who as the years roll by realizes increasingly that "Life is earnest, life is real."

The four brief injunctions, in as many laconic sentences, cover the myriad relations of life.

They speak for themselves and to the earnest reader, are at once appropriate texts and unanswerable sermons.

Let us repeat them: "I will strive to be worthier, in all things, of my life's opportunities and responsibilities.

"For my country, I will improve every opportunity, especially of primary and election, to exert my influence for justice and progress and against graft.

"To my home, I will endeavor to bring harmony, cheerfulness, culture and the wholesomeness of a genuine Christian spirit.

"To my neighbor, I will try to be patient, helpfully sympathetic, and to exemplify the golden rule."

A New Insurance Problem.

Mutual Fire Insurance Companies of the state are organized, which provides that those companies may classify their risks with reference to their protection from lightning, brings this class of companies face to face with a new problem in insurance.

Before this amendment was made, the law required that all classes of risks, regardless of their condition, should be assessed ratably. But since the law was amended in this regard, these companies are very generally amending their charters so that they may place the risks which are protected by properly installed lightning rods in one class, and those not so protected in another class. Under this arrangement which is being adopted by many companies, these different classes of risks will be assessed in accordance with their experience and that experience will result in more accurate statistics upon this point than are obtainable at the present time. In seeking for figures upon which to base the probable outcome of that experience in response to requests received from members of some of these insurance companies, we find that accu-

rate statistics bearing upon this specific point are not very plentiful. But while these statistics are not yet obtainable so far as comparative results in Michigan are concerned, the general results which are a matter of record are of such a nature as to make it absolutely certain that this movement on the part of insurance companies is well advised. The figures compiled by a committee of the National Fire Protection Association appointed to investigate this subject will prove of interest to the reader. According to these figures of 357,346 fires occurring from 1898-1902, 15,755 were caused by lightning, occasioning an aggregate loss of \$21,757,185. It was also found that buildings that were isolated as farm buildings, are much more susceptible to fire from lightning than buildings in more thickly populated sections. It was further noted that in the classification of these losses, barns were found to be more susceptible than dwellings, in the ratio of 9,375 barns and 3,842 dwellings. The high proportion of barns destroyed or damaged would clearly indicate that the bulk of these losses were suffered by farmers. In 1907 the Ohio fire marshal reported 154 buildings fired by lightning in that state, resulting in a total loss of \$252,447, while in 1906 the loss was a third greater on account of a larger number of electrical storms. The secretary of one large mutual insurance companies stated that in that year, 60 per cent of the losses sustained by his company had been caused by lightning but that the losses on buildings properly rodded was almost nothing.

Of course, comparisons between such widely differing number of buildings in the same class are not conclusive but the experience which will be gained where the rodded buildings are separately classified as they will be in many Michigan companies in the future, the results will be more conclusive. That the percentage of losses from lightning varies greatly in different seasons will be conceded by any person who has made any effort to arrive at an accurate basis of estimating the relative proportion of losses by lightning in any company for any given year, but that this proportion will be greatly reduced by the proper protection from lightning is assured by experience already gained, and we believe that there could be no more wholesome lesson to this end than the segregation of the protected and unprotected buildings into separate classes by our farmers' mutual insurance companies, who carry practically all the rural risks in the state.

Important Legislation.

Now that Congress is again in session, those who are interested in National Legislation along any line, should make that interest known to their representatives in the National Congress. While the discussion of congressional matters will not be so general as during the special session, when the tariff bill was under discussion, yet there are important bills pending which merit the attention of those interested in agricultural matters. One of these is the so-called Pure Insecticide Bill. Concerning this bill, which was frequently discussed in these columns during the last session of Congress, Prof. E. D. Sanderson, director of the New Hampshire station and chairman of the executive committee of the manufacturers, entomologists and agricultural chemists who met last year to discuss this proposition, writes as follows:

"At the last session of Congress a bill was introduced in both the Senate and House providing for the government control of the purity of insecticides and fungicides in much the same manner as the purity of foods and drugs is now controlled. This bill was introduced at the instance of the Association of Economic Entomologists. With the increased use of manufactured insecticides and fungicides it has become very necessary that their quality should be standardized so that definite recommendations for their use may be made with accuracy and so that adulterated and inferior articles may not be imposed upon the farmer. In view of the fact that many states are enacting such legislation the manufacturers are warmly in favor of a national law which will govern interstate traffic and will tend to secure greater uniformity of state legislation. While the passage of such a national law would not prevent state legislation, it would in most cases make special legislation by the states unnecessary and where states desired to legislate they would tend to pass laws similar to the national law. Several conferences of entomologists, agricultural chemists and manufacturers have been held and practically all of the large

manufacturers of insecticides and fungicides are heartily in favor of the measure which is drawn to protect the legitimate interests of both the consumer and the reputable manufacturer.

"The measure has been again introduced at the present Congress in the House (H.R.2218) by Hon. E. A. Hayes, of California, and has been referred to the Committee on Interstate Commerce. The bill will also be introduced in the senate and an earnest effort will be made by the executive committee representing the entomologists, chemists and manufacturers to bring the measure to a vote before Congress. Practically all the leading horticultural and agricultural organizations of the country have endorsed the measure. It seems probable that the bill will be passed by Congress if the members of Congress become convinced that the people wish and need such legislation. At the last session of Congress the bill was favorably reported by the senate committee on agriculture but this report was so late in the session that pressure of other business prevented vote at the short session. In their report this committee stated as follows:

"The bill was referred to the Secretary of Agriculture with the request for his views thereon and the measure as amended is exactly in line with his recommendation. The legislation has the unanimous endorsement of practically all the organizations of practical growers in the country, as well as the National Grange, the National Apple Growers' Congress, the American Association of Economic Entomologists and, in fact, all the organizations representing the consumers. On the other hand, practically all of the leading manufacturers are heartily in favor of the measure. Your committee consider the legislation of vital interest to the fruit and truck growers of the country and recommends its enactment in a law."

"We hear very frequent complaints of impure or ineffective insecticides. In many cases these complaints are unwarranted and lack of success is due to improper usage rather than poor quality, but there is no question that inferior goods are on the market as shown by the publication of analyses by some of the experiment stations. In the last yearbook of the U. S. Department of Agriculture it is stated that the Bureau of Chemistry has analyzed samples of arsenate of lead which were practically nothing but white arsenic. This would, of course, be quite injurious to foliage. The sale of such an article is not only unfair to the consumer but hurts the sale of properly made arsenate of lead, than which there is no better arsenical insecticide. If the fruit and truck farmers of the country desire such legislation for the control of the purity of insecticides and fungicides they should let their congressmen hear from them in favor of the passage of this measure (H.R.2218) at once and make their position clear as to the need of such a law.

"If you are interested in this write your congressman at once, stating that the bill is before the Committee on Interstate Commerce and you wish their influence towards favorable report by the committee and prompt action by the House. Write at once as the matter is being pushed for speedy consideration. If everyone interested will thus show their interest the law can probably be passed."

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Among those whose subscriptions expire with this issue are a large number who have been taking the paper for a few weeks or months on trial at a special trial subscription rate. If they have read the paper during the trial subscription period, we believe that they will want to become regular readers, and for the benefit of our regular readers we have made our long term offers of \$1.50 for three years, or \$2.00 for five years, with liberal free premiums, as noted in the last issue. These are money saving propositions and should appeal to the regular readers of the paper. But in any event,

FARMERS' CLUBS

THE ANNUAL MEETING.

(Continued from last week).

The evening session of Tuesday was opened with music by the pupils of the Blind School, which was much appreciated by the delegates assembled, then followed a humorous reading by Mrs. D. S. Morrison, of the Essex Farmers' Club. After another musical number came the president's address. President Chandler opened his address with the assertion that the past year has been one of great prosperity for the farmers and noted the fact that our farmers, as a class, stand higher today, financially, intellectually, and in the scale of good citizenship than they did five years ago.

The farmers of this state as reasonable men are only asking for a fair profit upon their investments and a reasonable price for their labor and if by scientific study and the application of better business principles in their calling they can raise two bushels more of grain or two pounds more of meat with the same expenditure of money and effort where they raised one before, then farmers are satisfied with their prices and they are content with their progress.

In the past wheat has been considered only a pioneer crop and has followed up the clearing of wild lands until all such new land and virgin soil is now well nigh exhausted. They must now learn to raise wheat on soils which have been considered as exhausted and what applies to wheat, in Michigan at least, must apply to clover, potatoes and other crops which necessarily have been a drain upon the fertility of the soil.

Farmers of the future must study and better understand the subject of animal husbandry and economic meat production. This alone can return fertility to the soil and preserve their investment.

The fact that lumber has been driven from the market either by lavish waste of timber on the farm or the high price maintained by the lumber trust, we are driven to use cement or iron as building materials and the new question of building and fencing in the future must be considered by the farmer before he is an expert in his business.

The dairy question has passed beyond that of a dual purpose cow to the question of a dual purpose man. Like other branches of farming he is compelled today to be not only a good farmer but a good business man. It is little use to confine our attention solely to the production of record crops, if some other man is to set our prices for all we have to sell and dictate the division of our profits.

As soon as possible farmers must and will learn the value of co-operation in every community, not only in breeding and raising stock but in procuring all kinds of seeds, machinery and fertilizers. This does not mean that farmers should combine to boost prices which are now as high as the consumer can afford to pay, and which combination would be to commit the same sin that we charge upon combinations for organized greed, but it does mean that we combine in an interchange of the best ideas of our calling for social improvement and enjoyment, for a place to discuss economic farming and to best breed and feed all kinds of stock. Such meetings are a benefit to the consumer as well as to ourselves and if to these meetings we invite our neighbors from smaller villages and towns they will be a benefit to us and make the home life on the farm more pleasant and dignified.

Another question which interests us at present is that of buildings better and more good roads. We believe that with the advent of the automobile has come the idea to many of the highway commissioners that roads should be built between the towns, furnishing greater delight for pleasure seekers and joy-riders instead of developing the trunk lines into the greater producing districts where farmers' products of those who pay the taxes can be delivered to the nearest market.

Parcels Post.

We believe, also, the parcels post would be an extension of the benefits of rural mail delivery and that some practical plan should be provided by law for carrying small parcels between the town and country and which would save the farmer thousands of dollars. We believe, also, that the Grout bill fixing a 10 per cent duty on all oleo colored like butter is a law in the interest of good farming, not so much from the direct value we get from it as from the principle that no fraud and deceit should be practiced in the sale of wholesome foods of any kind and this law being one of pioneer kind in that direction we object to its repeal or the encroachment of fraud in the food line upon either the producer or consumer.

The Tariff.

We deeply regret that at the hearing of the tariff commission before the Payne bill was prepared and passed that no farm organization had its representative at any hearing and that said law was allowed to become, and was, a bargain counter for the manufacturer, with the farmer standing back at a respectful distance and acting purely as an audience.

We believe that the representatives of organized agriculture would have helped frame a law which would have protected 60 per cent of the population of the United States and 75 per cent of its total valuation, instead of turning this important function over to men who represent the great corporate and banking interests of the United States.

I note that Senator Aldrich stated in Detroit that the farmers are fast becoming bankers. I think the statement would have been nearer correct if he had said that men, bankers and stockholders, are becoming farmers and that the loans upon the farms are fast weeding out poor farmers who are not learning the business and putting their agricultural knowledge to the best practical use. We believe that those corporate agents, interests and trusts which have a monopoly of any trade or business in the United States and those who, selling their commodities in foreign markets cheaper than they do in the home market, should receive very little tariff protection at the hands of the people whom they are trying to defraud.

The import duties under the tariff law we believe should be placed largely upon the luxuries used by the wealthy instead of placing them upon sugar, rice, flour and any other commodity which is an absolute necessity for the support of the poor.

Whatever may have been the necessity which wiped out the principle of reciprocity in the tariff bill, it is certain that the sugar trust and tobacco interests could have withstood a reciprocity treaty with a foreign country where it is necessary to open the markets of the world to farm products.

Finance.

It is important for farmers to discuss the question of a central bank, but such experiments have been exploded so many years ago that even the schoolboy in his history is able to explain some of its features and at the present time we can not help but look with suspicion on any form of organized greed which is an attempt to have the government establish such a nest of corruption and incompetence.

Following President Chandler's address, Mrs. Anna McCarty, of Laingsburg, gave an exceptionally well received paper on the subject of "Practical Temperance." As this paper will be either published in full or summarized in a future issue, we pass it for the time being with this brief mention.

Following another musical number, the last address of the session was given by Hon. Lawton T. Hemans, of Mason. The subject assigned to him on the program being, "The State's Financial Predicament." Mr. Heman's address was most carefully prepared and eloquently delivered. He began it by stating that if the wording of the subject had been left to

him, he surely would not have worded it as it appeared upon the program. He reviewed the history of our state and its growth and said that practically all there is to the "predicament" is that the state has performed more activities and provided more jobs, than it has provided funds to pay for. He stated that during the 75 years which Michigan has been a state it has levied a total in state taxes of \$71,000,000 in round numbers. Not until 15 years ago did our state pass the \$2,000,000 mark in its state tax levy, which has been increased from year to year until our present tax levy is nearly \$6,000,000. The speaker took note of the increased cost of our charitable and penal institutions for which purpose the tax levy has increased about \$1,500,000 as compared with 1895. He also stated that the expenditure allowed by the state auditors in increased expenditure in new and enlarged state departments created by the legislature has increased about \$1,000,000 over that for 1895. But with these sums added he noted that the state tax levy is still from \$1,000,000 to \$1,500,000 higher than these conditions would seem to warrant. This fact he explained as resulting from the failure of the legislature at successive sessions to appropriate as much money into several hundred thousand dollars each year as the state accountant estimated should be appropriated in the general appropriation bill, simply for the reason that they did not desire to have it appear that state taxes were being increased. This deficit has been obviated by the transferring of the primary school and other funds temporarily to the general fund until taxes could be collected. But a recent decision of the Attorney General to the effect that such a course was illegal, compelled the appropriation of a sum of money at the last session of the legislature which would make up for this deficit. The speaker stated that even then the estimates of the state accountant were cut to a point which made it probable that this deficit would not be entirely made up by the increased tax levy of the present year. The speaker summed up his remarks by stating that the state's financial problem was the same as that which perplexes any individual who finds ways to spend his money faster than he provides revenue to meet obligations. He conceded that the institutions which we now have will continue with us and must be supported with that liberality which becomes the state, but believes there should be practiced in the administration of government the same reduction of administrative force and combination of functions which is the order of the day in the administration of business affairs, contending that by this plan a further rapid increase in our tax budget would not prove necessary, but that otherwise it would increase in the future in the same startling ratio that it has in the past.

Honorary Members.

By the adoption of the report by the committee on honorary membership, Ex-Presidents J. W. Edgar and A. N. Kimmis were added to the list of honorary members of the State Association.

The New Officers.

The election of officers was quickly disposed of after the report of the nominating committee, which was made at the close of Wednesday morning's session, at which the resolutions published in the last issue were considered and adopted. This committee reported a list of several names for every office, and the choice was made on the first ballot in each instance, the following new officers being elected for 1910: President, B. A. Holden, Wixom, Mich.; Vice-President, Mrs. C. A. Mathews, St. Johns; Secretary, Mrs. Jennie E. Johnson, Metamora; Treasurer, Henry T. Ross, Brighton; Directors elected for full term, C. L. Wright, Caro, and E. W. Woodruff, Blanchard; to fill vacancy caused by the election of Director Holden, as president, A. R. Palmer, of Jackson.

Other Features of the Meeting.

Space will not permit us to give details of the other features of Wednesday's sessions, but the various addresses mentioned in the program were of a character to not only entertain but to instruct and enthuse delegates present. If space will permit, we will review some of them in this department in future issues. Without question, the addresses delivered will be made the subject of comment by the delegates in their reports as most of them were attentive listeners, and many took copious notes.

The treasurer's report which was given

at the last session showed the finances of the Association to be in good shape with a balance of \$111.30 in the treasury. At this session, Mrs. A. G. Heartshorn, of the Maple River Farmers' Club, read an excellent paper, entitled "The Golden Age of America," which was well received. Mr. John Hamilton, Farmers' Institute Specialist of the Department of Agriculture at Washington, gave the address of the evening. Mr. Hamilton's address was full of good suggestions for the future of the Farmers' Club movement in Michigan, and will be reviewed in an early issue.

Thus closed the 17th annual meeting of the State Association, admitted by all present to have been fully up to those that have preceded it in point of interest and benefit.

Michigan Farmer's Club List.

For the benefit and convenience of our subscribers we have arranged the following list of papers on which we can save them money. Besides the money they save the trouble and expense of sending each order separately.

EXPLANATION—The first column is the regular subscription price of the other papers. The second column gives our price for a year's subscription to both the other paper and Michigan Farmer. The third column gives the price at which the other paper may be added when three or more are ordered. Example: We will send the Michigan Farmer and Detroit Semi-Weekly Journal for \$1.35. If, for instance, McCall's Magazine also is wanted add it at 40¢ making total \$1.75. Any number of papers may be added at third column price if they are for a subscriber to the Michigan Farmer. If you want the MICHIGAN FARMER THREE YEARS and the other papers one year add 75¢ to the second column price. For the Michigan Farmer 5 years add \$1.25. We do not send samples of other papers. Address the publishers direct.

Send all orders to the Michigan Farmer or through our agents. We will take your order for any publication you want whether listed or not. Write for rates.

NOTE.—So long as a subscriber is on our list for one or more years he may order at any time any publication at third column price. So that a three or five-year subscriber does not lose the advantage of the reduced price if he wants any other paper next year or the year after.

Subscriptions ordered to Canada require postage. Write for rates unless postage is known, in that case include with order. Postage on Michigan Farmer alone to Canada is 1 cent per week.

Table with columns: NAME OF PUBLICATION, See Explan., and \$ amounts. Lists various magazines and newspapers with their respective prices.

FREE PREMIUMS.

Those subscribing for the Michigan Farmer in combination with other papers are allowed premiums just the same as if the order was for the Michigan Farmer alone. One premium only for every Michigan Farmer order. Orders for other papers alone will receive no premium under any circumstances.

GRANGE

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

THE STATE GRANGE MEETING.

To cover in detail all of the work which was crowded into four busy days at last week's meeting of the Michigan State Grange at Traverse City, would require an entire issue of The Farmer. Even the outstanding features which stamped this meeting the best ever held in this state can scarcely be given the space they deserve at this time, and some of the more important ones will receive further attention in future issues. The least that can be said is that the success of the meeting clearly exceeded the expectations of the organization's leaders, and the delegates separated with renewed determination and a pretty general realization of their responsibility for the success of the new lines of work laid out at this meeting.

Whatever may have been the opinion of Patrons in the older Grange counties as to the wisdom of taking the State Grange to the "north country," none but words of commendation were heard at the close of this meeting. The cordial and sincere reception given the Grange by the citizens of Traverse City and the Patrons of that section, and the excellent accommodations afforded in the way of convention hall, committee rooms, etc., added much to the comfort and convenience of the busy delegates and unquestionably had a bearing on their almost unanimous decision to return to Traverse City for next year's meeting. An unusual number of visitors were in attendance, many of whom found time to inspect the city's various institutions or to make excursions into the country, and such of these as were hitherto strangers to this section of the state returned home convinced that its agricultural possibilities are far greater than they had dared believe, and that the Grange, already very strong in some of these counties, is destined to work great benefit to the progressive farmers of northern Michigan. The excellent showing of agricultural products, especially the magnificent exhibit of apples, made by the Granges of the various counties of that region proved a complete surprise to Patrons from the southern part of the state. A portion of this big apple show had been prepared by the Granges and exhibited at the National Irrigation Congress at Chicago three weeks previous to this meeting, and their uniformly good condition when seen at Traverse City spoke volumes for the keeping quality of this fruit.

Attendance at last week's meeting brot to many Patrons the complete realization that the Grange is a state-wide organization in Michigan, and that this meeting, instead of being held "away up north," as many supposed, occurred at what is approximately the Grange center of the state. While every county of the state was entitled to representation, a few failed to respond, 77 of the 83 counties sending delegates. The delegate body, as had been predicted, was the largest that has ever composed a Michigan State Grange, numbering 423. Of these 320 were subordinate delegates, while 103 represented the Pomona.

The Order's Financial Condition.

The condition of the Order was shown to be quite satisfactory. The annual report of Secretary Hutchins stated that 98 Granges had been added to the roster since last year's meeting, 90 of which were new Granges and eight re-organized. The membership in the state is approximately 48,000, an average of nearly 60 per Grange. Appended to this report was a financial statement which showed expenses for the past year aggregating \$20,195.05. Prominent among the items in this statement were: Expenses of last State Grange, \$5,355.47; National Grange fees and dues, \$2,173.13; organization work, \$1,858.73; supervision work, \$1,876.93; Grange rallies, \$1,226.56. The receipts for the year, including balance of \$7,152.93 on hand a year ago, aggregated \$24,774.04. The treasurer's report was practically covered by the above statement and by the report of the Finance committee. This report related that the sub-committee on co-operation had received from percentage on trade contracts the past year, a total of \$8,568.32. The expenses of this sub-committee were \$2,364.64, leaving \$6,203.68 to the credit of the Grange. The invested funds were reported in satisfactory condition. At the direction of the executive committee this sub-committee purchased, during the year, 6 per cent Oklahoma school bonds to the amount of \$13,000, the total cost, including premium and interest, being \$14,881.70. On December 1 of last year the total securities and cash in the care of this sub-committee aggregated \$39,355.36. On December 1 of this year the total of same was \$43,266.55, a gain of \$3,911.19.

An innovation was the election of officers by a system other than that which has been in vogue since the early days of the Grange. Last year the executive committee was instructed to prepare a new method of election, to be patterned after the Australian ballot system. The system evolved was put in force this year. Being new, it did not work perfectly, but the slight defects will be easily remedied. The election for three members of the executive committee whose terms expired with this meeting resulted in the recognition of the Upper Peninsula by the election of Jerry Lawson, of Chippewa county, and the return of H. F. Baker, of Cheboygan county, and F. G. Palmer, of Gratiot county, for another term.

State Master's Recommendations.

Space will not permit the publication of State Master Hull's annual address. It was a very strong Grange paper and was well received by the delegates. Reviewing the splendid organization work of the past year, he congratulated the delegates upon the present satisfactory condition of the Order, but warned them that while the Grange banner has been planted in new territory, the Grange still has a duty to perform in encouraging and aiding the new organizations in every possible manner. In order that this aid may be properly given, the continuance of the deputy system as organized by his predecessor was recommended. He strongly urged a more general and hearty support of the county deputies and the general and state deputies. Touching the value of summer rally and field meetings, he declared that the demand for special speakers for such meetings has grown almost beyond the ability of the Grange to supply them. He spoke eloquently of

the value of such meetings to the subordinate and Pomona Granges and declared that while the practice of allowing the Grange to choose its speaker has given the best of satisfaction, he believed that a more careful consideration, by the Grange requesting the service, of the expense entailed, and a better system of scheduling speakers, would materially reduce the expense of this service. He urged the Pomona Granges to give more careful supervision to the work of their subordinates and recommended that the executive committee of each Pomona hold at least four meetings each year for the express purpose of devising ways and means for organizing new Granges and for strengthening its weak subordinates. These meetings should be held before the regular sessions of the Pomona.

Grange Life Insurance.

A portion of Master Hull's address which was listened to with rapt attention was the section on insurance, as it was pretty generally known that the subject of Grange life insurance would come up at this meeting. After briefly mentioning the success which has attended the Grange fire and cyclone insurance companies in the past, and giving them credit for having brot many good farmers into the Order, he said:

"For some years back a part of our membership have been asking for Grange life insurance. But there did not seem to be sufficient call for it to warrant its establishment. During the past year we have organized a large field of hitherto unoccupied Grange territory. There seems to be, in this new field, a need of some form of efficient life insurance. I am not one of those extremists who believe that everyone should carry life insurance, neither do I especially recommend life insurance as an investment. But I do believe that there are many in and out of our Order who ought not to be without it. Many young men and some young women have parents who will be or are partly or wholly dependent upon them. If they live, all will be well, but if they should, as is always possible, meet an untimely end, it means privation and perhaps humiliation to those dependent ones. It would seem that every man who has a wife and children, and has not of material things enough to provide for them were he taken, is in duty bound to make some provisions against such a disaster as having his family separated, all their home ties broken and the wife reduced to want. I like the idea of fraternal insurance. If my brother's home has been marked by the grim destroyer, I am willing from my means to contribute something to his needs. And inasmuch as we are all dependent upon our brothers when we are establishing ourselves in this world, and again when we are loosening our moorings and slipping out into the great beyond, it is well that our fraternity should teach us not to forget. * * * An ideal insurance company is the one that combines the best risks with efficient inexpensive machinery. It seems to me that no organization is better equipped to furnish ideal insurance than is the Grange. Mortuary tables prove that farmers are the best life risks in the world, and in our Granges we already have the desired machinery. There is bound to be expense connected with insurance, but we ought to be able to minimize it. It is urged against fraternal insurance that after a

time the younger class take up something new and the rates go unreasonably high. This has largely been true of fraternal insurance companies that had nothing to recommend them but insurance. But it seems to me that the great work of the Grange outside of insurance is bound to appeal to the young farmers of Michigan more and more as the value of organization becomes more apparent, as it is bound to do, and that we will thus be enabled to recruit our insurance ranks.

"So much for Grange life insurance in the abstract. In the concrete, we just now need its holding power in our order. In new Grange fields it takes some time for the members to appreciate the great educational, social, and influential value of our Order. And to hold our new members until they become inoculated with the true Grange spirit, we must furnish these material benefits that appeal to them more directly at the present time. I would not have the great crowning features of Grange work overshadowed nor detracted from, but would have everything tend to strengthen them. To that end, I recommend that this session of the State Grange direct its executive committee to organize and establish a Grange fraternal beneficiary life insurance company."

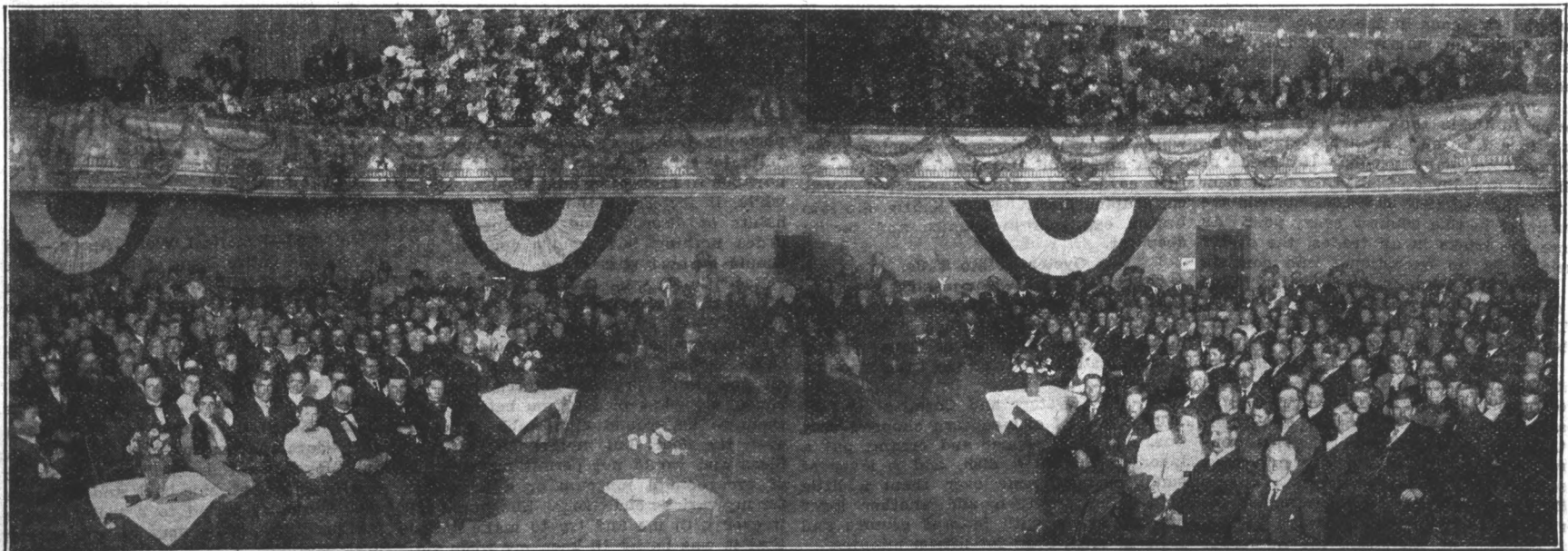
This part of the address was placed in the hands of the committee on Insurance and, at a later session, the Grange instructed the executive committee to organize such a company.

The State Master's plea for the betterment of rural schools was the subject of much favorable comment and it will be given to the readers of this department in a later issue, as will also his sound sensible talk on the subject of good roads. The need of strengthening weak Granges, he advised the delegates, had received much attention at his hands and at those of the Executive Committee, and that a committee had been appointed to formulate a plan looking to the practical co-operation of the Agricultural College with the Grange in an effort to bring practical agricultural training directly to the farmers. The plan submitted by this committee at a later session met with the universal approval of the delegates and will be given in full in a later portion of this report. It constitutes one of the new lines of Grange work to be undertaken during the coming year.

On the matter of finances, Master Hull reminded the delegates that with the expansion of the organization the expenses of the State Grange increase. The importance of patronizing the trade contracts liberally was brot out in the statement that, owing to the admirable manner in which these contracts had been handled during the past year by Past Master Horton, the Grange had, despite its heavy expenses, been able to increase its invested funds.

Evidently believing that best results, in the direction of securing needed legislation, may be obtained by concentrating the efforts of the Grange upon one or two measures, the matter of desired legislation was dismissed with the recommendation that the legislative committee be instructed to use all fair means to create sentiment and conditions which shall favor the enactment into law of measures making telephone companies common carriers, and specifically taxing iron ore and copper.

(Continued next week).



The Delegates from 77 Counties, Comprising the Michigan State Grange of 1909, in Session in the Opera House at Traverse City, December 14, 1909.

OF INTEREST TO WOMEN

Telling Children About Santa Claus.

What shall we teach our children about Christmas? The question comes up to every young father and mother when the first little one is old enough to prattle and to understand the beauty of giving and of receiving. Shall we teach them about Santa Claus and his wonderful reindeer, have them hang up their stockings to be filled by the good old saint, or shall we simply teach them the religious significance of the day and have nothing to do with the festivities and frolic of Yuletide? Of course, many parents answer the question without any thought either way. If they were brought up to believe in Santa Claus and have fond memories of the keen delight they took in his anticipated yearly arrivals, they bring up their babies to believe in the same innocent deceit. If their parents held all such Christmas observances foolish, if not downright sinful, then these present day parents take the same attitude with their boys and girls.

"I don't believe in Christmas," says a mother of four little tots. "We never had any stockings hung up when I was little, nor any of that silliness about Santa Claus. We didn't even go to the Sunday school Christmas tree. Father and mother taught us the religious meaning of the day and that was all we knew about it. I never got a Christmas present in my life until I had a beau, and my children aren't going to be indulged in such foolishness."

"But didn't that first present from your beau make you very happy?" I asked. "Didn't Christmas mean more to you that year when someone thought of you and gave you a remembrance?"

"Well, yes, I suppose it did," replied the mother. "I know I was greatly pleased. But I can't bother with Christmas for four children. It is too much work and takes too much money."

I thought of the four forlorn, wishful baby faces I had seen that morning as the neighbors' children bragged of what Santa Claus was to leave them. And I couldn't but wonder if that mother would not show more religious devotion if she exerted herself to bring a little pleasure into her babies' lives, than she could by talking to them all day long about the birth of Christ.

"Of course I'm going to teach my kiddies all about Santa Claus," said a big, jovial man. "Why, Christmas isn't Christmas if there isn't a youngster somewhere about trying to keep awake until Santa Claus arrives. He always came to our house, and he always wore a big fur coat and fur mittens that looked

just like father's. Every year he asked us about our behavior for the past year and upon being assured that we had been models, he always left the identical things we had hoped for. I remember the last year he came. I told mother next day I thought it was funny Santa Claus had to wear father's mittens, and that I knew they were father's because there was the patch on them just where she sewed it on the week before. Santa Claus never called on us after that. But he has been a regular visitor at my own home ever since the first Christmas that my boy saw on this old globe, and he is coming every year until Jack gets old enough to recognize the mittens."

So we have two views, each with a multitude of adult adherents. But I am sure if the decision could be left to the boys and girls there would be an overwhelming majority rolled up for Santa Claus. What if the time is coming when they will all know him for the old deceiver he is? Just think of the untold rapture of watching for him every year until that time comes. The children who have once really believed in him, never get over his spell, and if they are taught that they must help him out and pass on some of their gifts to the boys and girls he overlooked, there is small danger that they will not get plenty of religion of the kind the world needs most out of Christmas and its observance.

Of course, the Santa Claus view means extra work for the mother and a call for money from father. And I have often wondered if that isn't the reason so many parents get suddenly worked up over deceiving children about Christmas time, and declare loudly against the evil of teaching children to believe in a myth. A good many mothers who think it is a sin to teach their children about Santa Claus, haven't the least compunction of conscience when they try to scare their little ones with the bug-a-boo man who runs away with naughty boys and girls, and these same mothers will threaten to give crying children to the ragman, or call for a policeman to come to their aid. They will tell the youngsters, too, that quinine isn't bitter or castor oil doesn't taste bad, if they want to give a dose of either medicine, and then lament afterwards that they can't get their children to mind. Of course, these deceptions are excusable (?), as being necessary to discipline. At least, I suppose the mother thinks so. But to my mind the Santa Claus falsehood is spotless beside the enormity of these other downright untruths. DOROTHY HUDSPITH.

THE OYSTER.

BY EMILY L. RUSSEL.

"Now gally comes that jolly royster, The merry, blithe and boneless oyster." This toothsome bivalve is one of the lowest forms in animal life, and, from a biological standpoint, is a very insignificant and worthless part of the animal kingdom. His organism is of the simplest kind; he has no power of locomotion, and his senses of seeing, hearing and feeling are very imperfect. He simply has a sluggish existence in the water, far from being "jolly" or "merry." But the oyster has one characteristic that sets him above animals of far higher instincts and in a more respectable sphere of life—the power to tickle the palates of mankind, also, to add to our industries, giving employment to many people. Hundreds of millions are invested in this shell fish. It is estimated that 30,000,000 bushels are consumed in this country every year. As there are tricks in all trades, the oyster business is no exception. One consists in "bloating" them in fresh water. This is now forbidden by law.

The oyster is more procreative than the rabbit. The female lays millions of eggs in a year, from which the young are hatched without the trouble of being "set" upon. The egg floats about until it "catches on;" begins to grow and shells out, with marvelous rapidity. This wonderful reproductive power has prevented the extinction of the oyster.

Maryland has always been famous for her oysters and, probably, always will be. The Chesapeake Bay, and the numerous rivers and inlets form an ideal home for them. So plentiful are they that even the very poor can feast on them, unlike

in the days of the Roman Empire, when they were a luxury only to be indulged in by the Roman gourmets, who dined also on nightingale's tongues.

Most people like them two ways, as Mr. Walters' did his turnips, "cooked and raw," but a respectable minority prefer them another way—far away.

Famous chefs and careful housewives have devised many ways of preparing them for the table. One of the simplest is the ordinary soup or stew; when they should be cooked only long enough to "flute their ruffles."

The following recipes are more complex:

Oysters with Chicken.

Chop or grind very fine a pint of cold cooked chicken, add to this one egg, three tablespoons of cream, one-fourth cup of white sauce, one teaspoon of onion juice. Wash and drain two dozen large oysters then cover each with the prepared chicken, shaping nicely. Flour lightly, dip into beaten egg, roll in crumbs and fry in deep fat.

Oyster Potato Balls.

Add to cold grated or mashed potatoes, salt, pepper, beaten egg yolks and melted butter. Mix well together, then make into balls, enclosing two or three oysters, place on a buttered tin and bake in quick oven.

Oysters and Corn.

To a pint of canned corn chopped very fine, add salt, pepper and cream; put a layer of this in a dish, add a layer of small oysters, pour over them a little melted butter, then add another layer of corn, cover with buttered crumbs and bake in brisk oven for fifteen minutes.

Oysters and Bacon.

Drain and dry the oysters, cut the bacon in slices about one-half inch thick. Lay

two or three oysters on each slice of bacon, roll up and fasten with tiny skewers, or tie with cord. Bake in brisk oven fifteen or twenty minutes. By the time the oysters are cooked the bacon will be crisp and free of grease.

MOTHER ASKS ADVICE ON FEEDING HER CHILD.

Dear Editor:—As Mrs. Hudspith says she is a mother and will answer any questions about children, I want to ask her about my boy who is four years old. He is active, but fretty. Last August he was taken very sick in the night, after a pleasant day. The doctor said it was worms. He soon rallied but did not seem as well as before. Just 27 days from then he had another spell but had less fever and more pain. At the close of another 27 days he had another attack and we then gave him vermifuge two days each week until time for the fourth attack. I have heard it was because the child wasn't given proper proportions in his food combination. Will she tell me what to feed him?—Mrs. F. S. C., Carson City

If I only knew what your boy ate on that "pleasantly passed day!" It is hard to tell you how to regulate his diet as I know nothing of what you feed him. In general, it is well to confine a child of his age to cereals, farina and other wheat products, oatmeal, etc., for breakfast, with cream and no sugar. For dinner, well cooked potatoes, mashed or baked, chicken, mutton or beef, all well cooked, but never pork or the young of animals. For a dessert give them baked apples, custards, tapioca and similar light dishes, but never under any circumstances, pastry or rich cakes. The supper should be light, bread and milk, a little rice, or perhaps the custard at night instead of at noon. Oranges might be fed, but not bananas, nor should such children be allowed to be constantly nibbling candy and peanuts. The coarse vegetables like rutabagas, squash, etc., should not be fed, but they might eat creamed vegetable soups, corn, celery, tomato and the like. After his next illness try the experiment of having him fast at least a day, two days might not hurt, if he is usually a hearty eater. Give him plenty of water, but no food. Mothers make a mistake in coaxing their children to eat after such sick spells. Better give the stomach a rest. An old-fashioned remedy, but one which accomplishes great things in cases of indigestion, is a dose of castor oil. The fact that your child is fretful leads me to think he is a poor digester.

THE BOY'S ROOM.

BY E. E. R.

Up to a certain age the youngster pays little attention to the furnishing or the ornamenting of his room. Whatever in this line is supplied him satisfies.

There comes a time, however, when he manifests more interest. If he is fond of sports he has bats and balls, with the various paraphernalia which accompanies them, and these he wants in his room. If he takes to "specimens," he will have mounted bits of stones and arrows, which he has picked up. Should botany be to his taste, plants and flowers pressed and gummed to cards will surround the walls. Fishing tackle appeals almost inevitably to the youth, and with most boys a gun of some kind comes in for a share of his attention. So that with his books and papers, if inclined that way, his room presents an aspect not at all in accord with feminine ideas of what it should be.

There are two courses open to the mother of such a boy. One is to give him perfect freedom to arrange this particular room exactly to his taste. The other is to exert some sort of jurisdiction over it and by so doing make it bear a more orderly appearance. To leave a lad perfectly free in such matters often results in such a litter that it is an annoyance to his mother and sisters. Meanwhile, it fosters in the occupant himself habits of disorder and untidiness which bodes nothing but trouble for his wife should he ever possess one.

Recently I was talking with a man of about 24 about this very thing. He said, "When I was a kid I used to like to carry to my room every old thing I came across. These I wanted to hang on the walls or keep stored away in boxes, or, what pleased me better, allow them to lie around upon table or chair, even the floor; but mother had different ideas and would not permit me to make of my room a museum or a laboratory for my various endeavors. She would talk it over with me and try to make me see that it was better to keep my room tidy.

Another young man whom I know was given free rein to follow his inclinations in this matter because his mother de-

termined that since the room was his own he should have the privilege of arranging it to suit himself. A state of affairs begun which grew to be quite an annoyance but she put up with it because he liked it that way. Today that boy is away from home but those habits cling to him and his room is perpetually in a clutter.

Do habits acquired in youth follow boys after they go out from the parental roof? Indeed they do! And while it is not always safe to judge the mother, by the son, still one can quite accurately decide whether he was made to pick up his belongings and preserve tidiness, or whether he was left free to follow his own will and leave things for others to pick up.

It means a great deal of work for the mother to get her sons started right in this respect for the average boy is careless and inclined to make light of instructions along that line. Since it is a life time one way or the other for him, and usually means much to others as well, it is effort that pays in the end. If the boy marries, the mother may be assured that his wife will be glad, if he has been trained to pick things up instead of scattering them abroad and to remember that other people have rights as well as he.

TO CURE HAMS AND CORN BEEF.

Dear Editor:—I noticed a request in your paper some time ago for these recipes, so I am sending mine, which I know are good ones. In curing hams, to 100 pounds of meat use six pounds of fine salt, three pounds of brown sugar or three quarts of molasses and one quart of saltpetre, pulverized. Mix well together and rub each piece with the mixture, all but the skin, and pack down in a cask or tub. Let them remain a few days, say five or six, then turn them over and sprinkle lightly with salt. Let them remain a few more days then add brine strong enough to bear up an egg, and let them remain covered with it for three or four weeks, when they are ready for the smokehouse.

To corn beef, use, for 100 pounds of meat, four pounds of salt and one-quarter pound of saltpetre. Dissolve in water and when thoroughly dissolved, have brine boiling hot and pour it over the beef which has been packed in a cask. The beef will be thoroughly salted the following day. This recipe has been used in our family for over thirty years.—Mrs. A. E. Arnold.

A NOBBY DRESS AND A HANDY WORKING APRON.

Price, 10 cents each. Waist and skirt patterns are usually separate, making a charge for each, but not if in one piece. Order by number and title of pattern. If for children, give age; for adults, give bust measure for waists, and waist measure for skirts. Be sure to give size when you order. Address orders to Pattern Department, The Michigan Farmer, Detroit, Mich.



No. 8604—Practical Work Apron.—This covers the entire front of the waist. The skirt flares prettily and as it meets in the back, the whole skirt is protected. Generous sized pockets add greatly to its usefulness. Linen, percale, gingham and Holland are all used in the making. The medium size requires 5½ yards of 36-inch material. Sizes small, medium and large.

No. 8612—Misses College Dress.—This up-to-date and popular model is fashioned on "Moyen Age" lines. The waist is fitted by side front, side back and underarm seams, and is joined to a plaited skirt portion. The dress may be cut in high neck style or with a sailor collar. The pattern is cut in three sizes, 14-16-18 years, and requires 5¾ yards of 36-inch material for the 16-year size.



Each of the chief organs of the body is a link in the Chain of Life. A chain is no stronger than its weakest link, the body no stronger than its weakest organ. If there is a weakness of stomach, liver or lungs, there is a weak link in the chain of life which may snap at any time. Often this so-called "weakness" is caused by lack of nutrition, the result of weakness or disease of the stomach and other organs of digestion and nutrition. Diseases and weaknesses of the stomach and its allied organs are cured by the use of Dr. Pierce's Golden Medical Discovery. When the weak or diseased stomach is cured, diseases of other organs which SEEM remote from the stomach but which have their origin in a diseased condition of the stomach and other organs of digestion and nutrition, are cured also.



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HOW WE SOLVED THE SANTA CLAUS QUESTION.

BY E. H. M'DONAGH.

Last year we told the Santa Claus story willingly, and enjoyed the baby wonder and glee over his coming, but this year the baby is four, and a serious person who wants to know the "how" and "why" of everything. He has learned of God, who is the "Maker of all made," and says his bed-time prayer, and is an individual with a religion. But his greatest faith and reverence, so far, is, as it should be, centered in his father and mother, and to him, as to every child, the first ideas of power and truth and goodness are derived from the parent. Only gradually can he develop clear religious perception enough to think of a God, personifying all good.

The beginning is made. We do not dare to confuse his present idea of one all-powerful God, by introducing a second and lesser (?) god, who watches over children to find them either good or bad, a terrible, everpresent all-seeing being, who comes at Christmas to reward the good or, if we carry the beautiful old German fairy story further, to leave only a bundle of whips for the naughty or disobedient child. For the boy who has reached this age and asked the question, "Why do we have Christmas?" we have to give either the Christian story of the birth of the Savior, or the other story, beautiful if you please, but nevertheless pagan, of the fairy sprite, god, or saint, whichever way you choose to tell it, who comes on the great day to reward the good and punish the bad. No use seriously telling the two stories for fact, for the pagan idea to supercede the Christian. Even if we could look in the trustful eyes and tell a lie to our son, we should not dare destroy his only "evidence of things not seen," his belief in his parents' word.

We have told the legend to our boy—as a legend. When he asks, "is there a Santa Claus?" we answer frankly, "no—we just play Santa Claus." And when he asks if he really comes down the chimney he is shown the absurdity of the idea. But he is nevertheless absorbed in plans for this wonderful day, the birthday of the Christ-child. Of course, there is no Santa Claus but lots of people play Santa Claus, and to play Santa Claus himself, with a big cap, and some wonderful white cotton whiskers that his mother made for him, and a belt and bells—just like the pictures. And he has hid treasures—he and mamma, for all the family, to surprise them with on Christmas Day, and he plays his splendid game, and plans to wear those wonderful whiskers, and go clear over to Grandma's and play Santa Claus for her, and for the little cousins. So full of the joy of anticipation is our small son, that no one could convince us that in telling the truth and securing his faith in us, we have deprived him of one jot of Christmas joy.

EASY WAY TO COOK PUMPKIN.

Dear Editor:—Some one told me of such a convenient method of preparing pumpkin for pies, that I should like to pass the method on. Cut a square from the stem end, having the stem for a handle, and scoop out the seeds, replace the cover to retain the steam, and set into the oven to bake.—Mrs. S. K. G.

THE CHARGE OF THE SHOPPING BRIGADE.

Half a block, half a block,
Half a block onward;
All on the bargain hunt
Go the s'teen hundred.
"Forward the Shop brigade!"
Charge double price!" he said,
Into the jamboree
Salesmen to right of them
Shopgirls to-left of them,
Volleyed and thundered,
Like a Yale rush, pell mell,
Boldly they plunged and well,
Into the jaws of death,
Into the shoppers' hell
Dash the s'teen hundred.
Torn clothes and crumpled hair,
Pockets picked everywhere,
Raising Old Harry there,
All playing Santa Claus.
Patience surpassing.
Honor the charge they made,
Honor the Shop brigade.
Who was the fool that said:
"Times will be hard, I'm 'fraid!"
Guess he was "gassing."

One-half cup of black coffee containing a teaspoonful of lemon juice will often cure sick headache. A glass of lemonade, without sugar, in which one-fourth of a teaspoonful of soda is dissolved, will often cure bilious headache.

AGENTS you will get more orders and make more money by so doing during the next few weeks, than in double the time any other season of the year. Go after them is the way to get them.

Home Queries Exchange

Column Conducted By Elisabeth.

Jennie R.:—Heliotrope plants can be grown in the house all winter, if the pots have perfect drainage and the plants are kept in a rather cool temperature. Too much moisture will cause the leaves to turn black. They should be given just enough water to keep them from drying out. There is no reason why you should not be successful with them if care is taken.—J. Y.

Mrs. Smith:—You should not have allowed your light quilts to become so soiled on the edges. Take a strip of white cloth and baste over each end of new light quilts, so it extends several inches down, this saves the soil from the quilt and they can be taken off and washed. If you do not want to wash the whole quilt that is soiled, dip the soiled ends in a pan of gasoline and clean that way. Keep it away from the fire.—Mary T.

Housewife:—Several other excellent recipes for plum pudding have been sent in but most of them are similar to the one published last week. The following one is a little different: one cup of beef suet, chopped fine, one cup of brown sugar, one pound of currants, one pound of raisins, chopped and seeded, quarter pound of citron, chopped, and lemon if you like. Stir this into a batter made as follows, and quite stiff: Four eggs well beaten, two cups of sour milk, and soda to sweeten it, two slices of bread crumbed fine, season with all kinds of spices, a little salt and two table-spoons of molasses. Steam four hours. This is enough for about fifteen. Serve with sweet or sour sauce.—Mrs. S. T., Hastings.

Ed. S.:—In last week's query column you asked what to do for chilblains. I would advise a new treatment, which is also effective for one bothered with cold feet. Soak the feet once a day in real hot water, with a little soap added. Let them remain in the water at least half an hour. When it is for chilblains apply a flaxseed poultice over the affected parts immediately after soaking. This treatment should be continued at least a week and if a cure is to be effected a dark spot will begin to show and then turn black as the treatment progresses. In time the spot will come to the surface and can be shaved off or allowed to disappear of itself. But unless it does this, do not consider it cured.—T. Y. B., Albion.

Dear Elisabeth:—I am keeping steady company with one young man and I have another fellow I love better and would like to go with him. What would be the most friendly way of leaving him, and tell me how to win the other one?—Miss N. B.

If you do not care to have the young man you are going with continue his attention to you, tell him frankly that you do not care to have him call any more, as you do not have the time to receive him. I can not tell you how to win the other fellow. If he has shown any inclination to be interested in you, you may ask him to call upon you, and make it pleasant for him, but don't let him think that you are throwing yourself at him, as that will only disgust him. It is best for a young lady not to show a young man that she admires him too much, as he wants to be the wooer.

Dear Elisabeth:—I know a young man who is always friendly towards me and talks to me whenever he has the opportunity. I think he has hinted several times about wanting to call on me, but has never said so right out. Would it be all right if I asked him to call, or should I wait until he asked me if he might?—Perplexed Maiden, Holly.

Yes, it is perfectly proper for you to ask him to call, as nowadays young ladies are supposed to give the invitation and most young men wait for it, altho it is contrary to the oldtime custom of the gentleman taking the initiative. This new way relieves the young lady of the embarrassment of having to refuse undesirable men, and allows her to choose her own friends.

Dear Editor:—I wish some of the readers of this column would send in a good recipe for some kind of home-made cheese; not cottage cheese. Hoping to soon see it appear in this column.—An Interested Reader, Ionia Co.

Dear Editor:—Will some one please tell me what carpet bugs and furniture bugs look like? Are they the same thing? What color are they? How is the best way to get rid of them? Any information about them would be appreciated by a young housekeeper.—Livingston Co.

HOUSEHOLD ECONOMY

How to Save \$2 on Cough Medicine by Making it at Home

Cough medicines, as a rule, are mostly syrup. To make the best syrup, take a pint of Granulated Sugar, add 1/2 pint warm water, and stirred about 2 minutes.

Get two and one-half ounces of Pinex (50 cents worth), put it in a clean pint bottle, and fill up with the Granulated Sugar Syrup. This makes a full pint of unequalled cough syrup, for about 54 cents. Keeps perfectly. You couldn't buy as much ready-made cough syrup for \$2.50.

This home-made remedy is pleasant to take, and usually stops even the most obstinate cough in twenty-four hours. It is splendid, also, for colds, whooping cough, bronchial ailments, etc. Take a teaspoonful every one, two or three hours.

The Sugar Syrup is an excellent sedative. The Pinex is the most valuable concentrated compound of Norway White Pine Extract, rich in all the healing elements of Norwegian pine. Be sure to use the real Pinex itself. Your druggist has it or can easily get it for you.

Strained honey can be used instead of the syrup, and makes a very fine honey and pine tar cough syrup.

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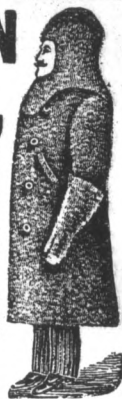


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HOME AND YOUTH

NEW YEAR'S DAY.

BY B. F. M. SOURS.

A happy day is breaking o'er the hills.
The past is past with all its joy and woe.
The skies hang over, whether shine or snow,
And winter's grip the heart of nature chills.
A year is dead; a year is born, and rills
Are ice-bound, and the winds of winter blow;
But hearts are warm, warm in their human glow,
And faith the spirit with its triumph fills.
Year! Year new-born—we have no fear of thee!
Our Father rules the constellated realm;
Why should a few short storms our courage slay?
Thou art the bearer of glad jubilee!
We quote a lad: "My father's at the helm!"
We hail thee, herald, then, glad New Year's Day!

UNCLE SAM'S NEW-YEAR ANNOUNCEMENT.

BY EVA RYMAN-GAILLARD.

When the clock in the farm home strikes twelve for the last time in the year, those hearing it will, half-consciously, perhaps, wonder if the clock is just right, but in city or town those who hear bells and whistles signal the hour know the signal is given on astronomically correct time. In either case, comparatively few give thought to the fact that the signal marking the advent of the New Year for them does not affect all the people of our broad United States—to say nothing of the rest of the world.

We have, in the United States, four distinct "time belts" in which time is designated as Eastern, Central, Moun-

of bells, blowing of whistles and other noises that proclaim the advent of the New Year in the part of the United States that "goes" by Eastern time.

This first signal goes all over the world but the operators in the "Eastern" time-belt are the only ones to pass it on to the public. Just sixty minutes later the signal is repeated for the benefit of the "Central" belt. Then, after another hour it goes to those in the "Mountain" belt. Again, it flashes across the country and an hour after the "Mountain-time" people received their signal it reaches those who greet the New Year on "Pacific" time.

When that first signal, proclaiming the advent of the New Year in Washington, the capitol of the United States, goes flashing around the world on overhead wires and under-water cables it reaches the farthestmost country in less than a quarter of a minute. In some countries it is broad day, yet the instant the message reaches them time-balls drop and flags are "dipped" in compliment to the United States. And who will fail to imagine the sensation of the American abroad who sees his country thus honored as the official announcement is made that New-Year has arrived in the United States.

THE ORTEGA GOLD
BY HOPE DARING.

Synopsis of Preceding Chapters.—Ortega Ranch, an expansive and one-time prosperous estate, among the foothills of California, is forced upon the real estate market because of neglect and lack of management on the part of the aged Senor Ortega. Full of resentment, the old Spaniard and his daughter Carina, are obliged to take up their abode in an adobe hut on a five-acre plot not covered by the mortgage. A tradition to the effect that an early ancestor had sold a portion of the ranch and hidden the resulting gold about the place is held responsible for the senor's apparent want of energy and aggressiveness. The ranch passes to two young men from the east, Guy Cross and John Martin, cousins. Both are anxious to make of it a paying property and a comfortable home. The belligerent senor refuses to welcome them as neighbors, and his daughter, altho recognizing the injustice of her father's views, humors him by maintaining a like attitude. However, an accident to one of the cousins shortly after their arrival causes Miss Ortega and her faithful Indian servant, Wana, to offer their services, the former mounting her pony and riding for a doctor while the latter extends first aid to the injured man. Under the doctor's

order these men to leave the ranch a once, or must I do it?"

"You have forgotten, Senor Ortega, that Guy Cross and I own this ranch," John said, his clear eyes meeting and holding the other's gaze. "I regret that you were obliged to give up the old place, but now that it has passed out of your hands, you cannot expect to dictate as to how the ranching operations shall be carried on. These ditches are to be put in—"

"I will not have it so," the old man screamed. "You have driven me out, but I am master here still, and I will be obeyed. What if I could not pay the mortgage? The money is there in the house, more than enough to pay all my debts. Because I cannot just now lay hands upon it does not matter, not in the least. No gentleman would mind waiting until some member of the Ortega family chances upon the gold."

"Father! Father, what is it?" Both men turned at the sound of Carina's voice. As soon as she had seen her father she had hurried out to join him. Standing there, in the direct rays of the sun, she made a striking picture. She wore a simple house dress of brown linen trimmed with white bands. The neck was cut square, showing the delicate lines of her rounded throat. Her head was uncovered, and her black hair glistened in the sunlight.

"It is the ditches, Miss Ortega," John said. "Your father is very angry because the men are at work upon them, and I do—"

"How dare you—a common working-man—address my daughter—the Senorita Ortega? Carina, child, go to the house. Nay, stay a moment and add the weight of your authority to mine against this outrage."

"Come to the house, father, and we will talk it over," the girl coaxed, putting her hand thru his arm. "Just now I do not see, but, if you tell me all about it, I will understand."

"But you may side with the American. Why did we let him drive us from our home? If I had my revolver I would shoot the scoundrel."

"O, father! Come home with me, please do!" Carina coaxed.

Impatiently he shook off her hand and started for the spot where the men were at work. John knew that they had all been listening to the dispute. He walked at Carina's side as she followed her father.

"What can we do?" he asked in a low voice. "Would it do any good to send for Doctor Encino?"

"Oh, if you would do that! I do not know what to do, for I have never seen my father like this. I fear he is insane."

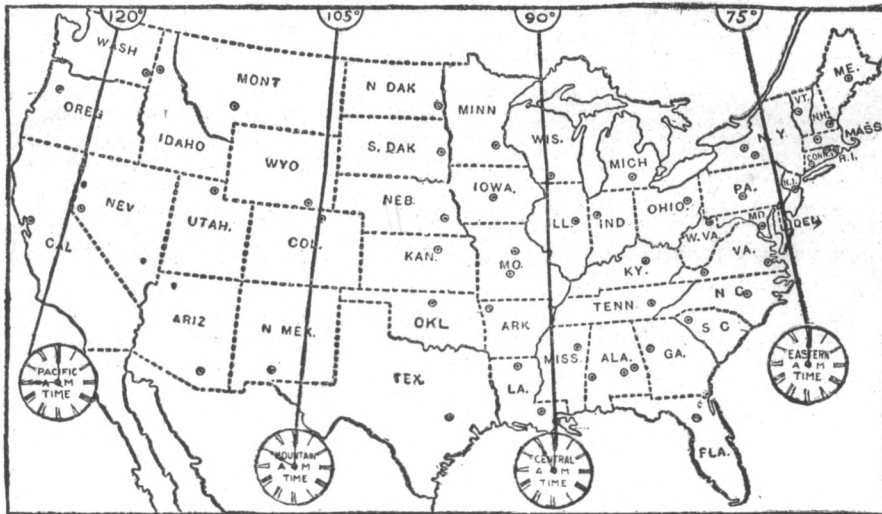
Already the old man had reached the spot where the ditchers were at work. He addressed the foreman in a hard, resolute voice. "You get yourself and your men off the place at once. If there is one of you left on the ranch in an hour, I'll set the dogs on you."

"Now see here, you old duffer, that'll do. We'll take no more of—"

John had stopped a minute to bid Sin Le, who had joined the throng, tell Pedro to go at once for Doctor Encino. He hastened to step in front of Carina, interrupting the foreman.

"That will do, Mr. Mott. I am very sorry that you and your workmen are annoyed, but you must see that Senor Ortega is not responsible for what he is saying. If you will be patient for a few minutes, I think his daughter can persuade him to return home with her."

With a snarl the old man faced John. "How dare you even think concerning the Ortegas? You a — — a" and, throwing



tain and Pacific, and the way in which the arrival of New Year is announced to the people of each "belt" is well worth investigating.

If we could be in the United States Naval Observatory, in Washington, half an hour before midnight of December 31, we might see an astronomer studying the stars thru a telescope that he would speak of as a "transit instrument." After watching the stars and making many intricate calculations he would correct a large clock standing near him and, when satisfied that this clock gave true astronomical time, the the hundredth part of a second, he would correct, by it, two smaller clocks, which are transmitting clocks, that can be connected with the telegraphic lines running out from the observatory. These clocks cost hundreds of dollars apiece, but two are included in the outfit for fear something might go wrong with one and Uncle Sam be unable to make his announcement on time.

At three minutes before midnight one of these transmitting clocks is switched into the telegraphic circuit and watching operators along the thousands upon thousands of miles of wires stretching across the country catch the signal and all wire work is stopped. With the first second of the last minute of the year the instruments, operated by the transmitting clock in Washington, begin ticking off the seconds. When twenty-nine have been ticked off, one (the thirtieth) is skipped. When this "break" comes every operator takes warning and watches with senses alert while twenty-five more are ticked off. Then, silence for almost five seconds, but in the last fraction of the last second the circuit clicks shut and the operator gives his signal to the waiting people who start the firing of cannon, ringing

care Guy Cross recovered and the incident led to a better understanding between the occupants of the two houses, altho the senor continued to treat the cousins as intruders. One day, a short time after, Carina's pony came home riderless and the servant, Wana, was obliged to ask John Martin to go in search of her. John found her down by the sea where her pony had thrown her, severely spraining her ankle. He succeeded in bringing her home, only to receive hard words rather than thanks from the old senor. However, when the old Spaniard came to understand the circumstances he sent a brief note of apology, but a short time after this, still harboring resentment and the feeling that he was still the rightful master of the ranch, he undertook to interfere with workmen who were digging irrigation ditches upon the ranch.

Chapter V.—(Concluded).

"I am sorry to displease you, sir," John said. He was at a loss how to proceed and went on slowly. "Just wait until we have given the system a fair trial. Then, if it is a success, you may be able to see the matter in a different light from what you do now."

A sneer distorted the old man's face. "A success! All the meaning you cursed Americans attach to that word is the making of money. Ortega Ranch stands for the old life when a ranchman was a man of leisure, a gentleman. I will never see this act of desecration completed. You think that you are master here, but I will show you that my authority is still above and beyond yours. I tell you that these men are to be sent at once about their business."

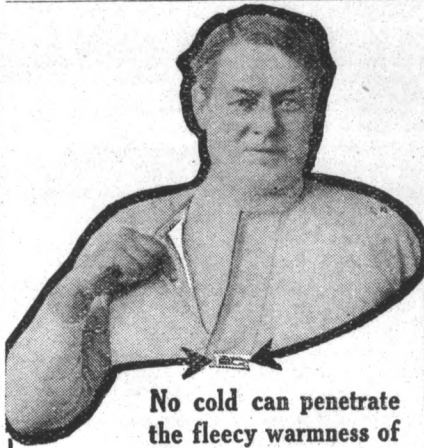
John was more perplexed than angry; he saw that the old man's mind was not clear. "Let us send for Doctor Encino to advise us in the matter," he suggested.

"Doctor Encino, indeed!! He is a good physician, but too much inclined to meddle in his neighbors' affairs. Will you



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up his hands, Jose Ortega fell to the earth, unconscious.

Chapter VI.—The Coming of a Bride.

Carina's distress was pitiful. It was John who took affairs into his own hands. Now that the question of quieting the crazed old senor was postponed for a time, the young man was his usual cool, resourceful self.

"We will carry him to the house. Do not be frightened, Miss Ortega; it is only a faint. Where is Wana? She will know what to do until the arrival of Doctor Encino."

Just then Wana appeared. She had been to the village for needed household supplies.

"What is it, senorita?" she asked.

Carina briefly explained. John had ordered a cot brot from the ranchhouse. Upon it they lifted the unconscious man and bore him home.

The adobe contained but four rooms besides the loft where Wana slept. It was to the larger one of the two chambers that the old senor was carried. There was much about the apartment to connect Jose Ortega with a past of pride and power. The furniture was massive, and the hangings, tho worn and faded, of silk and fine lace.

John had removed the senor's shoes, while Wana prepared a fragrant lotion with which to bathe his hands and face. The workmen went back to their digging. Carina moved about, bringing what was needed. John stole a look at her, to find her face set in sad lines. Soon they heard the sound of a horse's hoofs. It was Doctor Encino, and Carina went out to meet him.

"I am glad to see you here, Mr. Martin," the old physician said, shaking hands with John.

Doctor Encino entered the sick room. Then John looked questioningly at Carina.

"I shall be glad to do anything I can for you, Miss Ortega. Tell me frankly, do you consider my presence here an intrusion? I know that it would be so considered by your father, but I feel that he is not himself, and I do not blame him for one hard word that he has said to me."

For a moment the girl's composure gave way, and tears rained down her face. John held out his hand; she clung to it like a frightened child.

"An intrusion? No, no! It means much to me that I have a friend near by who is so strong and forbearing."

John went home, to give Pedro some directions about the work. He returned to the little adobe, for he was anxious to hear the physician's verdict. The living room was deserted; Doctor Encino, Carina and Wana were all with the sick man. John sat down, glancing around with eager interest in Carina's home life.

The large, low room was a pleasant place. There was a fireplace, Carina's piano, a case of books, a couch heaped with cushions, and a cabinet of china. On the walls were many family portraits. After a little the door of the inner room opened to admit Carina and the doctor.

"Senor Ortega has regained consciousness, but he seems dazed," the physician said. "He is sleeping. For a few days he must be kept in bed, but I do not think it will be difficult to do that, as he will doubtless be too weak to rise."

"But about this unsettled mental condition?" Carina asked in a trembling voice. "Was it simply the beginning of his illness? Or was it his mental condition that made him ill?"

"It's not easy to reply to those questions, my child. Your father is failing."

"For some time I have been afraid of his mind giving way," the girl said slowly, her lips quivering. "It has been hard for him to remember, for a week past, that we were not living at the ranchhouse."

"Well, a few days in bed may clear his mental vision. Do not worry, child. I will be here again this evening. Good-bye, and may our Blessed Lady comfort you."

He went away. John drew forward a chair.

"Sit down, Miss Ortega. I want to talk frankly with you. Do you think it would be a real benefit to your father if Guy and I postponed the putting in of the ditches for a time?"

"But you could not do that. Your contract has been made."

"I think we could arrange it. It seems heartless to carry on the work when it grieves your father."

Carina leaned forward, a soft pink flush staining her pale cheeks. "O, Mr. Martin! I think you are the noblest man I

ever knew. But you must not think of putting off this work. It would do no good for you to change your plans. Doubtless it was because the men were working near the house that they attracted father's attention. I thot he was sleeping or I should not have let him get away from me. Last week he was just as unreasonable when he saw that you were digging out some of the old and worthless fruit trees. He does not mean to be abusive, Mr. Martin; he really forgets that Ortega Ranch is no longer his."

"I know, I know! It is a heavy burden for your slender shoulders. If I could only help you. I hope you will pardon my speaking so plainly, but if you need financial aid—"

She interrupted him with a quick gesture. Thank you, but I have plenty for our present needs. There were a few hundred dollars coming to us when the business was settled up. I have been trying to earn enough for our expenses, saving that for a time of need."

"How can I help you? Tell me."

Steadily her eyes looked into his. "By being my good friend, by letting me feel that you do not blame him. It is lonely here, and I—I am alone."

"Not while I am at Ortega Ranch. I would be a villain to blame that broken old man for anything. If I can do nothing to lighten your burdens, I can at least trust that sympathy helps a little."

"It is the wine of life. Wana is calling me. Faithful Wana! It is unjust to say that I am alone while I have her."

Again John held out his hand. For a moment he held that of Carina in a close clasp, then he walked away.

It was six weeks before Senor Ortega sat up. There were days when he was perfectly rational, when he grieved over his ruined fortunes and showered maledictions upon the heads of the presuming young Americans who had dared buy his old home. Again, for days at a time he lived in the past. At times he fretted a little because his room was in some way unfamiliar upbraiding his daughter and Wana for having moved the furniture about. Usually he lay, babbling contentedly of his crops, his flocks and herds, his fine horses, his books, and his friends.

Carina devoted herself untiringly to him. She read to him, sang for him, listened to his stories, and told him of the various events of his little world. The old man had once had an artistic nature and much of his olden delight in the outdoor world awoke to life in those shadowy days. When Carina returned from one of the daily rides that Doctor Encino insisted upon her taking, she always had a word picture of mountain, valley, mesa, or sea to paint for him.

The girl's neighbors across the way managed to make her feel their interest in her. The choicest of the fruit and flowers of the ranch were carried to the Ortogas. When Carina demurred, they silenced her by declaring that to do even a little for someone served to keep them from being homesick. They lent her their books and magazines. It was rarely they entered the house, altho there came times when John could not deny himself the pleasure of giving into the girl's own hands the wild flowers he had brot home from the hills.

Even after Senor Ortega was able to leave his bed, there was little change in the relation existing between the inmates of the two houses. When the old man was himself he growled about the changes wrought on the ranch, but the irrigation ditches annoyed him no more than did dozens of other things. On the days when he lived in the past Jose Ortega spoke proudly of the prosperous condition of the ranch.

"I always knew that the tide would turn in our affairs," he would say to Carina. "A few more years like this, and it will not matter whether the Ortega gold is found by this generation or the next one. While it is unfound, there is always something for the family to fall back upon in time of trouble."

The ranching operations of the cousins were generally successful. They made some mistakes, but their hard work and thoro-going methods were bringing in good returns. Both of the young men were well pleased with the west. As they made friends, their loneliness of the first few months passed.

The summer months went by, and the sun burned the hills and valleys to a deep, rich brown. Where irrigation did its life-giving work, fields and gardens wore a garb of emerald. Here and there on the chaparral-covered hillsides low-growing live oaks held up their crowns of green, as if in defence of the summer's heat. The ocean fogs freshened the air,



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and every afternoon the salt-laden breeze tempered the heat.

As the days went by the heart of Guy Cross sang for joy. The first of September he was to go east for his bride, returning a month later.

"I am sorry the little girl will get her first glimpse of California when it is so brown and parched," Guy said to Carina one sunny morning when he had overtaken her returning from a ride. He was on horseback, and he rode along at her side, his face bright and animated.

"That will not greatly matter; those brown hills have a loveliness of their own. And your flower garden and grounds are beautiful. I hope that you will be very, very happy, Mr. Cross."

"Thank you. I mean to be good to the little girl. It's a great deal that I am asking of her, to leave her home and kindred, just for me."

"That is what my mother did, only she left her past life more completely than your wife will. And mother never regretted it. When I say that, it will make you realize the change wrought in my father by her death and by years."

Guy looked thoughtfully into the girl's face. "I'm not just sure a man is ever worthy of the love of a good woman," and his voice fell into a low, reverent tone. "But I don't mean that the little girl shall ever be sorry for coming here. You'll help me a little, Miss Ortega, if you can?"

"Indeed I will be glad to do that. If father remains as he now is, I think I may see something of Mrs. Cross. I miss my girl friends. I cannot leave father to go to them, and, since we left the ranchhouse, I can ask them to come to me but rarely. So you see I hope to get companionship as well as to give it."

John was very lonely after Guy went east. This was not alone because he missed his cousin's presence, but because he knew that the old intimacy between them was at an end. He rejoiced in Guy's happiness, but he knew that henceforth his own life would be a little more solitary.

About that time Senor Ortega was again confined to his bed for a week. One evening John was about to start for a tramp along the highway when he chanced to see Carina seated on a rustic bench that stood only a little way from her own door, in the shade of a great fig tree. The night was silver-gray with starlight, and a new moon hung low in the western sky. John could see that the girl's figure drooped a little, as with weariness. He leaped over the fence and approached her, saying: "May I come and tell you about the wedding? It takes place today, and Guy's letters have given me so good an idea of it that I think I can enable you to see it as a whole."

"Oh, do tell me about it!" she cried wistfully. "I am so tired! No, father is no worse, but for a little while I want to be a care-free girl, enjoying weddings and parties. Just for a little while, Mr. Martin; then I will go back to my duties."

They chatted gaily for a time. Then John arose.

"A week from today the bridal couple will reach here, on the late afternoon train. I would like to give Ruth something like a home-coming. Sin Le can be trusted for the dinner, but I am not sure that I can be trusted to make the house pretty, not even with all the garden flowers at my command."

Carina clasped her hands softly. "I will help you. On that afternoon I will come over and help make the dear old ranchhouse ready for the coming of 'the little girl' whose praises Mr. Cross never tired of singing."

She kept her word. The day on which Guy and his bride were expected was a warm one. The sky was veiled by a whitish mist, and the sea breeze was fresh and invigorating. At two o'clock Carina arrived at the ranchhouse, accompanied by Madge Cornell. Each girl carried a basket.

"Was it not dear in Madge to come?" Carina asked. "Now we will make Ortega Ranch a bower of beauty for the home-coming of the bride."

John put himself at the disposal of the girls. Carina was the life of the little party, yet there were times when a grave, almost sad, look came to her face. Realizing how well she loved her old home John knew that she could not forget that it had passed into the hands of strangers.

"If one day I might ask her to come back to it!" he said to himself.

The dining room was decorated with branches of the pepper trees whose feathery foliage and scarlet berries lent themselves admirably to the purpose. In the ranch garden grew a great bed of carnations. Carina selected the red ones

for the table. She insisted upon John and Sin Le bringing from the attic a quaint old buffet of time-darkened oak. When the girls had massed the pepper boughs back of it and placed upon it a rustic basket piled high with clusters of purple and amber grapes, a tall pitcher that Carina found among the cousins' scant stock of dishes, it took away the bare look of the room.

In the great living room were pink carnations and roses arranged with ferns. On a small table Carina spread a beautiful drawn-work lunch cloth, her gift to the bride. The Marshalls had sent a cut-glass olive dish, and Madge had brought a burntwood nut bowl. Those gifts were placed on the table.

The sleeping room of Mr. and Mrs. Cross was decorated with white carnations. On dresser and washstand Carina spread white lined covers that she had brought with her. For the living room lamp they made a shade of rose-colored crepe paper. There was even a plate of homemade candy.

"We want the bride to know that there are real live girls in California," Madge said. "No, Mr. Martin, you do not understand, and it is not worth while for a man to try."

When John started for the village to meet the travelers, Madge returned to her cousin's home with him. Carina lingered for a little time after they had gone. There was a mournful pleasure for her in going over the old home changed as it was. She and Madge had laid the table, and Sin Le, who had become warmly attached to Carina, had an excellent dinner under way.

"I hope the bride will be very happy here," the girl said to herself as she paused on the threshold of the dining room for one last look. "All things will be strange to her, and this old home will never be to her what it was to me."

Carina hurried home. Her father was sleeping. Wana listened with her usually impassive face to the account of the afternoon. All the comment she made was: "It is your home, senorita; the money to buy does not give one real possession."

From the window of her own little room Carina saw the home-coming of Guy Cross and his wife. John drove up close to the veranda steps, and, after the Crosses had alighted, he went on to the barn with the team. The two lingered a moment on the veranda, then, ere they entered the house, Guy stooped and kissed his bride.

Carina stood still until the sunset's crimson glow had faded and the purple tint of a California evening jeweled the distant mountain tops. Then, when she turned away from the window, tears filled her eyes.

"Why should she not be happy? She has left home ties and friends behind her, but the tender protective love of a good man is hers, ready to stand between her and the world."

(To be continued.)

A MAN'S WAY.

BY JANET THOMAS VAN OSDEL.

"I am going tomorrow, Will. Aunt Betsey's letter says that I must come for awhile or this lonely grief will kill me," said Alice as she pushed her chair from the table and walked to the window that her husband might not see the tears about to fall.

There was a long pause then Will answered in his cheery tone, "If you think it will help you, Alice, go by all means. I can get on very well by myself just now, for the work is light and since we have no man I can manage the cooking."

With that he went to the barn to finish the chores. Left by herself Alice gave free vent to her sorrow, throwing herself upon the couch and weeping until tears refused to come, and then dry sobs shook her slight body.

"What's a baby's death to a man?" she moaned. "It's a mere incident and the next day he's planning crops and doing chores as if nothing had happened. While to a woman it's her life taken."

The next day Will drove Alice to the station. In the back of the light road wagon was her big trunk and both knew that the taking of it meant a protracted stay. Will put her on the train and kissed her good-bye. The last she saw of him he was smiling cheerily. "If it were the last good-bye on earth to me, he'd smile just the same," she thot bitterly.

Aunt Betsy met her at the train with open arms. Ah, here is sympathy, thot Alice! And putting her head on the shoulder of the woman who had mothered her from infancy, the tired girl gave free course to her feelings while Aunt Betsey

patted her on the back with, "There, there, honey! It's hard dearie! I know it is. There, there!" As soon as Alice became calmer, Aunt Betsey took her home and there let her rest and talk of Baby Bessie's short life to her heart's content.

During the first part of her visit, Alice gave but little thot to her husband, aside from writing him an occasional perfunctory letter. Indeed, since the coming of Baby Bessie two years before, she had found little room in her heart for the big man who had won her five years ago. The mite of a baby seemed to fill every bit of the woman's heart, and life and when it was snatched from her the heart and life seemed wholly empty.

One day when Alice seemed to have almost her usual strength and somewhat of her former calmness, she went to the little room which had been hers until the day of her marriage. Everything was as she had left it then, and seating herself at the writing desk she picked up a letter and idly opened it, wondering what the world had held for her five years ago. It was a letter from Will. As she read a faint color came to her cheeks and a brightness to her eyes. She lingered long over the last line:

"I love you so, my own, that I want to share with you all the best that comes into my life. I would that you were here that you might be partaker with me in all those experiences that would surely be so much more beneficial were you with me. There is much in store for us when you come out here. I'll have you here before long, dear, and then we will know what it means to be alive."

She let the paper slip from her fingers while she lived again in those days of wooing. What a lover Will had been. How much marriage seemed to promise and how gladly she had left her city home to live with him on the farm when it was decreed by men who knew, that his health required the outdoor life. But what a change! In the uncommunicative man whose name she now bore could she recognize the lover whose ardour had so thrilled her years before. Did he know the meaning of love? No, or he could never have taken Baby Bessie's death as he had.

A whistle, sweet and clear and boyish, aroused her. She stepped to the window to see who was filling the air with such gladness on so dark and stormy a day. A man, probably forty-five years old, so badly afflicted with some nervous disease of the lower limbs, that he made his way over the ground by inches, was working his way over the slippery, slushy sidewalk from house to house selling the goods he carried in a case in his right hand. It took him two hours to go down the block and back on the other side of the street and thru it all she watched him, seeming never discouraged, but whistling bravely and once in a while bursting out into song. When he was opposite her house he took off his cap for a moment and turned his face towards the heavens and she was startled

to see that it was a strong face of wondrous refinement and beauty.

"Good God!" she cried, "he surely isn't glad he's that way. He's simply a big soul who won't give up." And then there arose before her eyes another brave face that wore ever the same bright smile and aloud she said, "It may be that Will's heart is breaking beneath his smile."

With feverish haste Alice consulted time tables. The evening train would reach her station early the next morning. She could ride out home with one of the milk teams. Wise Aunt Betsey understood and helped Alice. That night she lived again her life from the time she had first met Will, and with her new power of vision she saw who it was that had raised the barrier between them.

One of the neighbors gave her a ride from the station and told her that Will had gone to an auction over in the next township. Eagerly she sped up the little path leading to the kitchen door, and taking the key from its usual place under the stone she let herself in. But on the threshold she stopped with a cry of pain. He hadn't cared? What then, did this mean? She stepped to the kitchen table and looked at the pitiful collection of worn toys set out there. Not one was missing. Close at hand where he could touch it while he ate was the little crib, on the other side of the table was the little high chair and propped up against the coffee pot was her own picture taken with Baby Bessie in her arms. The tears which rained down her cheeks as she put the precious things away were as different from the tears she had shed a few weeks before as is morning dew from the bitter waters of the sea.

Eagerly she worked all day making the little house homelike. Now and again she came across some other evidence of her husband's loneliness but bravely she busied herself, cleaning and cooking and baking. At last there was nothing more to do and she dressed for tea, not in the black gown she had been wearing but in a dress of old rose which she knew to be a favorite of Will's.

When she heard the wheels it was almost dark but she had not yet lighted the lamps. Peeping from the window she watched him. He looked old and bent and thin and gray. Suddenly he drew himself straight and began to whistle. "Ah," she whispered, "he forgot for a moment. He is one of the big men, too." When he turned toward the house she lit the lamp. The step paused for a moment and she could imagine the look of surprise on his face. In another moment the door was thrown open and the man saw the light room, the cozy tea table and the pretty woman, and with the glance Alice spoke.

"Will, your wife's come back. Not 'the baby's mother but your wife as well. And, my husband, if God gives us another baby it shall have its own dear place in my heart but it shall never take yours. She was crushed to the strong man's heart with a fervor that told her something of what he cared."

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