

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

JOURNAL.
ESTABLISHED 1843.

The Only Weekly Agricultural, Horticultural and Live Stock Journal in the State.

VOL. CXXXII. No. 1.
Whole Number 3433.

DETROIT, MICH., SATURDAY, JANUARY 3, 1909.

75 CENTS A YEAR
\$1.50 THREE YEARS

FARM NOTES.

Floats as a Stable Absorbent.

In a paper which I read at a Farmers' Institute on the subject of feeding cows for milk, I made the assertion that ground phosphate rock or floats was valuable to use in the stable as an absorbent as it fixes the ammonia in the rock so it could not escape. I had used it and was positive there was a difference in the clover where I used the rock as an absorbent. Now, I have been taught thru the columns of the Farmer that it was a paying investment to use phosphate rock but the state speaker said it was all a "fad," that you could not trap nitrogen. Now phosphate rock costs good money, and if I am on the wrong track, please set me right thru the paper.

Berrien Co. GEO. H. OLDS.

Without any question, floats or ground phosphate rock is a valuable absorbent for use in the cow stable. Not only is this a matter of personal opinion among those who have experimented in a private way, but it is well established from authentic experiments conducted at several stations. For instance, the Ohio Station found that the use of floats as an absorbent increased the net per acre yield of crops for a series of years by \$4.45 per acre where stall manure and floats were applied, as against \$3.09 where stall manure untreated was applied, the cost of the floats being deducted in the first instance. At the Ohio station it was found that acid phosphate gave better results yet, giving a net value increase of \$4.66 per acre for the treated stall manure as against \$3.09 for the untreated. In some experiments which have been conducted in our own state under the supervision of the experiment station, it has been found, however, that floats gave better results, possibly owing to the different conditions under which the trials were made.

So far as trapping the nitrogen contained in manure is concerned, it is a well established fact that if the liquid manure can be soaked up by means of some absorbent which is drawn direct to the field that little nitrogen will be lost either by the loss of the liquid manure itself or its escape in the form of ammonia. Of course, any dry substance which does not contain lime, such as dried muck, will serve an excellent purpose for such use, but the benefit to be gained by the use of floats for this purpose is two-fold. First, it is a good absorbent, and second, it furnishes considerable phosphorus for the benefit of future crops, altho it becomes available slowly by natural chemical action in the soil as compared with an acid phosphate which has been treated to make the phosphorus available. This is probably one reason why better results were secured from the acid phosphate in the Ohio experiments.

The theory that nitrogen cannot be successfully trapped is not a tenable one from any standpoint. By far the larger proportion of nitrogen contained in stable manure is contained in the liquid portion of such manure, and by holding it thru the use of absorbents, it is retained in sufficient degree so that stable manure is comparatively rich in nitrogen. Nitrogen is also trapped by means of the nitrogen-fixing bacteria whose home is in the roots of our leguminous crops; in fact, practically all of the nitrogen contained in our soil is by some means fixed and held by other agencies such as those contained in stable manure, or such as the roots of legumes or any vegetable mold, and is held in the soil by means of the humus which it contains. It is well known that it may be lost from either stable manure or from the soil itself by injudicious handling, and many believe that it may be trapped by the soil direct from the air by means of very thorough cultivation. The addition of either floats or acid phosphate to stable manure helps

A FEW LEADING ARTICLES OF THE WEEK.

- Some Farm Ideals.—A practical discussion of some popular theories, and of conditions which often govern them 2
- Keeping Clover Seed for Future Use.—Advice on how to handle the seed in order to keep it several years without deterioration..... 3
- Wintering Brood Mares and Colts.—Plenty of exercise and proper feeding necessary to prevent indigestion and consequent trouble 5
- Dampness in the Poultry House.—Suggestions for avoiding this condition generally induced by poor ventilation, overcrowding, etc. 7
- Relation of Dairying to Soil Fertility.—The dairyman is able to return to his soil practically all plant food removed by crops grown for feed.....20
- Will it Pay to Buy Feed for Cows?—A practical answer to a question which many farmers ask themselves when feedstuffs are scarce and high21
- Soil Dyspepsia, Its Causes and Remedies.—A rotation introducing a radical change of crops suggested as a remedy for "manure sickness."22
- Magazine Section.—One Rural School. A Study in Cardboard. Thawed Out. Gerald Clay's Vocation. Miscellaneous9-17

to balance it much the same as the addition of concentrates rich in protein helps to balance up a ration, which accounts for the apparent benefit to succeeding crops, as shown by the experiments referred to which will soon be found tabulated on page 339 of the issue of the Michigan Farmer for October 31st, 1908.

Fertilizer for Potatoes.

What is the right fertilizer to apply for potatoes on sandy land, and how is it best to apply it, in hills or broadcast.

Berrien Co. BERT RITCHIE.

Potatoes require a fertilizer which is relatively rich in potash and this element

should be in the form of the sulfate rather than the muriate of potash, the latter being injurious to the tubers. As potatoes are what may be termed a gross feeding crop, and as the roots will occupy all the soil during the growing season, it has been found most profitable to apply fertilizer in comparatively large quantities, sowing it broadcast and working it into the soil. For the past two years the writer has used from 800 to 1,000 lbs. per acre of a high grade fertilizer. In Maine, where potato growing has reached its highest development, a

still larger quantity of commercial fertilizer is used, often as much as a ton per acre of high grade goods with a formula of about 2:8:10. The writer is using a formula containing this much potash and has used it with as low as 4 per cent of potash, depending upon his judgment touching the nature and needs of the soil on which the potatoes are planted. The Maine growers apparently have more faith in the fertilizer or in the potato crop than we Michigan growers have attained as yet. At a number of experiment stations it has been found that the application of about 1,500 lbs. per acre produced more profitable results than either more or less, but of course the soil and season has much to do with the results which are obtained. For instance, this year the writer used 1,000 lbs. per acre, but the season was so exceedingly dry that the maximum of benefit was not secured from this heavy application, there not being sufficient moisture to make it available for the crop.

The better way to determine just what formula and what quantity is best under any given conditions, is to put the question to the soil itself. In fact, this is the only way that a farmer can get a correct answer to a question of this kind, as different soils will respond in different degrees to its use. So the better way would be to select a fertilizer with a suitable formula, containing from 4 to 10 per cent of potash, and then apply it in different quantities in different portions of the field, and determine by actual results in the crop itself as to what quantity is most profitable to use under your soil conditions.

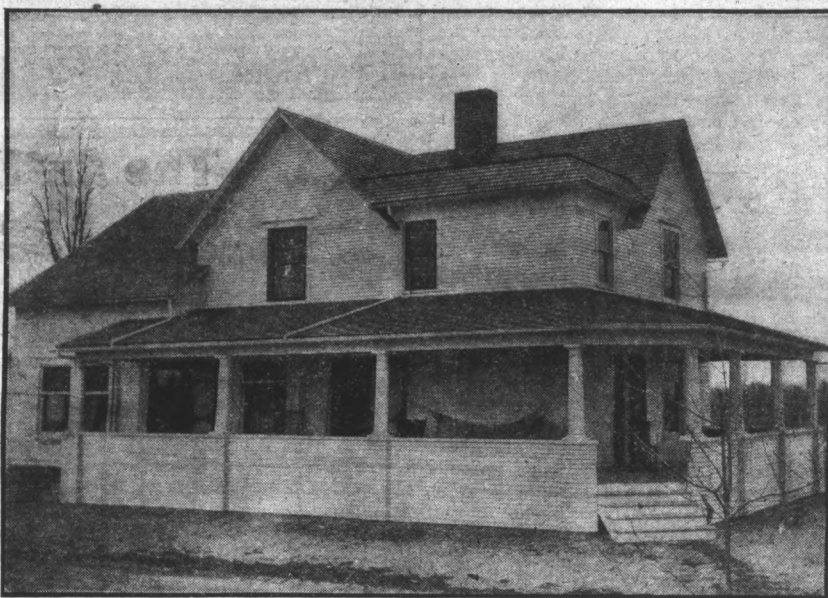
Seeding Clover on Sandy Soil.

I have eleven acres of rye on Michigan pine land soil; sown Sept. 20, which has made but slight growth, on account of lack of rain. This land has been run some, this being the third crop of rye in succession. The yield has averaged 8 bu. per acre past two seasons. I want to seed to mammoth clover in spring, and have succeeded best by waiting until ground has settled and harrowing seed in with weeder. Can you give me formula of fertilizer to sow on top of this rye this spring, which would be likely to benefit the rye especially the growth of the young clover. There is still plenty of growth in the straw, but the heads are short and small. When should the fertilizer you recommend be applied and in what amount?

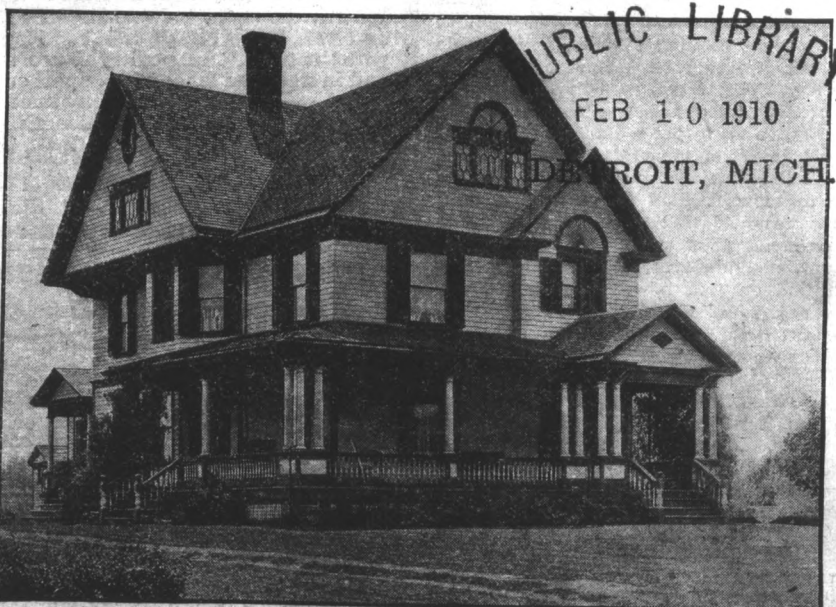
Wayne Co.

P. M.

Without any doubt it is better to wait until the ground is settled and harrow in the clover seed on sandy land. Such land is usually deficient in humus and does not get that desirable honey-combed condition from the action of spring freezing and thawing which is necessary to secure a good covering of the seed by sowing it on broadcast without stirring the ground. If you desire to sow a fertilizer on this rye, it would be best to sow a small quantity, say about 200 lbs. per acre, of a standard fertilizer with an analysis of say 1:8:2. Sandy land is apt to be quite deficient in potash as well as phosphoric acid, and if you can obtain it readily, it might be better to use a brand with a little more potash, say 4 per cent. You will not get a great deal of benefit in the rye crop from the application of the fertilizer. To be of very great value in helping the rye crop, it would be much better to sow in the fall at the time of seeding the rye, but you should furnish some plant food right where it will do the clover plants good in getting an early and vigorous start. The better way would be to sow it on the land just before the seed is sown and then harrow the seed in with a spike tooth harrow instead of weeder, as this would insure a better mixing of the fertilizer with the soil. If this work is done before a good rain the benefits will be more noticeable, as the fertilizer will then be rendered soluble and better mixed



Modern Farm Home of Chas. A. VanDeventer, Gratiot County. Built in 1907.



Farm Home of H. W. Randall, New York, a type of Modern Architecture.

with the soil than otherwise. If you have a fertilizer drill, you might use it to distribute the fertilizer, sowing the clover seed at the same time with the grass seeder attachment, going crosswise of the drill marks. Then you could harrow or go over the field with a weeder and get the fertilizer fairly well mixed with the soil and the clover seed well covered.

Destroying Moles.

I would be glad for information, thru your valuable paper, for the extermination of moles. I have tried traps, but do not succeed in catching them. They are ruining the lawn.

SUBSCRIBER.

It is a somewhat difficult matter to exterminate moles, but it can be successfully done on a small area, as a lawn, which is practically the only place where they will do any considerable damage. Moles are almost exclusively insectivorous in their feeding habits and burrow thru the ground in search of insects. They are most active in the evening which is consequently the best time to catch them. If you can not succeed in this by the use of traps, they may often be caught by the use of a spade which may be pushed down thru their burrows back of where they are working, when the little animals can be destroyed. If this is too slow a method, or if you do not succeed in exterminating them in this way, the only other efficient method is carbon bisulfide which may be poured into the holes or burrows, the same being immediately closed. This is a very volatile liquid and is quickly converted into a heavy gas which is destructive to animal life.

SOME FARM IDEAS.

The Conservation of Manure.

The merits of the manure spreader are so well established that no argument is necessary on their behalf. The manure carrier where adapted to buildings is an accessory of nearly equal importance and, considering the comparative small cost, desirable and necessary. Hauling manure every day is a theory, but rarely a condition that can be complied with. The removal of the manure from the immediate vicinity of the doors or from under the eaves is an economic measure, as well as a sanitary one. If conditions permit, the extension of the gutter by an open concrete channel leading to a concrete basin for the manure dump, completes the plan. During cold weather the channel of concrete is not effective. This condition provides for the maximum saving of manure with the minimum of expense. The manure from the horse stable and from cattle going into the same pile is advantageous in preventing excessive heating, and also prevents freezing, except very slightly. There is no great expense about any of these plans, and a great saving. Any man reasonably ingenious can make the concrete channel and manure basin and erect the manure carrier in really less time than he can carry the manure by the forkful or wheel it out in a wheelbarrow. The cable for manure carrier and car are, of course, purchased, and not made at home.

Farm Engineering and Crop Data.

Every bright boy or girl at 12 years or so is an enthusiastic map maker. The grand divisions of the world, the United States and the various states are favorite subjects of transfer to be seen on manilla paper. County fairs used to have sections of school exhibits where creditable crayon work abounded. It is this bent of childhood that is to be enlisted in farm engineering, provided that too much stress is not laid on the term "engineering." Provide a portfolio of manilla paper about 10x12 inches, a four-rod tape line, and a note book. Have the ambitious boy or girl engineer make measurements of, the fields and reduce to acres and decimals thereof, together with a legal subdivision of farm, with reference to section, town, meridian and base line. On each sheet plat the fields, and perhaps maintain, on an annexed white sheet, crop history of each field, date of planting, seed, cultivation, yield, and market value. If further interested, make a soil survey with a spade, and classify as sandy, clay, loam, or such combinations as the facts demonstrate. It will do no harm to use the larger words as silicious, argillaceous, morain, etc., if one will carefully study the dictionary as to their proper uses. Farmers are entitled to the technicalities of their environment and profession and may, with perfect propriety, use these terms. Already "protein" and "carbohydrates" are well established words, simply by using. The electrical engineer often speaks of volt-

age, watts, amperes, etc. So should the farmer use correct farm technical words to express his ideas. The woodlot furnishes still further opportunity to map the timber, noting the principal varieties, together with the circumference, measurements and lumber estimates. It is not expected that every child will become interested; it will be the few who are really delighted and who are analytically inclined.

The Tool Shed.

A farmers' bulletin from the department of agriculture placed farm tools at 10 per cent of the value of the farm, which seems approximately correct. The preservation of tools and machinery is such an important matter that adequate storage is a necessity. Where a cheap shed is desirable, a southern or eastern front is to be desired, with the roof sloping in the opposite direction. Eight-foot posts in front, with six-foot posts in the rear, set on concrete bases and bolted to inserted irons, arranged in sections 14 feet wide and 16 feet deep, makes a cheap and effective shed when covered with proprietary roofing. A location remote from the hen house is desirable, as tools seem to have an attraction as roosting places for farm fowls. A shed of this sort represents about 5 per cent of the cost of machinery that can be stored, while depreciation of farm tools left out in the weather approximates one-eighth, or 12½ per cent annually. There are few farm tools that can be left out in the weather even intermittently, and last eight years. A dealer in second hand mining machinery said that the paint put on machinery brought him more money according to the investment than anything else he sold. This is true of the small amount of paint that can be applied to farm tools as a preservative against decay. If farm labor is unemployed during the winter and a warm shop is provided, painting and repair work can be done advantageously. Farming is becoming more and more a matter of machinery and dismantling and assembling implements is of assistance in understanding their operation and repair. A farm laborer of the advanced type said that before seeking farm employment, he always wanted to see the farm teams and tools, for if these were good the prospects were for accomplishing work satisfactorily and without friction. The Egyptian task-masters demanded of the Israelites that they make bricks without straw, and sacred history records the first organized labor movement, but, like most similar movements since that time, it was a long journey to the promised land.

Shiawassee Co. J. N. McBride.

BEST GRASS FOR PERMANENT PASTURE.

I have 40 acres of mixed clay and sand. What would be the best grass seed to sow for permanent pasture? Would blue grass be adapted to this soil, or would June grass be best? I want to seed with oats. Would it be better to seed with wheat?

Wayne Co.

DANIEL FAY.

I would not recommend that you sow June grass or blue grass, which are one and the same grass, because this grass will come into the permanent pasture soon of its own accord in this section. The better way is to sow some of the better tame grasses in the permanent pasture and then the June grass will gradually run them out and you have a June grass or blue grass pasture. I would recommend that you fit the ground early in the spring and sow the grass seed without any oats or if you want to sow a light seeding of oats, you can do so; but it would be better to cut them for hay. Where you seed down to a permanent pasture you want to seed very thickly, so as to get a thick stand and it would be better if you didn't pasture this at all the first season. It would be better to mow it than to pasture it until the grass gets well established. I would recommend that you sow timothy, red clover, alsike clover, orchard grass, and red top, on this land. You should sow five pounds of timothy, three pounds of orchard grass, two pounds of red clover and one pound of alsike clover per acre. Harrow it in lightly and roll the land after harrowing. If the weeds come up at first it will choke the grass if allowed to grow. As soon as they get four or five inches high, run the mowing machine over and clip them off. This will give the grass a good chance to get started.

COLONEL C. LILLIE.

I received my machine in good condition and must say that I am well pleased with it.—Mrs. Arthur Fleming, Lansing, Mich.

PLEASE MENTION THE MICHIGAN FARMER when you are writing to advertisers.

THE DIFFERENT SEEDS THAT A GRAIN DRILL SHOULD SOW.

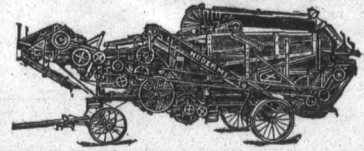
Diversified farming has been and is urged upon the attention of our farmers. There are good and sufficient reasons why this is an excellent plan and we believe that our readers are pretty well posted on the subject. Perhaps some farmers think that all a grain drill should be expected to sow is wheat, oats, rye, barley and various grass seeds. The fact of the matter is that a grain drill should be able to successfully sow and kind of seed that man is likely to plant with a grain drill, from the small grasses to large bush Lima beans, without injury to the seed, and in such quantities as are known to be proper. The Empire Grain Drill—which is made in a large number of styles and sizes, both plain grain and combined grain and fertilizer—will successfully sow any and every kind of seed, and there are none too large or small. With it a man can plant all his small grains and grasses and in addition, he can sow peas, beans, beets, corn, flax, etc. New canning factories are being constantly started. These factories furnish a good and ready market for peas, beans, sweet corn, beets, etc. These are paying crops, too, especially when they can be put in so quickly and cheaply as they can with an Empire Grain Drill, which is manufactured by The American Seeding-Machine Co., Incorporated, Richmond, Indiana. Send to the manufacturers today for a copy of their Empire catalog, and do not hesitate to ask for any information you may want, as they are most willing to supply our readers with same. Go to your implement dealer and insist on seeing the Empire before you buy any other make. This drill is sold under such a liberal guarantee that no person runs the slightest risk in purchasing.

FARM FENCE

16 cts. a rod
For a 36-inch high
Hog-tight Fence. Made of
heavy wire, very stiff, strong
and durable; requires few
posts. Sold direct to the
farmer on 30 DAYS FREE
TRIAL. Catalogue free.
INTERLOCKING FENCE CO.
BOX 30 MORTON, ILLINOIS.

A "Tested-Out" Threshing Machine

The "New Huber" Thresher is built on correct mechanical principles. Every part is accurately adjusted to every other part. It is a substantial machine. The cylinder has great capacity and is placed in a most rigid frame. The concaves and the cylinder teeth are hard enough and tough enough to stand any strain. All internal moving parts are built and mounted to give the longest possible service. The "New Huber" threshes easily. It's a hurry-up worker. It has no equal in separating the grain from the straw. It saves every kernel. No kernels are ground or broken either—every



one whole. The beaters, chaffer, riddles, fans and all other parts are adjusted for the thorough and careful separation of the grain from the chaff and straw, as well as for the greatest economy of labor and power.

Let us send you the "New Huber" catalogue. It illustrates details of our Threshing Machinery and Traction Engines—tells how they save money, and why. It is FREE. If you are interested in this class of machinery our catalogue will be valuable to you. Send for it today.

The Huber Mfg. Co., Dept. E, Marion, O.

CUT ICE

MADE IN THREE SIZES.
With the Dorsch Double Row Ice Plow We guarantee it will cut more than 20 men sawing by hand. Cakes are cut uniform, of any size and thickness. One man and a horse will cut more ice in a day than the ordinary farmer and dairy man can use. You can cut for others and make the price of our plow in two days use. Ask for catalogue and introductory prices. JOHN DORSCH & SONS 250 WELLS ST., MILWAUKEE, WIS.

DeLOACH 3½ to 200 H.P. SAWMILLS

STEAM, GASOLINE AND WATER POWER PLANERS, SHINGLE MILLS & CORN MILLS WE PAY THE FREIGHT. SEND FOR CATALOGUE.

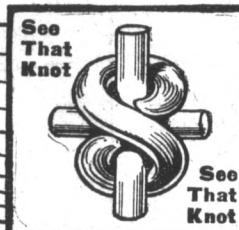
DeLoach Mill Mfg. Co., Box 357, Bridgeport, Ala.

THE LARGEST AND BEST LINE OF WELL DRILLING

MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 14. Send for it now. It is FREE. Austin Manufacturing Co., Chicago

The Anthony Fence Tied with the Anthony Knot

A fence built for fence buyers who want the best fence to be had. The Anthony fence is the "Best Fence on Earth." Get a sample knot and make your own conclusions—be your own judge. The knot itself is compact, smooth and strong. No kink in the line wires inside the knot. Can be strung up hill or on level with the same ease, and the stays are always parallel with the posts on any slope or hillside.

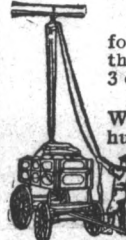


Woven from Hard Steel Spring Wire—ANTHONY Quality We buy the best wire we can get. We build the best fence we know how—and WE DO KNOW HOW. Not a light cheap fence—not an old style wire "netting." In poultry fence stays are 9 inches apart or 22 per rod, and in standard fence 12 in. apart or 16 stays per rod, and always fastened with the Anthony knot. All lateral wires guaranteed of equal length.

FREE—Anthony knot, full length souvenir hat pin, and booklet, mailed free. The hat is an exact Anthony knot—as it appears in the fence. See the knot yourself and get a hat pin for a member of the family. Write for it now—today.

The Anthony Fence Co., 19 Michigan St., Tecumseh, Mich., U.S.A.

70¢ for the Greatest Value Ever Offered—The Burr Automatic Safety Tackle Block for Farm Use, 70¢



Here is an article that will pay for itself three times over, even though you found use for it only 3 days in the 365.

But you'll use it many times. With it you can lift and move hundreds of pounds yourself without help. Our smallest (600 lbs. capacity) costs but 70¢. Our largest (5,000 lbs. capacity) sells for \$4.25.

It is the one Rope Tackle

Block that does a chain block's work—the one that has no teeth wedges and eccentrics to bite, tear and wear rope. Yet it locks unflinchingly and holds rigidly on greasy and wet rope. Lasts a lifetime.

Think how convenient in changing wagon boxes, moving sick or injured animals, moving stones, stretching wire fence, loading crops, etc. Saves four men's work and their pay. You need one. Learn its uses and enormous advantages over all other blocks—rope and chain. Get prices, capacities and full description. Just a postal—now—while you think of it. BURR MFG. CO., 133 Vieduct, Cleveland, O.

BHC

GETTING UP THE SUMMER'S WOOD SUPPLY.

At this season of the year farmers, as a rule, or not very busy, and they are apt to take it easy, much to the detriment of their next summer's wood supply.

It is none too early to be getting up the wood for next summer's use, before the snow gets so deep in the woodlot that it not only becomes difficult to get around but if we wait until the snow becomes deep it is then impossible to pick up the small trees that have blown down during the summer and we are obliged to get our summer's wood from standing trees, which will lessen our future supply when, if the woodlot was kept clean many cords of wood might be saved which would otherwise be wasted. It is high time that the farmers of Michigan began to take steps to conserve the limited timber supply to be found on the majority of farms throughout the state.

At the present rate of the cutting of timber it will be a matter of only a few years when the majority of farmers in the state will be at the mercy of the trusts and combines for their supply of lumber and fuel.

In getting up our wood everything that has been blown down in the woodlot should be sawed up first and if this does not make enough to meet the requirements, all dead and dying trees should be cut before any green timber is touched. If our wood supply for next summer's use is cut early it gives us a chance to get it drawn to the wood-house early and then we can get it split during stormy weather and save many valuable days in the spring that ought to be devoted to getting the spring's work well under way.

Many farmer's leave this important work until spring when the time might better be devoted to some more important work or in some cases in the rush of spring work the wood pile is often neglected entirely and the good wife has to get her summer's wood as best she can.

But, we are glad to say, that this class of farmers are in the minority and it is a fact that the size of a man's wood pile is a pretty good indication of his thrift along other branches of farm work. If a little thought and care is used in getting up our summer's wood supply in making use of what now goes to waste we can add many years' supply of wood to our own use or to the use of future generations.

Livingston Co.

C. C. O.

KEEPING CLOVER SEED FOR FUTURE USE.

This year many farmers in the state were fortunate in securing a good crop of clover seed. A number of inquiries have been received as to the possibility of keeping seed for use in future years. If the seed is in good condition, I think it safe to hold it for three or four years with little or no loss of vitality. Keep it in large paper sacks or in a tight cask or bin. It may now be nearly free from small insects, but there may be a few not seen. At any time soon apply bi-sulphide of carbon at the rate of one pint to 1,000 cubic feet of space. This does not injure the seed.

I shall be disappointed if farmers do not send me at least a thousand samples of seeds of red or mammoth clover to be examined for seeds of weeds; to each farmer a reply will be sent giving results. This ought to be worth while for the farmers, also.

Home-grown seed is preferred, but send some anyway, a tablespoonful of each lot. In each case a card should be sent stating the source of the seed and what numbers are on the packages that they may not be mixed with others.

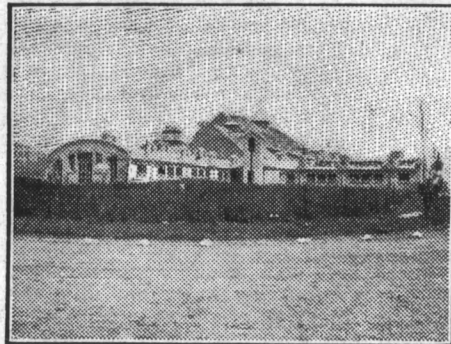
Agricultural College. W. J. BEAL.

AN INCREASE IN FARM PRODUCTION.

The Conservation Commission recently held some sessions at Washington. An encouraging feature of the meeting was the report that the fertility of the country as a whole was on the increase rather than otherwise. This was not in accordance with popular belief. It was shown that while some sections of the country, notably the less progressive portions of the south, were retrograding in this regard, the general average was advancing. This was true even in New England, lately the land of abandoned farms. The improvement, it was stated, was due largely to the researches of the Department of Agriculture, better cultivation, better seed selection and more rational crop rotation.

How to Make and Use CONCRETE

Every farmer should know how to make and use concrete. All the agricultural colleges are devoting special attention to this most important subject. Many farmers have ninety per cent. of the material necessary for a moderate concrete building on their own farms. We manufacture the other ten per cent., a perfectly pure Portland cement, guaranteed absolutely uniform and free from adulterations.



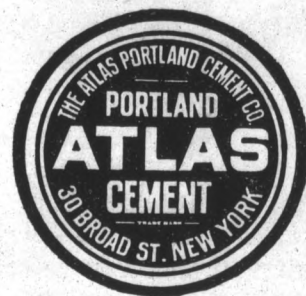
Concrete barns and out houses built with ATLAS Cement.

To make good concrete you must use the best cement. You can't afford to experiment.

ATLAS is the highest grade of Portland cement manufactured. There is but one quality, the same for everybody.

ATLAS is always uniform, which means that it is alike at all times in composition, color, fineness and strength.

NONE JUST AS GOOD



This trade mark—ATLAS—at the head of a barrel or side of a bag guarantees the cement.

Ask your dealer for ATLAS—you will know it by the trade mark

Daily productive capacity over 40,000 barrels.

SEND FOR OUR FREE BOOK

"Concrete Construction about the Home and on the Farm." It contains directions for making and handling concrete, also many specifications, sectional drawings, and photographs of the smaller constructions that can be built by the layman without skilled labor. Address

THE ATLAS PORTLAND CEMENT COMPANY DEPT. 12, 30 BROAD ST. NEW YORK

ATLAS—THE CEMENT ORDERED BY THE U.S. GOVERNMENT FOR THE PANAMA CANAL

Great Fences

AMERICAN FENCE

Made of wire that is all life and strength—wire that stretches true and tight and yields just enough under impact to give back every jolt and jam it receives.

Made of materials selected and tested in all the stages from our own mines, through our own blast furnaces and rolling and wire mills, to the finished product. Our employment of specially adapted metals is of great importance in fence wire; a wire that must be hard yet not brittle; stiff and springy yet flexible enough for splicing—best and most durable fence material on earth.

To obtain these and in addition apply a quality of galvanizing that will effectually protect against weather conditions, is a triumph of the wiremaker's art.

These are combined in the American and Ellwood fences—the product of the greatest mines, steel producing plants and wire mills in the world. And with these good facilities and the old and skilled employes back of them, we maintain the highest standard of excellence possible for human skill and ingenuity to produce.

Dealers everywhere, carrying styles adapted to every purpose. See them.

American Steel & Wire Co.
Chicago
New York
Denver
San Francisco

ELLWOOD FENCE

BROWN FENCE

The heaviest, strongest, best galvanized fence made. A more substantial, stock-resisting, time-defying fence was never stapled to posts. Free samples with catalog showing 150 styles at prices from 15c per rod up and full particulars—free on request.

WE PAY FREIGHT
We will send you a sample of our all No. 9 wire fence. You can test it any way you like. File it and see how thick the galvanizing. The "BROWN" will commend itself to you. It is the best. Free Catalog. The BROWN Fence & Wire Co., Dept. 49 Cleveland, Ohio.

SAMPLE FREE

RANGER BARB WIRE

HEAVY SINGLE WIRE

STRONG. DURABLE.

The only absolutely successful single strand barb wire ever made.

M. M. S. Poultry Fence Saves 50%
We make the most complete line of Field, Hog, Poultry and Lawn Fencing in the country. Write for our new catalogue.

DEKALB FENCE CO., - DEKALB, ILL.
Southwestern Office and Warehouse, Kansas City, Mo.

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 fences. Catalog Free.

COILED SPRING FENCE CO.
Box 21 Winchester, Indiana.

LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries. Coiled Spring Fence Co. Box 1 Winchester, Ind.

FENCE 13c Up Per Rd.

Get our 1909 prices on any style fence. We sell direct, you get all dealers' and jobbers' profit when you buy direct from our factory. Write at once. **Anchor Fence & Mfg. Co., Dept. L, Cleveland, O.**

WARD FENCE

Farm and Poultry. Old fashioned galvanized. Elastic spring steel. Sold direct to farmers at manufacturers prices. Write for particulars. Ward Fence Co., Box 544 Decatur, Ind.

15 Cents a Rod

For a 22-inch Hog Fence; 16c for 25-inch; 19c for 31-inch; 23 1-2c for 34-inch; 27c for a 47-inch Farm Fence. 60-inch Poultry Fence 31c. Lowest prices ever made. Sold on 30 days trial. Catalog free. Write for it today.

KITSELMAN BROS., Box 278, MUNCIE, IND.

Horse Owners

Look to your interests and use the safest, speediest and most positive cure for ailments of your horses, for which an external remedy can be used, viz:

GOMBAULT'S CAUSTIC BALSAM



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.

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

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio

Don't Have a Blind One



"VISIO" Wonderful Discovery

DISEASES of the EYE successfully treated with this NEW REMEDY.

AN ABSOLUTE CURE

for Moon Blindness, (Ophthalmia), Conjunctivitis and Cataract. Shying horses all suffer from diseased eyes. A trial will convince any horse owner that this remedy absolutely cures defects of the eye, irrespective of the length of time the animal has been afflicted. No matter how many doctors have tried and failed, use "VISIO," use it under our GUARANTEE; your money refunded if under directions it does not effect a cure. "YOU PAY FOR RESULTS ONLY." \$2.00 per bottle, postpaid on receipt of price.

Visio Remedy Ass'n Dept. L, 1933 Wabash Ave. (Not Inc.) Chicago, Ill.

Try Dr. Fair's New Worm Remedy



FREE!

I want every reader of the Michigan Farmer who has never used my New Worm Remedy for horses to send for a 25c box on approval. Each box contains 12 doses in coin envelopes. Remember this medicine is guaranteed to kill bots and worms. If satisfactory send 25 cents.

W. C. FAIR, V. S., Prop'r.,
DR. FAIR VETERINARY REMEDY CO.,
5712-14 Carnegie Ave., Cleveland, O.

MINERAL HEAVE REMEDY



NEGLECT Will Ruin Your Horse
Send to day for only PERMANENT CURE
SAFE CERTAIN.

CURES HEAVES

\$3 PACKAGE will cure any case or money refunded.
\$1 PACKAGE cures ordinary cases. Postpaid on receipt of price. Agents Wanted.
Write for descriptive booklet.

Mineral Heave Remedy Co., 463 Fourth Ave., Pittsburg, Pa.

ABSORBINE

Cures Strained Puffy Ankles, Lymphangitis, Poll Evil, Fistula, Sores, Wire Cuts, Bruises and Swellings, Lameness, and Allays Pain Quickly without Blistering, removing the hair, or laying the horse up. Pleasant to use, \$2.00 per bottle at dealers or delivered. Horse Book 5 D free.
ABSORBINE, JR., (man kind, \$1.00 bottle.) For Strains, Gout, Varicose Veins, Varicose, Hydrocele, Prostatitis, kills pain.
W. F. YOUNG, P.D.F., 63 Monmouth St., Springfield, Mass.

MONEY SAVED

—BY USING—
ROY SWING STANCHIONS.
Thousands in use. Made to fit any stable, durable, convenient and cheap. This space costs too much to tell you more. Write for booklet and price. Manufactured by
ROY BROTHERS, East Barnet, Vermont



DEATH TO HEAVES Guaranteed
NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary remedy for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can, of dealers, or exp. prepaid. The Newton Remedy Co. Toledo, Ohio.

LIVE STOCK

FEEDERS' PROBLEMS.

The Grain Ration for the Breeding Flock.

I am wintering a bunch of ewes. I have cornstalks pea straw and clover chaff for coarse feed. How much grain should they require and what would be the cheapest. Peas at \$1 per bu., cull beans at \$1 per bu., or corn at 65c per bu? Is it best to feed it whole or ground? If ground which and how much would you mix?
Ogemaw Co.

W. H. S.

The inquirer has not furnished sufficient data to make it possible to advise intelligently with regard to the proper grain ration for his breeding ewes. In the first place, if the ewes go into winter quarters in good condition, as they preferably should, they will not need as heavy a grain ration as would be the case otherwise. Then again, the individual weight of the sheep is not given; which is a considerable factor in determining the individual ration.

As a general proposition, the writer is favorable to the liberal feeding of the breeding flock. A good many farmers and a good many writers upon this subject do not believe in feeding much grain to the breeding flock, preferring to winter them thru mostly on roughage and supply a more liberal ration after the lambs are dropped. From his personal experience, however, the writer believes it best to feed a well balanced ration and keep the ewes in a thrifty condition right along. Corn is not generally recommended as a grain for the breeding flock, but our personal experience has been that where it is combined with other feeds to make a well-balanced ration and fed in proper quantities it produces no harmful effects whatever, and since it is the cheapest of all grain feeds as the basis of a ration, we always feed our breeding ewes some corn. With the feeds given and at the prices given, peas would be a much better source of protein than the cull beans, and by combining a ration composed of three parts corn, one part cull beans and a small and gradually increasing quantity of pea-size oil-meal, together with the roughage mentioned, a first rate ration for the breeding ewes would result. As to the quantity which should be given, one-half pound per day should be considered as a maximum feed for a large ewe. If the ewes are of a smaller breed, a less quantity should be given so that about the same amount will be fed per 1,000 lbs. of live weight, say about 3 lbs. per 1,000 lbs. of live weight. Then with plenty of roughage of the kinds noted, the ewes should keep in good condition until the lambing season arrives when the grain ration should be increased. If some roots are available, they will add variety and succulence to the ration and keep the flock in a much thrifty condition. Plenty of exercise is desirable for breeding ewes at all times, and a large yard should be provided in which it is advisable to feed a portion of the roughage on pleasant days. Plenty of flesh is not objectionable in a breeding ewe but it should be put on in the fall when the ewes are on pasture, and it is not advisable to feed sufficient grain to increase their weight very materially during the winter. However, if not in good condition when they do go into winter quarters, a small increase in weight which will denote thrift will not prove objectionable.

It will not pay to grind any grain for sheep. They will masticate the whole grain so thoroly that there will be practically no waste and it is more palatable to them than ground feed.

Cow Peas as Green Forage for Hogs.

Can hogs be grown on cow peas, the same as alfalfa clover when fed in the green state; or would it be best to wait until the seed matures before turning the hogs on them.

A. A. C.

While some growers contend that cow peas can be used as a green forage crop for hogs, the writer is in doubt as to their value for this purpose. Certainly they will not compare with either alfalfa or clover for the purpose, as hogs do not seem to relish them as well. We have tried feeding cow peas in the hog lot as a soiling crop while in the green state, but the pigs do not seem to take to them kindly. Perhaps their appetites might have been educated to do so by persistent effort. However, there is no doubt about the value of this crop for hogs if they are turned in just before they reach a stage of maturity, and there is also no question but that this would be a more economical way to use them as the value of the gains made on the grain would

greatly exceed any gains which might be gotten by using the crop as a green forage.

ECONOMY IN SHEEP FEEDING.

In this time of high priced grains and low priced stock the feeder must use especial care to economize labor and make large gains without waste of feed. This principle is fully carried out on the farms of the Marhle Brothers, of Calhoun Co. Sheep feeding is the leading line on these farms, and the proprietors are thoroly conversant with the work from the breeding of the lambs or their purchase in the stock yards to the marketing of the finished product on the Chicago market. We shall briefly describe the sheep barn and method of feeding on the farm of Herman Marhle, which is typical of the equipment and methods on each of the three farms.

The main sheep barn in which the lambs are being fed is ninety feet long by thirty wide. A wide door at each end allows of driving thru the whole length of the barn with the spreader, and the racks are so arranged that they need not be moved in this operation. Along the sides are an abundance of windows hinged to admit of good ventilation. The racks are combination grain and hay racks, running lengthwise of the barn, there being two of them, one setting on each side about midway from the side to the center, leaving two narrow pens along each side and a wide one in the middle thru which to drive in cleaning the barns. The mangers have drop sides to shut the lambs from the mangers while feeding and allow them to all begin eating at once. These sides are worked by a lever from the end, the entire 90 feet being raised or dropped in a moment. Water is supplied to each pen from tanks of tile set in cement and connected to a float tank, which is connected with the supply tank near the windmill.

In this barn three hundred lambs are now being fed, about two-thirds being western lambs. These seem to be more vigorous and better feeders as a whole than the native lambs. I incidentally took note of the time required for Mr. Marhle to feed the three hundred lambs, the operation being as follows:

The mangers were first swept out, there being perhaps an armful of refuse hay left from the last feeding. Three bushel baskets of grain were then drawn from the chute and scattered along the mangers, this being done by starting at the farther end and walking backward, scattering the grain on the way. Mr. Marhle has become so proficient in this thru practice that the grain is spread very evenly and made to come out just right. This grain ration is at present composed of one-sixth cottonseed meal, pea size, and five-sixths corn and oats, half and half.

When the grain was all scattered the sides of the mangers were raised by means of the levers and the lambs all went to eating at once, the double row of heads down each trof making a pretty sight. While the sheep were eating Mr. Marhle filled the chute with hay. By this time ten minutes had been consumed. After waiting two minutes for the lambs to finish their grain the sliding sides were again raised and the lambs were eating again. The entire time consumed in feeding the three hundred lambs was sixteen minutes.

During the entire process of feeding the feeder need not step in the pens, simply walk along the mangers. The feet are thus kept clean and the mangers not contaminated.

A Convenient Hog Barn.

A convenient hog barn for the general farmer is nearly completed on the farm of Frank Marhle, of Calhoun county, Mich. The barn is not a large one, there being room for six pens and a cooker and feed room. There are cement floors over the entire basement, but a raised floor of plank is to be put in each pen for a sleeping apartment. An alleyway extends thru the center, the pens being on each side. Along the alleyway partitions are cement trofs over which is a swing partition arranged so the hogs can be shut from the trof while filling. Doors which slide upward lead to the yards outside and are worked by a rope and pulleys from the center aisle.

A litter carrier is to be put over the center aisle so the manure that is often wasted by being tramped into the yards outside will be secured and taken to the yard where it can be mixed with coarser manures.

Calhoun Co.

S. B. H.

Fortune Telling

Does not take into consideration the one essential to woman's happiness — womanly health.

The woman who neglects her health is neglecting the very foundation of all good fortune. For without health love loses its lustre and gold is but dross.

Womanly health when lost or impaired may generally be regained by the use of Dr. Pierce's Favorite Prescription.



This Prescription has, for over 40 years, been curing delicate, weak, pain-racked women, by the hundreds of thousands and this too in the privacy of their homes without their having to submit to indelicate questionings and offensively repugnant examinations.

Sick women are invited to consult Dr. Pierce by letter FREE. All correspondence held as sacredly confidential. Address World's Dispensary Medical Association, R. V. PIERCE, M. D., President, Buffalo, N. Y.

DR. PIERCE'S GREAT FAMILY DOCTOR BOOK, The People's Common Sense Medical Adviser, newly revised up-to-date edition—1,000 pages, answers IN PLAIN ENGLISH hosts of delicate questions which every woman, single or married, ought to know about. Sent FREE, in plain wrapper to any address on receipt of 21 one-cent stamps to cover mailing only, or in cloth binding for 31 stamps.

"SAVE THE HORSE" SPAVIN CURE.



UNITED STATES POSTOFFICE.
Fredericktown, O., Sept. 22, 1908. I have been using your splendid preparation and with the best of results. I have used 9 bottles all told on different horses and found it splendid. I have a four-year-old that I have taken wind puffs off of and have driven her hundreds of miles on my trips; have been offered \$250 for her, as she is a well-bred one. I purchased "Save-the-Horse" of druggist, E. F. Hosack.

F. W. FLUMMEN.

General Teaming, 187 North Third Street, Philadelphia, Pa.—I can give it the best recommendation, used it on thoroughbred and bone spavin with great success. Both horses are used every day at the hardest kind of work, which is a great thing among horsemen. As the saying goes, "Seeing is believing."

HARRY M. BOBB.

\$5.00 a bottle, with legal written guarantee or contract. Send for copy, booklet and letters from business men and trainers on every kind of case. Permanently cures Spavin, Thoroughbred, Hingbone (except low), Carb. Splint, Capsitis, Rock, Windpuff, Shoe Itch, Injured Tendons and all Lameness. No scar or loss of hair. Horse works as usual. Dealers or Express Paid. Troy Chemical Co., 20 Commercial Ave., Birmingham, B. L.

Make Big Money Training Horses!

Prof. Beery, King of Horse Tamers and Trainers, has retired from the Arena and will teach his wonderful system to a limited number, by mail. **\$1200 to \$3000 a Year At Home or Traveling**

Prof. Jesse Beery is acknowledged to be the world's master horseman. His exhibitions of taming man-killing horses, and conquering horses of all dispositions have thrilled vast audiences everywhere. He is now teaching his marvelously successful methods to others. His system of Horse Training and Colt Breaking opens up a most attractive money-making field to the man who masters its simple principles.

Competent Horse Trainers are in demand everywhere. People gladly pay \$15 to \$25 to have a head to have horses tamed, trained, cured of habits—to have colts broken to harness. A good trainer can always keep his stable full of horses.

If you love travel, here is a chance to see the world, giving exhibitions and making large profits. You will be surprised to learn how little it costs to get into the Horse-Training profession.

Write and Prof. Beery will send you full particulars and handsome book about horses—FREE. Address Prof. Jesse Beery, Box 42, Pleasant Hill, Ohio

BOWSER FEED MILLS

(Sold with or without Elevator.)
GRIND corn—with or without shucks—and GRIND all kinds of small grains. Use Conical Shape Grinders. Different from all others.
LIGHTEST RUNNING
Handy to operate. 7 sizes, 2 to 25 h. p. One size for windwheel use. Also make Sweep Grinders, Coared and Plain.
D. N. P. BOWSER CO., 1500 Bend, Ind.

Always mention the Michigan Farmer when writing to advertisers.

WINTERING BROOD MARES AND COLTS.

At this time of the year more than any other, farmers who have more brood mares than they can give proper exercise in harness or who have several weanlings or yearlings are annoyed with troubles which, if allowed to go unchecked, are likely to result in troubles of more serious import.

Perhaps one of the troubles most common during the winter is indigestion which, if not attended to at once is likely to be followed by colic and perhaps death. This trouble, as a rule, is caused by lack of proper exercise and improper or careless feeding.

Too much hay is a prolific cause of indigestion, the hard woody fibre giving the organs a task too difficult for them to accomplish. Too much grain, or grain so mixed as to make an unbalanced ration will also bring on indigestion, while an entirely proper amount of the right kind of feed will not insure against such attacks if a proper amount of exercise is not provided.

Indigestion makes its presence known by symptoms too plain to be mistaken. The horse or colt will, if in a box stall, be found standing in one corner or backed up against the wall. Occasionally it will paw and at times appear to be suffering slightly from colic pains.

If the subject is a mature horse about the best treatment that can be given is a dose of raw linseed oil, say about 12 ounces. Follow this up by giving after each meal for four or five days a mixture compounded as follows: Fluid extract nux vomica, fluid extract colocynthis, Fowler's solution of arsenic, one ounce each. For a dose give 10 to 15 drops in a little hot water, at the same time correcting the conditions which were responsible for the trouble and which, as before stated, will be found to be improper feeding or feed and lack of exercise.

If it is a weanling or yearling colt that needs attention castor oil will be found to be full better than linseed oil to give, and six to 10 ounces will be enough for a dose, according to age and size of colt. The medicine to follow after meals, too, should be graduated to suit the conditions.

Castor oil has, it should be remembered, two effects; the first is in a laxative direction; the second is constipatory. It is well, therefore, when castor oil is used to follow it up by a dose of pure sweet or olive oil, say from four to six ounces every other day for four or five days. Even when linseed oil is used it will be found to be not at all a bad thing to do to follow it up with sweet oil as mentioned.

Common sense is worth a lot more than medicine in the case of mares and colts provided it is put into use before medicine becomes a necessity. In almost every neighborhood one will be able to see the difference between common-sense care and careless neglect. On one farm the horses and colts will look rugged and healthy, the colts maintaining a satisfactory growth thruout the winter while the mares will finish the winter in the thrifty condition that almost insures the production of a fine foal.

On another farm, perhaps an adjoining one, with everything on hand to enable the owner to winter the mares and colts as they should be wintered, will be seen a lot of thin, unthrifty, undergrown colts and the mares will look so poor and weak as to make the production of strong, vigorous foals extremely problematical.

The difference, in such cases, is all in the treatment given. In one case attention is given to the feeding and the amount of feed given as well as to the regularity with which it is given. The value of exercise is not lost sight of, nor is growing an unknown factor in the treatment which the horses receive. Care is taken to keep vermin from getting a foothold and grooming is a preventive of such a visitation.

On the other farm the conditions are so nearly opposite to these referred to that it is but natural to see opposite results. On one farm horse breeding is a money losing business; on the other it is one of the money making branches. And the thing that impresses one most when contrasting the two methods is that the money making way entails no extra expense; merely the attention to detail that should be given any business in which one has money invested and without which no business can be productive of the best results.

New York.

H. L. ALLEN.

CRUELTY TO ANIMALS.

The executive board of the Michigan State Humane Society, at a recent meeting, among other good moves appointed a committee to investigate the shipping of live calves. A complaint was brot forth against the railroad companies for not providing the "necessary milk and mash foods."

If the board were farmers they would readily understand that neither milk nor mash could be gotten down a poor homesick, frightened calf; one taken from its mother and having always been used to none but nature's way of consuming its food, would simply bellow its unhappy life away in starvation, with the cold milk and mash untouched which the railroad company might have set before it.

We are happy to know a few humane farmers who, rather than sell to the heartless shipper, stand willing to receive less per pound for their veal, insisting the animal be slaughtered at home or directly at the place of taking, and we pray the time to hasten when this feeling of abhorrence of heartlessness be general amongst the farmers. It is sad enough fact that the selfish appetite of the human family require the slaying of the innocent when the work is done as painlessly as possible, to say nothing about the dark days of cruel, unnecessary torture that the human (I hesitate at the word "human"), family bring upon these poor helpless creatures.

We need look for no reformation by way of the railroad companies or the stock buyers. Those who can deliberately and in cold blood place young calves in cars with older cattle to be jostled about in their long ride to Buffalo, which is done in our town, necessitating absence of food for days, and listen heartlessly to their piteous moans, surely are past redemption, and there are not words in any language strong enough to express the abhorrence the honest, straightforward farmer should feel at such behavior.

Washtenaw Co. A FARMER'S WIFE.

MEAT CONSUMPTION IN THE U. S.

That meat consumption per capita has declined in this country since 1840 is plainly indicated. There is some ground for believing that at that time meat constituted about one-half of the national dietary in terms of total nutritive units consumed, whereas now it constitutes about one-third.

The average private family of 1900 contained 4.6 persons, and this family consumed on the average of 855 pounds of dressed weight of meat, or 680 pounds of edible meat in the dressed weight. Upon adding to the 680 pounds the weight of the edible parts not included in dressed weight, the average family consumption of edible meat was 840 pounds.

In terms of meat and its products substantially as purchased by the consumer, that is, the sum of the dressed weight and of the weight of the edible parts not included in dressed weight, the private family in 1900 bot on the average 1,014 pounds of meat, or over half a ton. This makes an average of 2.78 pounds per day.

Horses are once more being marketed freely, and there is a normal demand for most kinds at unchanged prices, with heavy drafters leading in activity and selling mainly at \$170 to \$215 per head, while a few extra heavy drafters of superior quality have brot \$225 to \$250. Once in a while an exceptional sale is reported, such as that the other day of a pair of fancy drafters to a Boston dealer at \$770. Feeders are taking some horses at \$165 to \$210, and loggers for the Michigan camps have been sold at \$225 to \$265. Drivers are selling fairly at \$150 to \$350, and a few little southern chunks are selling at \$60 to \$210.

Prime feeder lambs at \$6.20 and \$6.35 per 100 lbs. must appear high to sheepmen who remember how cheap such flocks were a few months ago, but supplies are no longer plentiful, and sellers hold the reins now. A new feature is the marketing of Idaho range lambs that have been fed on alfalfa, several big bunches of these having been purchased in the Chicago market recently at the prices above mentioned. There is a lack of fat lambs among the daily receipts, and it happens frequently that killers are competitors against sheep and lamb feeders for lambs, thus causing prices to rule above the views of many intending buyers from feeding districts. Iowa feeding sections have been marketing many thin flocks that must have made slender returns to their owners, and many of these flocks have been purchased by other feeders and returned to the country. A consignment of western lambs that had been running in an Iowa corn field showed scab on their arrival in the Chicago stockyards a few days ago and had to be quarantined. Yearlings are better sellers than sheep because they can be substituted in the retail markets for lambs, something that is done constantly.

Nitrate of Soda



Nitrate of Soda applied as a top dressing, produces not only more tons to the acre, but cleaner and higher grade

TIMOTHY

Test It for Yourself Entirely Free

Let us send sufficient Nitrate of Soda for you to try, asking only that you use according to our directions, and let us know the result. To the twenty-five farmers who get the best results, we offer, as a prize, Prof. Voorhees' most valuable book on fertilizers, their composition and how to use for different crops. Handsomely bound, 327 pages.

Apply at once for Nitrate of Soda by post card, as this offer is necessarily limited. "Grass Growing for Profit," another book of useful information, will be sent free to farmers while the present edition lasts, if paper is mentioned in which this advertisement is seen.

Send name and complete address on post card

WM. S. MYERS, Director, John Street and 71 Nassau, New York

WORMS



THAT'S the cause of your hog losses—NOT cholera. WORMS—WORMS—WORMS—hundreds of them, thousands of them, gradually, surely killing your hogs; killing their power of digestion, killing their power of assimilation—STARVING them so they CAN'T make weight—so they're a prey to all kinds of disease.

If you could SEE the intestines of most of your hogs—THEN you'd understand why you lose them. It's been PROVEN that 90 per cent of hog losses are due to worms, and YOUR hogs will not escape if you don't feed to prevent or kill the worms right from the start. SAVE YOUR HOG PROFITS.

Iowa Worm Powder

will positively kill the worms with one to three feeds, and IOWA STOCK FOOD will keep your hogs in a prime, healthy condition until marketed. THIS man knows:

Warsaw, Minn., Aug. 3, 1908.

Iowa Stock Food Co.,
Jefferson, Iowa.

Gentlemen:—I received sample of your worm powder—got it into action and GOT RESULTS. I am now prepared to believe anything you say about worms.

F. W. HUBBARD.

FREE—If you've never used Iowa Worm Powder you can secure a \$1 package of it FREE by sending us 25c for postage and packing. Take advantage of this offer NOW and insure your hog profits.

Iowa Stock Food Co.,
Dept. M, Jefferson, Ia.Does the Cows
a Heap of Good

Cow comfort and cow sanitation result in more cow profits, and that alone should induce any farmer or dairyman to seek these conditions. Louden Sanitary Steel Stalls and Stanchions double the light and air in a barn and insure perfect ventilation, perfect sanitation—a result impossible with any wooden equipment. Yet

LOUDEN STALLS AND STANCHIONS

are actually cheaper. Louden stalls of heavy tubular steel, with malleable fittings, have no flat surfaces for dust to accumulate—easy to keep clean and almost indestructible. Louden stanchions give cows more comfort than other makes, yet keep them perfectly lined up. Throat chains prevent cows from lying down when milking. Simple and very durable. Latch easily opened or closed with gloved hand, but can't be opened by animal. Send today for free catalogue of sanitary, money-saving barn equipment.

LOUDEN MACHINERY CO., 609 Broadway, Fairfield, Ia.

Get My Price The Lowest
Ever Made

On a First-Class Manure Spreader

Yours to Try Free
30 Days—Freight
Prepaid

My NEW Roller Feed Spreader.
Greatest thing in the spreader
line today

Let me tell you something I'm making a quotation on the Galloway Wagon Box Spreader so low that farmers all over the country are taking notice—and sending in their orders while they can get them at this figure. The name—

GALLOWAY

is a guarantee of manure spreader excellence all over the United States—and every one of my Spreaders is backed by my \$25,000 Gold Bond.

Here are four things to remember in connection with the Galloway: 1. It's the only successful wagon box spreader in the U.S. 2. It has 7 distinct, separate, original patents. Nothing else like it—or as good. They alone make it worth \$25 to \$30 more than any other. 3. My own factory turns 'em out—capacity, Seventy Complete Spreaders a day. 4. I make you a price that sells them. That price is the lowest ever made on a first-class Manure Spreader. But before you risk one cent on my Spreader I send it to you to try 30 days free.

The Galloway Wagon Box Spreader fits any truck

The Wm. Galloway Co., 649 Jefferson St., Waterloo, Ia.



\$25,000 Guarantee

or high-wheel wagon, and is made in 4 sizes, up to 70 bushels. My big, Free Spreader Catalog and my Special Red Hot Proposition are waiting for you—Spend a cent for a postal today and get your name to me at once. I'll make you the lowest price ever offered on a first-class Spreader—Freight all paid—and show you how to clean up \$50.00 clear cash profits. Write me personally—TODAY.

Wm. Galloway, President

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. In acute cases, where we believe that immediate treatment will be necessary, reply will be made by return mail, free.

Fibrous Bunch on Fetlock.—I have a 3-year-old ox which has a bunch about the size of a hen's egg on outside of fetlock. It appeared about two months ago, but did not produce lameness until a week ago. J. D. O., Lupton, Mich.—Apply iodine ointment night and morning.

Loss of Appetite.—I have a hog nine months old that appears to have lost his appetite. What had I better give him? A. B., Cedar, Mich.—Give 5 grs. quinine three times a day.

Indigestion—Torpid Kidneys.—My 9-year-old mare has been troubled occasionally with colic and a stoppage of the water. A. S., New Baltimore, Mich.—Give ½ oz. ground ginger, ½ oz. ground gentian, 1 oz. powdered charcoal at a dose in feed twice a day. Also give ½ oz. powdered rosin at a dose in feed once a day.

Bruised Heel.—I have a young mare much valued for her road qualities which bruised her heel badly several weeks ago. Her heel is feverish and tender, causing lameness. C. R., Stockbridge, Mich.—Apply antiphlogistine twice a day; this will take out inflammation. If her heels are high lower them and if she is inclined to over reach and bruise them, protect the parts with a felt quarter boot.

Rheumatism.—My 6-year-old horse is troubled with a general softness and stiffness affecting all four quarters of body. His appetite is all right. J. H. C., Fountain, Mich.—Give ½ oz. citrate potash at a dose in feed two or three times a day. Feed him enough well salted bran mash or vegetables to keep his bowels open. Also keep him warm and comfortable.

Acidity of Stomach.—My cows are inclined to chew boards and bones, also eat what they should leave alone, instead of eating wholesome food. What can I give them to change their taste? G. B., Coopersville, Mich.—Your cows suffer from acidity of stomach. Give each cow 2 ozs. bicarbonate soda, 1 oz. ginger, ½ oz. gentian, and 1 oz. powdered charcoal at a dose in feed twice a day; also feed some vegetables.

Leucorrhoea.—My 15-year-old mare has failed to get with foal during the past two years. She comes in heat regularly, seems to be healthy, but has a discharge. Have given her lots of slippery elm. E. D. C., Cassopolis, Mich.—Give ½ oz. powdered sulfate iron, 1 oz. bicarbonate soda at a dose in feed night and morning. Also drop 1 oz. sulfate zinc, 1 oz. acetate lead in 3 qts. tepid water and wash out vagina once a day. This is best done thru a small rubber tube with funnel on one end.

Ring Worm.—We have been troubled with a disease affecting our cattle for some time and I would like to have you prescribe a remedy for it. Sore patches came around the eyes and soon spread to different parts of the body, the sores are round and soon become bald. F. W. W., Farwell, Mich.—Apply iodine ointment once a day. Your druggist can supply you. Cover more area than is diseased.

Mare in Heat Regularly but Pregnant.—Have a mare 13 years old, served latter part of July and believe her to be in foal, altho she shows a sort of semi-heat every three weeks. Is this an indication of weakness, and if so what can I do? She acted the same way last year and her colt lived only 24 hours. W. B. R., Tadmam, Mich.—There must be some uterine irritation, perhaps caused by germs or a subacute inflammation of a low type that causes her to show the symptoms you mention. She should have good care, regular daily exercise and be fed plenty nutritious food. Drugs will not help her much.

Shoulder Sweeney.—I have a mare eight years old that is sweeney in both shoulders. Last March she was driven too far when in a soft, flabby condition, since then she has never been right. At first she was stiff but got better gradually and then her shoulder muscles began to shrink. When starting she goes a mite sore but soon warms out of it; can she be patched up? W. E. C., Honor, Mich.—Your mare may have been foundered and never fully recovered from it; the wasting of shoulder muscles are perhaps the result of foot soreness. Apply equal parts aqua ammonia, turpentine, tr. cantharides and sweet oil to atrophied muscles twice a week or you can safely use any of the blisters advertised in this paper.

Chronic Stocking.—For some time my grade percheron mare has been troubled with stocking of hind leg. It causes no lameness and is not sore. Our local Vet. tells me that her blood is out of condition. C. W. W., Springport, Mich.—No well horse should stock; however, stocking is always a result of some other ailment. What is generally needed is tonics and gland stimulants. Give 2 drs. Fowler's solution and a teaspoonful syrup iodide iron at a dose in feed three times a day. Bandage leg in cotton—keep her bowels open and exercise her daily.

Mange—Periodic Ophthalmia.—For the past two years my horse has been troubled with a breaking out much like mange. During the hot weather he seems to be in perfect misery. Our local

Vet. fails to help him. I also have another horse that has been troubled with a sore eye for the past three years. Our Vet. has treated him since the 25th of last June and now gives no encouragement. G. H. W., Hudson, Mich.—Give your horse 1 dr. Fowler's solution and ½ oz. sarsaparilla at a dose in feed night and morning. Keep up this treatment for five or six weeks and apply 1 part coal tar disinfectant and 15 parts water to sore parts of skin once a day. Now regarding your other horse I am inclined to think that your Vet. has perhaps done all that can be done for him; however, you may try giving him 2 drs. syrup iodide iron twice a day, this may possibly absorb the unnatural tissue or effusion in eye.

Indigestion—Stocking—Distemper.—I have five brood mares one of which seems to stock in hind legs quite badly. I am quite certain she is in foal. I also have a 3-year-old filly that had distemper last spring still has some discharge from nose. Also is there a remedy for "whites" in brood mares? R. P. R., Caro, Mich.—Have your druggist mix equal parts powdered sulfate iron, gentian, ginger, cinchona and rosin and give a dessert spoonful to each brood mare that is out of condition night and morning for ten days, then once a day. Give the filly that had distemper, 1 dr. powdered sulfate copper, ½ oz. ground gentian at a dose in feed three times a day. Chronic leucorrhoea, "whites," is not easily cured. Drop a dram permanganate potash in ½ gal. tepid water and wash out vagina once a day until the discharge ceases. There are many other astringents that are equally as good. Oil sandalwood is a good internal remedy. However, it is (Continued on page 19).



Genasco Ready Roofing

is made of Trinidad Lake Asphalt.

The ancient Egyptians knew the waterproofing value of natural asphalt, and used it in stone-work construction.

Modern Egyptians use Genasco Ready Roofing because they know its value. They know that Trinidad Lake Asphalt makes Genasco absolutely waterproof and wonderfully enduring. A written guarantee backed by a thirty-two-million-dollar company is in every roll.

Mineral or smooth surface.

Ask your dealer for Genasco, and don't take a substitute. Be sure the Genasco trade-mark is on every roll. Write for Book 40 and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

CAN YOU SELL
A GOOD TOOL TO YOUR NEIGHBORS?
Wire fence stretcher, cutter and splicer, press, lifting jack, post and stump puller, and a number of other tools all in one, which are needed the year around. No experiment. Thousands now in use. Write for special proposition given agents.
THE LEADER JACK COMPANY, Bloomfield, Ind.

JACKS AND MULES.
Raise mules and get rich. 265 fine large Jacks, Jennets and mules 14 to 17 hands high, weigh from 700 to 1,500 lbs., good ones. Cheap now. Will pay a part of buyer's R. R. fare and shipping. Stock guaranteed. Write for prices today.
KREKLER'S JACK FARM
West Elkton, Ohio.

Hovey's Cough and Heave Powders

are quickly and thoroughly absorbed by the secreting glands of the lungs. You will notice the wonderful exhilarating and curative qualities after the first few doses. You will never regret a trial. Send me one dollar and receive in return the treatment, and if, after giving it a fair trial you are not satisfied with the results, your money will be cheerfully refunded.
W. M. HOVEY, Marshall, Mich.

Get More Strong Chicks
Cyphers Insurable Incubators Fire-Proofed
Are not only guaranteed to hatch more and stronger chicks than any other, but they are insurable. Now that the Fire Insurance Companies have laid down Rules you are not safe in buying any incubator that does not bear the Insurance Label. Our Free 212-Page Book explains. Address nearest office.
CYPHERS INCUBATOR CO., Buffalo, N. Y.
Boston, Mass.; New York City; Chicago, Ill.; Kansas City, Mo.; Oakland, Cal.

OAKLAWN FARM

The Greatest Importing and Breeding Establishment in the World.

Three large importations for 1908, greatly exceeding in numbers those of any other importer and including the tops of all the great breeding establishments of France. Many noted prize winners. Safest guarantee. Most reasonable prices. Remember, that whether you want mares are stallions, colts or matured animals, Oaklawn is today and always has been headquarters for the best. Next large importation to arrive Dec. 1st.

PERCHERONS and FRENCH COACHERS

W. S., J. B. & B. DUNHAM,
Wayne, Du Page County, Ills.

2 S.C. BLACK MINORCA Cockerels and 1 cock bird, also 6 pullets. \$1 to \$1.50 each. Nice large birds. D. C. HUGGETT, Grand Ledge, Mich.

Owl Brand Pure Cotton Seed Meal
49 Percent Protein and Fat. Richest cattle feed on market. Write for booklet No. 11 and prices. F. W. BRODE & CO., Memphis, Tenn.

RAISE THEM WITHOUT MILK.
Booklet Free.
J. E. BARTLETT CO., Jackson, Mich.

1 REGISTERED IMPORTED LARGE SPANISH JACK
FOR SALE REASONABLE 8 YEARS OLD.
E. M. STARKWEATHER, Northville, Michigan.

PERCHERONS—3 weanling stallions: 2 yearling mares. R. OVERHOLT, Dutton, Mich.

TOBACCO—stiffings and stems. Used by leading sheep raisers for stomach worms. By greenhouse men for snuggles to kill plant lice. Swisher Bros., Olgar Mfrs., Newark, O.

BREEDERS' DIRECTORY.

CATTLE.

Ayrshire Calves for Sale. A choice lot of few yearling bulls, bred with greatest care. Berkshire Pigs—stock from Lovejoy & Son and C. S. Bartlett. Write for prices. Inspection solicited. MICHIGAN SCHOOL FOR THE DEAF, Flint, Mich.

Holstein-Friesians. HICKORY GROVE STOCK FARM, Owen Taft, Proprietor, R. 1, Oak Grove, Leiv. Co., Michigan. Bell phone

HOLSTEIN FRIESIANS—A few fine bull calves sire Canary Mercedes Royal King. W. B. JONES, Oak Grove, R. No. 3, Mich.

I Hope To Sell Before Christmas, 25 Registered Holstein Cows, 2 to 6 years old, due to freshen soon, 9 Bulls from A. R. O. dams. Ready for service. Don't wait, but write or come quick.
L. E. CONNELL, Fayette, Ohio.

TOP NOTCH HOLSTEINS

We have "Top Notch" young Holstein Bulls that combine in themselves the blood of cows that now hold and in the past have held, world's records for milk and butter fat.

One of them could impart the rare qualities of these great ancestors to all their offspring in your herd. Cost nominal considering benefit secured. Why not "build up" "The Best" is cheapest.

MCPHERSON FARMS CO., Howell, Mich.

HOLSTEIN-FRIESIAN BULLS (registered) of the best breeding. Both calves and yearlings. I. M. SHORMAN, R. D. & Phone, Fowlerville, Mich.

HEREFORDS:—Both sexes and all ages for sale. Also Poland-China hogs. R. E. ALLEN, Paw Paw, Mich.

RED POLLED BULLS, from 6 to 15 months old, bred from good milking sows. John Berner & Son, Grand Ledge, Michigan.

POLLED DURHAMS & SHORTHORNS for sale. Good milking strains. Will please our customers in prices and quality. J. S. Flint, Cement City, Mich.

JERSEY BULL CALF, born March 10 '08. Dam's average yearly milk record 5 years 8526 lbs.; test 5-4-10 4. Sire's Dams rec. 10062 lbs. as 2-year-old test 5-2-10 4. Murray-Waterman Co., Ann Arbor, Mich. R. 6.

JERSEY BULL CALVES I am sold short on cows and heifers but have a few choice bull calves from producing dams, good ones. Price \$35 to \$50 each. I will guarantee to please you. Colon C. Lillie, Coopersville, Mich.

Northern Grown Jerseys. ROYCROFT FARM, Sidaaw, Mich.

MARSTON FARM—JERSEY CATTLE. T. F. MARSTON, Bay City, Michigan.

CHOICE JERSEYS. Large St. Lamberts. Young stock of either sex for sale. CLARENCE BRISTOL, R. No. 2, Fenton, Mich.

MONTREY STOCK FARM. Red Polled Cattle. Bulls & Heifers 10 to 14 months. Cows all ages, prices low. E. BRACKETT, Allegan, Michigan.

Francisco Farm Shorthorns
Three choice, dark red, richly bred, young bulls, from 8 to 16 mos. old. They are good enough to head pure bred herds and are priced worth the money.
P. P. POPE, Mt. Pleasant, Michigan.

J. B. CROUSE STOCK FARM, HARTLAND, MICH., breeder of SHORTHORN CATTLE. Have all ages, both sexes. Color—reds and roans. Quality and prices right.

Reg. Shorthorn Bull Calves for sale. WILLARD HALL, R. F. D. No. 1, Martin, Mich.

SHEEP.

Registered Lincolns (both sexes) Whites for sale. H. A. DANIELLS, Clio, Mich.

Lincoln Sheep—Chester Swine. Either sex. Write or phone. A. H. WARREN, Ovid, Mich.

DELAINE RAMS and SHORTHORN BULLS

Of the Very Finest Quality.
Prices Right.

Meadow Brook Stock Farm, Rochester, Mich.

ERDENHEIM FARM SHROPSHIRE

EDWIN S. GEORGE, Owner.
Rams and Ewes for Sale.

WRITE FOR PRICES TO
ROBERT GROVES, Shepherd,
R. F. D. No. 3, Pontiac, Mich.

OXFORD Rams from and ewes bred to Grand Champion Imported Hobbs ram, Hamptonian 24, for sale. B. F. MILLER, Flint, Michigan.

RAMBOUILLET—Flock founded 1892 with 40 ewes selected from one hundred registered ewes of the best breeding possible. J. Q. A. COOK, Morrice, Mich.

SHROPSHIRE HALL STOCK FARM.

Choice yearling rams, and ram lambs, also yearling ewes, and ewe lambs, type and quality our aim, nothing finer this side of the water. Also choice bred Berkshires.
L. S. DUNHAM & SON, Concord, Michigan.

SHROP. BREEDING Ewes bred to high class rams very cheap now. Also Beef-Milk Shorthorns, and P. C. Swine. M. B. Turkeys. Write today for price list F. Maplewood Stock Farm, Allegan, Mich.

HOGS.

LARGE English Berkshire Boars ready for service, also choice Glts at farmers' prices. Levi J. Winn, Eaton Rapids, Mich., R. R. 3, Bell phone 288 6R.

Berkshires—A few good boars by King Premier 12th. Extra fine individuals. A. A. PATTULLO, Deckerville, Mich.

BERKSHIRE SOWS bred to a great son of MASTERPIECE for spring farrow. Also a few extra choice young boars of equally rich breeding.
C. D. WOODBURY, Lansing, Mich.

BERKSHIRES—Sows bred to Longfellow's Duke, and our new herd boar Prime Bacon 98611, a great son of the noted Lord Bacon, and of intense Masterpiece breeding. Guernseys, M. B. Turkeys, B. Ply. Rocks, Pekin Ducks. Hupp Farms, Birmingham, Mich. G. C. Hupp, Mgr.

LARGE ENGLISH BERKSHIRES

Have fine lot of spring pigs. Most of them sired by Premier Victor 95290, grandson of Lord Premier 50001, the breeding so much sought after. Pigs not overfed, just the kind to do the farmer most good.

F. A. BYWATER, Memphis, Mich.

NORTHERN GROWN BERKSHIRES.

ROYCROFT FARM, Sidaaw, Mich.

Chester Whites. I have 4 boars farrowed in Feb'y., long bodied, growthy fellows. Also March and April farrow, either sex. Also a choice yearling boar. W. O. WILSON, Okemos, Mich.

ADAMS BROS. IMPROVED CHESTER WHITES—Won more A premiums in '08 than any other herd in Michigan. 10 choice boars ready for service. Glts open or bred to Junior Champion boar of Michigan. ADAMS BROS., Litchfield, Mich.

IMPROVED CHESTER WHITES.

Boars ready for December service, price \$15 each. Glts bred for April farrow, price \$20 each. Satisfaction guaranteed or money back.
COLON C. LILLIE, Coopersville, Mich.

O. I. C. from premium stock all sold except a few October pigs. Hood's Stone House Stock Farm, H. N. Hood, C. Phone 761-3r., Adrian, Mich.

O. I. C. "PREMIUM STOCK." Choice boars ready for service ¼ off next 30 days. Glenwood Stock Farm—OPHOLT BROS., Zeeland, Michigan, R. 6. Phone 94.

O. I. C. Spring boars all sold have a few choice Glts left to be bred for spring farrow. Satisfaction guaranteed or your money back. A. NEWMAN, R. No. 1, Marietta, Mich.

I PAY THE EXPRESS on Duroc Jersey Hogs and Shepherd Dogs. Satisfaction guaranteed or money back. J. H. Banghart, Lansing, Mich. Phone 106-2.

DUROC JERSEY BOARS reg. from one to three years old. Also pigs either sex. All ages. Satisfaction Guaranteed. F. B. COOK, Paris, Mich.

DUROC Jersey of size and quality. 40 Boars ready for service. 50 sows at Farmers Prices. Satisfaction Guaranteed. J. C. Barney, Coldwater, Mich.

DUROC JERSEYS—Boars ready for service. Sows open or bred. Pigs at weaning shipped C. O. D. L. R. KUNEY, Bell Phone 131, Adrian, Mich.

BARGAINS IN POLAND-CHINAS

either sex, big bone, lots of size, with best of breeding, one male pig by Spillbinder a prospect. Buff Rock poultry, everything priced to sell.
WM. WAFFLE, JR., Coldwater, Mich.

POLAND CHINAS—Big boned, prolific; boars and sows. Ship immediately.
A. R. GRAHAM, Flint, Mich.

MICHIGAN HEADQUARTERS FOR BIG POLANDS
Two herd boars bred by Peter Mourou, for sale. Bred sows, pigs not akn. J. C. BUTLER, Portland, Mich.

Francisco Farm Poland-Chinas
Now offering 20 grand young sows to be bred for April and May farrow. F. P. POPE, Mt. Pleasant, Mich.

P. C. BOARS and SOWS with size, bone, and quality. **WOOD & SONS, Salluz, Mich.**

SPECIAL SALE of large, good style, prolific, young S and mature Poland China Sows bred to extra heavy boned boars. Robert Neve, Pierson, Mich.

POLAND-CHINA Glts, bred. Light Brahma, B. P. Rock and White Wyandotte cockerels for sale. E. D. BISHOP, Route 38, Lake Odessa, Mich.

LARGE ENGLISH YORKSHIRES.

Very prolific, large boned, vigorous April boar pigs ready for fall service \$15 each. April Glts bred to farrow next spring \$20 each. Your money back if you are not satisfied. **COLON C. LILLIE, Coopersville, Mich.**

Just Say "Saw your ad. in the MICHIGAN FARMER" when writing advertisers

POULTRY AND BEES

DAMPNESS IN THE POULTRY HOUSE.

Dampness in the poultry house during the winter months curtails egg production and impairs the health of the flock. No matter how painstaking one may be in feeding and caring for the fowls excessive dampness in the house will minimize the daily output. In regions where the weather is more or less variable during the winter months, and where it is necessary to keep the poultry closely confined, excessive dampness is apt to collect on the siding. Its most noticeable effect is its influence on the temperature. The more dampness in the atmosphere the heavier the air and the greater its influence on the temperature of animal life. In the northern part of this state the temperature frequently falls to -30 degs. Fahr. but does not seem as cold as a temperature of 10 degs. below zero in the central or southern counties. This noticeable variation is accounted for by the amount of humidity in the atmosphere. The same law applies to the temperature in the poultry house. If the atmosphere is more or less saturated the temperature seems a great deal more severe to fowls and animals than if the air is light and dry.

There are numerous means of detecting dampness in the poultry house. An experienced poultryman will notice its presence immediately on entering the house, because of his keen sense of feeling. The inexperienced poultryman, perhaps, must rely more upon other indications. The first sign of dampness is the appearance of frost upon the siding in the morning and again in the evening. If the dampness is excessive the litter will also give evidence of it. The windows will be more or less frosty. But perhaps the most striking evidence is seen in the sluggish condition of the fowls.

There are several reasons why dampness may accumulate in the poultry house in winter. Poor ventilation is one of the common causes. Ground floors are very productive of dampness, as they are constantly sweating. Crowding too many fowls into limited quarters is also a common cause and one which perhaps produces more of this trouble than any other. Poor leaky roofs is another of the frequent causes. It is an impossibility to keep the poultry house dry and comfortable when water from melting snow, or from rain, drips down thru the roof.

If the direct cause of dampness is improper ventilation, some means should be provided whereby the impure air can be properly removed and a fresh supply furnished without incurring drafts. For a small poultry house I know of no better or more efficient means of supplying ventilation than by the use of muslin. The muslin can be tacked over the spaces occupied by the window sash. In case the building is well constructed good ventilation will thus be secured without drafts.

Where too many fowls have been crowded together they should be divided into smaller flocks and given more room for exercising. An earth floor in the poultry house answers very well if the building is so located as to give good drainage. It is an excellent plan where a ground floor is depended upon to fill in until it is 8 or 10 inches above the level outside, thus lessening the danger of dampness accumulating from this source.

Where it is the intention to handle poultry for winter egg production it is advisable to double wall the poultry house thruout, leaving a dead air space between the outer and the inner wall. This air space materially assists in checking frost from coming thru and accumulating on the inside of the poultry house. One of my poultry houses is double walled and I have never observed any indications of frost on the inside of this building, even in the coldest weather. I have another house with only one course of siding but lined with tarred paper. While this answers the purpose very well, I secure my best results from the double-walled house. It is a great deal easier to control dampness in a double-walled poultry house than in any other kind.

There is indeed very little use in trying to secure winter eggs from poultry kept in a damp house. If the building is improperly constructed it should be re-

modeled or carefully gone over with a view to removing the source of trouble in some way. Absorbents can be used to great advantage in any poultry house during the winter months. I have used air-slacked lime and find it an excellent absorbent. At the present time I am using rock phosphate and secure from it about the same results. Any absorbent that will take up dampness will answer the purpose. Frequent cleaning should be practiced and especially during variable weather.

Shiawassee Co. L. C. REYNOLDS.

KEEPING LICE IN CHECK.

Much of the matter appearing in poultry and farm journals deals with the methods and practices of raisers of large flocks, generally telling of successes attended by few failures. This, of course, is all right, but as we all must reach success thru experience, we must all meet with more or less discouragement before we can attain this point. Even with those who think they have learned it all there are chances for what is commonly known as "bad luck" occasionally. By all poultry raisers, whether on a large or small scale, the motto, "Ever vigilant" should be strictly adhered to.

The worst thing the writer has had to deal with in her experience with poultry is lice. This pest, in my opinion, causes more loss, in one way or another, to the farm flock, than any other. More diseases spring from filth and its attendant—lice—than people who do not study the matter would believe. Mites seem to be the commonest sort, and they are also the easiest to get rid of, altho many poultrymen say they can not get rid of them. Where this is the case it is simply because they do not try, or, if they do try, it is in a half-hearted, slipshod way, and the effort usually ends with one application of whatever remedy is relied upon. If they will take a solution of one pint of crude carbolic acid to a gallon of kerosene, and spray the hen house and any other place infested with the lice, using it every week for several weeks, and then once a month, it is possible to free any place of this pest. Just before the chickens go to roost is the best time to spray the henhouse. Be sure to lift up the perches and spray well around where they rest. Never use this around nests where hens are sitting or the eggs will not hatch. For treating nests during the hatching season use some good louse powder, of which there are several in the market.

READER.

MICHIGAN POULTRY SHOWS.

From announcements at hand we make the following list of poultry shows yet to be held in this state, location and dates being given in each instance:

Lansing—Jan. 2 to 7.
Traverse City—Jan. 4 to 9.
Coldwater—Jan. 5 to 8.
Allegan—Jan. 6 to 9.
Croswell—Jan. 6 to 9.
Benton Harbor—Jan. 7 to 11.
Detroit, State Poultry Ass'n—Jan. 9-14.
Kalamazoo—Jan. 11 to 14.
Farwell—Jan. 12 to 15.
Saginaw—Jan. 13 to 17.
Port Huron—Jan. 20 to 23.
Houghton—Jan. 26 to 28.
Grand Rapids, West Michigan State Poultry Association—Jan. 29 to Feb. 3.

HINTS ON KEEPING EXTRACTED HONEY.

When thoroly ripened honey has been extracted it should be at once put into bottles, cans or barrels. These must be sealed up tight, and then put in a dry place. It will, of course, soon candy, or crystallize, but the flavor will be retained indefinitely, and the honey can be liquefied whenever it is needed for use. Care must be exercised in melting the honey as the flavor may be injured by the application of too great heat. Of course it will not be burned if it is not heated hotter than boiling water, but the application of so great a heat as this rapidly drives off the flavor. Keeping the package closed and applying a very gentle heat—never above 150 degrees—is the better way. Putting up the honey in such packages as can easily be put into warm water makes the liquefying more convenient.

When reliquefying granulated honey, place the receptacle containing the honey into a vessel of water. Put a few thin strips of wood between the bottoms of the two vessels. The honey should be kept heated for at least three or four

hours (according to size of receptacle), to insure perfect liquefying. Any granules which are not thoroly dissolved will hasten the solidifying of honey. Light and cold also have the undesired effect of aiding in this. Probably the best conditions for preserving honey are found in a place that is warm, dry and dark, similar to the inside of a beehive.

Honey in most any form is a healthful, concentrated, easily assimilated food, offered to man by nature, all prepared, extracted drop by drop from myriads of flowers. Our ancestors made it their favorite food. They knew no other sweet. The introduction of beet sugar has lessened the use of honey, so the latter is hardly ever found now except in the home of the bee-keeper, in certain medicines, and upon the tables of the few who know and appreciate its virtues. We should go back to honey, for it is well known that this food, without rendering necessary any insalivation or digestive work on the part of the stomach, excites nervous energy, gives mental force and tone to the vital functions, and is very beneficial to persons of sedentary habits or those doing much headwork. All who suffer from disorders of the stomach, who have difficult or bad digestion or are subject to constipation, should use it daily.

New Jersey.

F. G. HERMAN.

Ertel's POULTRY DIARY

is our new book for the use of poultry raisers. Keep account of your eggs, chicks and profits. Our Diary shows how and also tells about our new incubators. It tells why our prices are so low. The Diary is free. Better write for it today. Tell us if you are thinking of buying an incubator and what size you want. We pay freight. Geo. Ertel Co., Quincy, Ill.

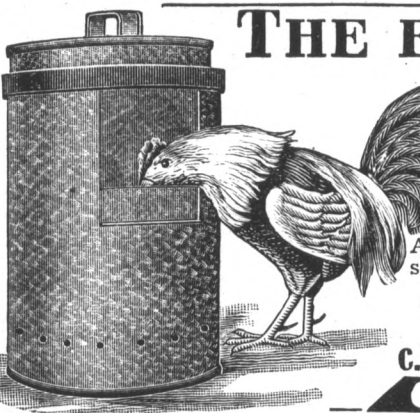
240-Egg \$10 Incubator
Other sizes Incubators and Brooders too low to price here. Write for our free catalog and learn why we can sell at such low prices. Why pay double our prices for machines not as good as the RELIANCE? Our book will give you full particulars and tell you how to raise poultry.
Free Book
and Save Money!
Reliance Incubator Co., Box 563, Freeport, Ill.

Greider's Book On Poultry
Concise, practical. How to make money with poultry; information as to buildings, treatment of diseases, etc. Fifteen attractive chromos; sixty prominent varieties. 10c postpaid. Fine, pure-bred stock and eggs at low prices. GREIDER'S GERMICIDE—a sure preventive and an excellent disinfectant. B. H. GREIDER, Rheims, Pa.

Hatch Chickens by Steam
Stahl "Wooden Hen" and "Excelsior" Incubators assure big hatches. Well-built, reliable, practical, thousands in use. Catalogue free. GEO. H. STAHL, Box 50 C, Quincy, Ill.

SHOEMAKER'S BOOK ON POULTRY
and Almanac for 1909 contains 220 pages, with many fine colored plates of fowls true to life. It tells all about chickens, their care, diseases and remedies. All about incubators and how to operate them. All about poultry houses and how to build them. It's really an encyclopedia of chickendom. You need it. Price only 15c. C. C. SHOEMAKER, Box 594, Freeport, Ill.

Hartman's Catalog Describes, Illustrates and Prices 50 varieties of Poultry. Tells how to Breed, Feed and raise Poultry for profit, gives plans for Houses, Diseases and their cures, and a mass of other useful information. You need this book for success, sent for 5 cents. Glenwood Poultry Farm, GEO. F. HARTMAN, Prop., Box 45, Freeport, Ill.



THE EXTRA EGGS

will soon pay for one of those Automatic Self-Heating Poultry Fountains. Keeps water at the right temperature day and night in the coldest weather and requires less than a quart of oil a week. Made of galvanized steel. Absolutely safe. A long-felt want supplied. Every hen house needs one. Price of one Heater complete, as illustrated, with two gallon tank, \$1.75. Agents and dealers wanted. Write at once for Circular B, and testimonials. C. A. S. Forge Works, Saranac, Mich.

QUEEN INCUBATORS and BROODERS

Hatch and raise chickens, better than other kinds. Nearly 90,000 of our Machines are proving this right along. They will do the same for you. Write me for proof. With the Queen it is easy to have early "friers" and "broilers" when prices are the highest. Five sizes, from 80 to 360 eggs. \$5.00 to \$18.50 and I pay the freight. Binding 5-Year Guaranty and 90 days Free Trial. Send today for my free catalog.

Wickstrum, Box 22, Queen Incubator Co., Lincoln, Nebr.



You'll hit the bull's eye every time, after a little practice, with a

STEVENS

You'll find it always true to your aim. And it shoots far and hits hard. A Stevens is a rifle to be proud of—all the other boys will envy you. Send for the

Stevens Catalog

—all about Stevens Rifles, Shotguns, Pistols. It tells you how to choose and care for a gun. Send 5c for postage. And you'll like Dan Beard's book, "Guns and Gunning"—all about the woods and the camp, about small game and hunting and shooting. Sent postpaid, 20c paper cover, or 30c cloth cover—stamped in gilt.

Most dealers sell Stevens Rifles—if yours doesn't, we will supply you direct, on receipt of catalog price.

J. Stevens Arms & Tool Co. 185 Grove Street Chicopee Falls, Mass.

Hatch With the Least Cost Per Chick

That is what we guarantee you can do with the **Invincible Hatcher**. Try it and if it doesn't produce more strong, healthy chicks than any other incubator, regardless of price, send it back. 50-Egg Size Only \$4.00. Same low prices on larger Hatchers, Brooders and Supplies. Write for 176-page FREE catalogue. The United Factories Co., Dept. X22, Cleveland, O.

SPECIAL FOR THIS WEEK. One fine pen Golden Wyandottes \$15.00. Rose Comb White or Brown Leghorns, 1 Cock 10 hens \$12.00. Buff, Brown, White Leghorn Chks. \$1 to \$1.50 each. Fine White Wyandottes and Barred Rocks Chks. large vigorous fellows \$1.50 to \$2.00 each. Also Turkeys, Geese and Ducks. E. J. HASKINS, Pittsford, Mich.

MRS. FLORENCE HOWARD, Petersburg, Mich. Splendid White Rocks and Rose Comb White Leghorns for sale. \$1 up. Eggs in season. Write wants.

SILVER, Golden and White Wyandottes. A nice lot of good cockerels still left. Satisfaction Guaranteed. C. V. Browning, Portland, Mich.

HAVE BRED Barred Rocks for 10 years. Have few extra fine cockerels will sell \$1.25 each. Coop free. Harrow Bros., Algonac, Mich.

FOR SALE—Pure Bred Farm Raised R. C. Rhode Island Reds. Choice Cockerels for sale. Eggs in season. Write your wants. H. SHANKLAND, Ann Arbor, Mich., R. F. D. No. 5.

Single Comb Black Minorca Cockerels for sale. A few pullets also. R. W. MILLS, Saline, Mich.

Breeders. Black Minorca, Buff Orpington, R. I. Red \$1 & \$2 while they last. Red cockerels and pullets. Edwin R. Cornish, Edwardsburg, Mich.

S. C. Brown Leghorns—the laying kind. 200 Cockerels, 100 Pullets, 20 Hens, \$1 to \$2 each. Best flock in Michigan. Send to-day. FRED NIOTT, Lansing, Mich.

BARRED ROCKS—We have a fine lot of Chks. from our Great Laying Strain. Prices reasonable. Order now. CAVANAGH & KITTLE, R. 4, Lansing, Mich.

DOGS.

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

COLLIES—Bred bitches and puppies for sale. Stud dogs for service. W. J. ROSS, Rochester, Mich.

FERRETS.

5,000 Ferrets Always buy Michigan ferrets, they are stronger and live longer. Price list and circular free. DeKleine Bros, Box 41, Jamestown, Mich.

The Michigan Farmer

ESTABLISHED 1843.

THE LAWRENCE PUBLISHING CO.,
 EDITORS AND PROPRIETORS.

 39 to 45 Congress Street West, Detroit, Michigan.
 TELEPHONE MAIN 4525.

 NEW YORK OFFICE—725 Temple Court Building,
 CHICAGO OFFICE—1736 First Nat'l Bank Building,
 CLEVELAND OFFICE—1011-1015 Oregon Ave., N. E.

 M. J. LAWRENCE President.
 M. W. LAWRENCE Vice-President.
 M. L. LAWRENCE Secretary.
 P. T. LAWRENCE Treasurer.

 I. E. WATERBURY Associate
 O. E. YOUNG Editors.
 BURT WERMUTH

M. H. HOUGHTON Business Manager.

TERMS OF SUBSCRIPTION:

Three Years 156 Copies	Postpaid	\$1.50
Two Years 104 Copies, postpaid		\$1.20
One Year, 52 Copies, postpaid		75 cts.
Six Months, 26 copies, postpaid		40 cts.
Canadian subscriptions 50 cents a year extra for postage.		

Always send money by draft, postoffice money order, registered letter, or by express. We will not be responsible for money sent in letters. Address all communications to, and make all drafts, checks, and postoffice orders payable to, the Lawrence Publishing Co.

RATES OF ADVERTISING:

40 cents per line agate measurement, or \$5.60 per inch, each insertion, with a reasonable discount on orders amounting to \$20 or over. No adv't inserted for less than \$1.20 per insertion.
 No lottery, quack doctor or swindling advertisements inserted at any price.
 Entered as second class matter at the Detroit, Michigan, postoffice.

COPYRIGHT 1908.

by the Lawrence Pub. Co. All persons are warned against reprinting any portion of the contents of this issue without our written permission.

WE GUARANTEE to stop THE MICHIGAN FARMER immediately upon expiration of time subscribed for, and we will pay all expenses for defending any suit, brought against any subscriber to The Michigan Farmer by the publisher of any farm paper, which has been sent after the time ordered has expired, providing due notice is sent to us, before suit is started.

Avoid further trouble, by refusing to subscribe for any farm paper which does not print, in each issue, a definite guarantee to stop on expiration of subscription.
 The Lawrence Pub. Co.,
 Detroit, Mich.

DETROIT, JANUARY 2, 1909.

CURRENT COMMENT.

While there is always a great deal of general interest in every legislative session, the work before the incoming legislature which will convene at high noon on Wednesday next, is even more important than that which confronts the average legislative body. Not only will the regular work which is necessary to every body of the kind engage their attention, but a mass of new statutes will be required to place our laws in conformity with the new constitution. A great many people are prone to look upon the changes made in our fundamental law by the constitutional convention, as final, but in many cases they are but the groundwork, or basis for legislative action, and the statutes under which they will become effective have still to be framed and passed by the incoming legislature. This work, added to the ever-increasing demand for legislation of all kinds by the people and for the institutions of a constantly growing state, will make the deliberations of the legislature of 1909 of more than usual importance and consequently of more than usual general interest to the whole people of the state.

The strength of the farmer contingent in the legislature has always been a patent and wholesome factor in previous legislative sessions, and there is every reason to believe that it will be such in the coming session. But the representatives of the agricultural districts of the state should have the counsel as well as the confidence of their constituents in order to do the best possible work for them. To that end all Farmer readers in the state should recognize their obligation to follow the deliberations of the legislative body closely and be prepared to make their desires known to their representatives in that body with regard to all pending legislation in which they have either a special interest from their location or occupation or a general interest as citizens of our great commonwealth.

We shall aim to keep in close touch with affairs at the capitol during the entire session, and make them a frequent subject of comment, keeping our readers advised with regard to pending legislation at all times to the best of our ability. By devoting a little personal attention to

these public matters in their own homes and by discussing them in their farmers' gatherings during the coming winter and spring, the progressive members of the Michigan Farmer family will not only be doing their duty as citizens, but discharging as well a responsibility which they owe to the men whom they have chosen to represent them at the coming legislative session.

The quarantine order in a modified force against Michigan due to the outbreak of foot and mouth disease has been conditionally modified by the officials of the U. S. Department of Agriculture so as to afford a measure of relief to the farmers and shippers of the state. The new order, which went into effect on Monday of this week, permits the interstate shipment of live stock for immediate slaughter to points outside of Michigan, except from the counties of Wayne, Monroe, Washtenaw, Oakland and Macomb, and the shipment into the state of feeding stock from territory not under quarantine restrictions, except into the county of Wayne. It also permits the shipment of hay, straw, and other fodders out of the state, except from the five counties above enumerated, and the shipment of hides and pelts under prescribed regulations.

The conditions under which this order was issued are that the state authorities effect and maintain a rigid quarantine of the five counties named, so as to prevent any possible spread of the infection from the territory under suspicion until it is certain that all danger is past. To this end, the State Live Stock Sanitary Commission will undertake to patrol the boundary line of the restricted district by driving over the highways adjacent to such boundary, and enlisting the co-operation of the residents in maintaining a patrol, as a means of hastening the day when the embargo may be lifted entirely. Blanks will be provided on which those appealed to will be asked to report any infraction of the quarantine order. A reward of \$25 will be offered for information which leads to a conviction for such violation, and all violations of the order will be vigorously prosecuted by the commission. All officers with police power are required by law to assist in maintaining the quarantine. In the meantime live stock for immediate slaughter may be shipped to the Detroit yards, as before.

While this order may seem severe to farmers and business men in the restricted territory, yet all should co-operate in its observance and enforcement, as upon it is conditioned the measure of relief granted by the federal authorities and by it the desired day of final and complete relief will be hastened.

Features of the Highway Law.

A query recently received from a subscriber which is in line with questions that have been frequently asked of us during the past summer, asks a most pertinent question with regard to the new highway law. This question is, how to proceed to secure, to his own benefit, a proper proportion of the highway tax, which involves a review of the general highway law as it is now written upon our statute books. The double tax plan is well explained in the first section of the law which reads as follows:

Section 1. The highways in every organized township in this state shall be laid out, improved and maintained by two money taxes; one tax shall be known as the road repair tax, and shall be assessed on all property in the township outside of the limits of incorporated villages, which tax shall not exceed fifty cents on each one hundred dollars valuation according to the assessment roll of the last preceding year, and the other tax shall be known as the highway improvement tax and shall be assessed on all taxable property in the township, including that within the limits of incorporated villages, which tax shall not exceed fifty cents on each one hundred dollars valuation, according to the assessment roll for the last preceding year. All highway moneys belonging to the township or to any subdivision thereof at the time of the passage of this act, shall be added to the road repair fund or to the highway improvement fund as the township board may direct, except such moneys as have been appropriated or set aside for a special purpose, which shall be used for the purposes for which they were appropriated or set aside.

Sections 2 and 3 of the law refer to the duty of the highway commissioner in submitting to the township board, at its annual meeting, statistics with regard to work heretofore done upon highways, and an estimate of the money which he deems necessary to be raised during the ensuing year. The board is required by law to present its statement at the an-

nual township meeting, at which time the electors residing outside of an incorporated village determine the amount of road repair tax to be assessed, which shall not be to exceed 50 cents on each \$100 of valuation. At the same meeting, the electors, by majority of all present and voting, including residents of incorporated villages who are required to pay their proportionate share of the highway improvement tax, determine the amount of said highway improvement tax to be raised for the ensuing year, which is also limited to an amount not exceeding 50 cents on \$100 valuation. The law also provides that if the electors present at any township meeting shall neglect or refuse to vote any road repair tax or highway improvement tax, the township board and township highway commissioner, acting jointly, shall order such sum or sums levied for either or both funds, as may appear to them necessary and advisable, not exceeding the amounts heretofore named.

Other sections of the law provide the manner in which the tax is to be levied and collected also provide that when the amount of such tax has been determined at the township meeting, the township board shall have the power and opportunity to borrow an amount not to exceed three-fourths of the tax determined upon for the ensuing year for the purpose of paying for labor and other expenses in connection with building or repairing the highways or bridges of the township. The section which deals particularly with the method which should be pursued by any individual voter to secure his equitable and just right under the law, is Section 9, which we give by text as follows:

Section 9. The road repair tax shall be expended for labor, material and other necessary expenses, under the supervision and by the direction of the township highway commissioner, on the highways and bridges which will directly benefit the property taxed, not exceeding one hundred dollars on any one mile of highway, unless otherwise directed by the township board. Should the highway or highways or bridges directly adjacent to any property taxed, be in good condition so that no repairs are necessary thereon, then the tax raised on such property may be expended by the highway commissioner on other highways or bridges in the township where it may be needed: Provided, If there be a surplus after the highway or highways or bridges directly adjacent to the property taxed have been repaired and put in good condition, such surplus may be expended by the highway commissioner on other highways and bridges in the township wherever any improvement may be needed: Provided further, That upon complaint in writing to the township board by any ten or more resident taxpayers that the road repair fund is being unequally and unjustly applied, or work improperly performed, the township board may direct the expenditure of such road repair fund or the manner of performing such work: Provided further, That not to exceed twenty-five dollars shall be expended by the highway commissioner in any one year for tools or machinery, without the consent of the township board.

Further sections of the law provide the manner in which the highway improvement fund shall be expended by the highway commissioner under the direction of the township board. The duties of the highway commissioner are prescribed and the number of road districts in any township is limited to one for each surveyed township, for which one overseer of highways shall be elected whose duties in connection with repair work are also mentioned. The compensation of officers and method of paying are also prescribed as are also the methods to be employed in the permanent improvement of the highways.

This is a brief outline of the general highway law of the state now in force. While it is possible that the law may be amended in some particulars at the coming session of the legislature, yet such amendments will not take effect in time to apply to next year's work so that this is substantially the law as it will stand next season, regardless of any changes which may be made in it at the coming legislative session.

HAPPENINGS OF THE WEEK.

Foreign.

A severe snow storm has been raging over the British Isles.

Wm. Wright, the American aeroplanist, will make a trip to Italy for the purpose of giving instructions in the working of his aeroplane and also to take part in an international contest.

The southern extremity of Italy and the Island of Sicily have been devastated by an earthquake. The reports indicate that it is the greatest disaster of modern times. It is estimated that thousands of lives were lost and a large number of small towns are reported as totally wrecked. Mt. Aetna on the Island of Sicily seems to have been the center of the disturbance, and that portion of the

Island within a radius of 40 miles about the mountain seems to have been completely laid in waste. The shock began at five o'clock last Monday morning and continued for about 32 seconds. Following the earthquake, came a tidal wave which did much damage to shipping about the Island of Sicily.

In order to protect their persons from the rebels, friends of President Castro, of Venezuela, have left the country and moved into the capitol city. Among these is the president's brother who is in command of a body of troops. The American battleship Des Moines has arrived at the Island of Curacao, and the North Carolina is also about the harbor.

Because the Russian Duma has been unable to agree on a budget for the year, 1909, the minister of finance has arranged a program for the first four months of the year, which, according to his estimates, will make a saving of about \$8,000,000 as compared with the first four months of 1908.

Because a number of opium planters refused to acquiesce in orders that they should refrain from planting poppies near Amoy, China, a riot ensued, in which eleven persons were killed. 500 troops were ordered to quiet the disturbance. The authorities announce their determination to enforce the anti-opium edict.

Statistics just complete show that the French people have a right to the title of the "Bankers of the World," as her wealth is sufficient large to give each man, woman and child \$1,100.

After an interval of eight months, the United States has resumed friendly relations with Venezuela. A special commissioner is now en route to that country to look over the situation and make a report.

National.

An earthquake shock was felt at Virginia City, Mont., last Sunday evening. The electric light plant and telephonic communications were interrupted. During last week the city experienced more than thirty earthquakes.

To aid in the financial legislation of the present session of congress, a national monetary commission was appointed. A special session of this committee will meet in New York this week to receive suggestions for legislation from financial authorities.

The American troops located in Cuba will begin leaving that Island on January 1st. The evacuation will not be completed until the first of April.

The quarantine placed upon states where cattle and other animals had been found suffering from the foot and mouth disease, has been modified during the past week. Stock for immediate butchering may now be sent outside of these states. Ten cases of what is suspected to be the foot and mouth disease has developed in children at Clarkston, Monroe county, N. Y. The cases are being investigated.

The state militia of Kentucky are guarding the mines at Stearns, where considerable disturbance has recently been caused by striking miners.

Representatives from the United States received special attention at the Pan American Congress in session at Santiago, the past week.

Congress has appropriated \$1,000 for interring the body of Pierre Charles L'Enfant, the Frenchman who planned the city of Washington under the direction of our first President. He was an engineer of remarkable ability and served in the country during and after the revolutionary war.

A conference is being arranged between the United States, Canada and Mexico looking toward the conservation of the national resources of the three countries. Gifford Pinchot, Chief Forester of the United States, is responsible for the movement and will plan for the conference to be held in the near future.

The fishing boat, Rhine, was lost while trying to make the Frankfort, Michigan, harbor, December 27th, and four persons were drowned.

The caving of a trench at Birmingham, Ala., caused the death of ten workmen. Several others were injured.

The supreme court of Missouri handed down a decision last week ousting the Standard Oil Co. and the Republic Oil Co. from that state, and forbidding them ever again to do business within its borders. In addition, each of the companies is fined \$50,000. The court found that they had conspired to regulate and fix prices to retail dealers, to control and limit the trade in petroleum and to limit competition in the buying and selling of petroleum products.

In the supreme court of the District of Columbia, Samuel Gompers, John Mitchell and Frank Morrison, president, former vice-president and secretary of the American federation of labor, were last week sentenced to jail for contempt of court. According to the court, they had defied an injunction against a boycott. This is one of the heaviest blows directed against the labor unions and considerable comment has been raised because of it.

A grand jury has been organized to investigate the beef trust in connection with alleged rebating. The jury is sitting in Chicago.

The city of Pittsburgh is much excited over the alleged grafting that has been carried on by a number of her officials. The street railways of this city and San Francisco are owned by the same parties. In San Francisco action has been brought against the company for bribery, and investigation has led to the uncovering of similar conditions in Pittsburgh.

Advance reports show that the total foreign commerce of the port of New York decreased only \$79,118.00 during the fiscal year ending June 30th, 1908.

The relief corporation which had charge of the funds donated to San Francisco after the fire of 1905, have a balance on hand of nearly \$400,000, which will be distributed among charitable organizations.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

ONE RURAL SCHOOL.

BY AN OLD PUPIL.

Good communities, like good fruits, come not by chance, as both must, of necessity, come thru the channels of good culture either in soil or soul. Prime fruits, like prime manhood, are travelers over the great highway, that leads to something both beautiful and tangible. We love the perfect apple, both for its beauty and utility, and we love that man or woman who is willing, always, to share their life endeavors for the uplift of the community about them, as in such a rural district life is truly worth the living, and of such a district will this article treat.

Who is that man or woman whose childhood was passed in the country who does not feel at times the touch of pathos at the slightest mention of "the little red schoolhouse?" Aye, even as I write this the tears fill my eyes and I see thru their mist an endless array of mind pictures that stand out boldly for a recount; and as I, in imagination, shake hands again with the past—spurning all its failures and welcoming its successes—yes, even I am forced to pause in sacred reverence before each of these idols of memory; and as I wander on, back over the accumulated years, and once again stand among my playmates and in the presence of "the little red schoolhouse," I take off my hat and exclaim, "Blest be the tie that binds!"

Now that we have reached the schoolhouse door I crave your attention until you have heard the true story of at least one country district in this, "Michigan, My Michigan."

In Van Buren county, in the southwestern corner of the state, and near South Haven, "the beautiful city by the sea," is a district whose early history is not much different than is that of thousands of other districts thruout the state. However, it happened to contain among its pioneers a few public-spirited men and women who were not satisfied with the simple establishment of a school in the woods, so putting their wise heads together they met in council at one of the cabin homes and devised to hold weekly lyceums, these to convene in the "little red schoolhouse" that nestled close up under the spreading arms of the natural surrounding forest. That this venture proved not to be a "still birth" is shown by its history. The lyceum started its infant career in the winter of 1865-6, and its winter sessions have been held, with slight intermission, right along down to the writing of this article. Think of it, readers, a rural society linked arm in arm with a rural school, and traveling down thru forty-three years, and with no visible signs of divorce as yet.

Do you ask as to the relationship existing between the lyceum and the school? Here it is. The school is a vital adjunct to the lyceum inasmuch as no program is ever made out wherein the children do not play an important part. These programs embrace every phase of rural life, both socially and mentally. Music, both vocal and instrumental, are given liberal space, while in the role of declaiming the field is open to the old and bald, down to the little lisping tot who must stand in a chair in order to be seen.

Now let us see what all this has meant in the development of the community and the people therein; and to prove that the writer knows what he is writing about, let it be remembered that he, as a boy, was a pupil in this self-same school, and that the thirty-four years since we left its marked and whittled benches has been lived within close proximity to this, to me, almost sacred spot; and let it further be remembered that we are not in ignorance as to rural conditions thruout the state, as journeys up and down have opened doors for us into many, many homes, halls and schoolhouses, and that no place has ever been visited that has not left an impression either good or bad. For instance, if school grounds are found treeless and bare of other attractions, I need no further clue as to the general brain power that is extant in that particular neighborhood.

Proceeding with the work in hand, I will state that quite early in the history of the district it was given the very pleasing name of Maple Grove, due to the nature of the surrounding forests. At about this time a few spiritually minded people felt the need of a Sunday school. With this established, they of course wanted an instrument to aid in the music, and by general collection an organ was procured; thus, three associations, the Sabbath school, the day school and the lyceum were provided for. From this on progress was rapid and substantial. The school and attendant societies proved as magnets to prospective purchasers of land; thus a rapid influx of very desirable people came to dwell among us, adding their numbers to our schools and lyceum, and right here let it be said to the credit of all, that tho nearly every religious sect is represented here, yet no one would ever guess



from attending the union Sunday school but that all believed alike.

Times demanded that the schoolhouse be enlarged in order to meet the increase of population, as more farms were being bot, more acres cleared and more homes built. As South Haven is situated in the very midst of the far-famed fruit belt of western Michigan, the land, about as fast as it could be cleared and subdued, was set to fruit; so as fast as the monarchs of the forest bowed their exit to the woodman's axe the artificial fruit forests took their place. About this time the spirit of roadside tree planting took possession of the Maple Grove society and to that end, in the year 1876, centennial year, an arbor day picnic was proposed. Every man attending was to bring a suitable tree, said tree to be planted in the school yard on that day. Suffice it to say that over 150 trees were set; also that a great feast was held and that all the school children and their parents were made glad thru a great duty well done. Now we will let the trees grow until later in our story.

The moral influence of the Maple Grove schools and society has long been noted by the outside world. We say outside world because South Haven has developed into a great summer resort, and the thousands upon thousands of tourists from the great cities, being in search of beauty and comfort, naturally "hike" for the country where there is an abundance of fruit, shade and freedom; thus do hundreds each season find beautiful Maple Grove; and that summer day is rare when the camera lover does not bear away a picture of schoolhouse and grounds. It is both comforting and amusing to hear and answer many of the questions as put to us by the ordinary city dweller who has ignorantly lived with the thot and belief that chin whiskers, carpet bags and stoga boots were the trade marks of ruralism. They come to us annually in search of the "hayseed," but find him not. Instead they find in Maple Grove, not a peasantry, but rather a people who can readily converse with them on all topics, and a people who are yet clinging to that blessed boon and heritage, namely, hospitality. They also find our school children to be thoroly conversant with nature, naming readily all the native trees, bush fruits, plants and flowers with the readiness of a college professor. And why is this so? For answer let us turn back to those saplings that were set out away back in 1876. Their own story is told in the resultant beautiful grove that I bring to the readers of the Michigan Farmer thru the medium of an accompanying picture.

This grove embraces nearly all of the native woods, and as they are strewn all around and about the very doors of the schoolhouse, the children naturally become acquainted with the trees as much as with themselves; indeed, these trees are a part of their very lives, as hundreds of us descendants from this particular school can testify. Then will you doubt our claim of morality for this school and the precinct that surrounds it? If you deny that trees are both moralizers and civilizers, then I must tell you that you have not as yet emerged from the brute stage and that you are five hundred years behind the times; for when your child or mine is keeping company with a flower, a plant or tree, it is in God's company and cannot do wrong. Listen to the golden words which Dr. L. H. Bailey spoke to me not long ago when on a visit to his boyhood home, which is at this place. While walking among the trees he said, "My friend, these trees, every one of them, are sacred to me as they were my playmates in youth and always an inspiration for good." Here is the touching part of it all. Dr. Bailey, as a boy with me, took active part in the very lyceums and in the same little red school of which I am telling you about, and from those same small beginnings he has wandered out and up until today he stands without a peer in the world of horticulture and agriculture; aye, he has been honored by the president of these United States by naming him, Prof. Bailey, as chairman of the Country Life Commission that is now at work trying to solve some of the questions concerning country conditions, trying thereby to install a system of real rural uplift; and to that end this same Dr. Bailey, a man well known thruout the world, has remembered, thru all his great career, that there is a Maple Grove, that his first ventures at public speaking were in this little red schoolhouse, and today he returns to us in person and asks that a suitable writeup of Maple Grove, its schools and

societies be furnished to the commission, promising to give the matter his personal attention when it appears before that body.

Now let me call your attention to the group of children as shown in one of the pictures. These pupils were not dressed for the occasion as they knew nothing of the presence of the photographer until he swooped down upon them and merely asked that they look pleasant for just one moment, with the result as you find it. There are fifty-two faces shown here, including that of the teacher whose pleasant, happy face can be seen in the left background, the location being shown by a cross above. Miss Cora Doolittle allows her name to be used as teacher of this school and I take pleasure in crediting her with the successful guidance of the many young souls that surround her. It was she who introduced the teaching of agriculture in our school.

Now as a summary I ask all to observe the following closely: First, note the well clothed condition of every pupil in the picture. For an everyday garb, is this not pleasing? Our record on morals is also one to be proud of. Since this school's inception, forty-three years ago, we have furnished but one boy to the industrial school at Lansing, and this boy, being the progeny of irresponsible parents, should not be charged against the school and neighborhood. As to profanity, we do not claim perfection, but as to our school and community at large one will travel long and far before finding a country community so free from profanity and blasphemy as is ours. So far as the liquor habit is concerned we are almost entirely free from its influence, which is proven in the fact that we haven't a pauper in the district and but one habitual toper; this one is a recent arrival and must not be charged to us. Within 1 1/4 miles of our school we find, by actual count, seventy-five homes which average 1 1/4 child to the home, giving to us an enrollment of children of school age of something over one hundred. Of all these homes not one is without paint, and most of them are structures of modesty but substantial and homelike. We have users of tobacco, of course, but they are very far in the minority; in fact, the number of habits are so rare as to warrant one in walking the streets and entering meetings in safety against filthy floors and polluted air, and the children of the school, both from their teachings and home training, look with both pity and abhorrence upon the liquor and tobacco user and his habits. Thus, under such training, our school and attendant societies are yearly giving to the world a grade of humanity which adds new stars to our crown and new zest to the great business world in which they enter.

A business man in South Haven recently remarked to me that Maple Grove was unusually prolific in the production of bright desirable young folks, and that it is conceded by all careful observers that our district has given to South Haven high schools and to the city's business ranks the longest and best list of people of any of the surrounding districts. So much from a member of the city school board. All hail to the little red schoolhouse! It is a well-seasoned hickory spoke driven well into the hub of the world's wheel of fame and fortune. Drape it in God's choicest weave, namely, trees. Don't blame the boys and girls for leaving the farm if you have neglected to make the school and its grounds the one sacred and happy spot in their lives. Drive gloom from the farm, and joy eternal will take its place.

Happiness in rural life is what we want, but, mark you, the treeless roadside, the barren, cheerless school grounds, the unattractive home, filthy habits and sordid dispositions, all these will rapidly break the strands in the strongest rope and away goes the tie that binds. Don't mark life's profits by the dollars it will produce but rather by the sunshine and happiness that we can crowd into our rural lives, for in this is a profit that heats gold every time. Gold is a poor feeder of the soul and is costly to acquire; but true happiness is free to all as it springs from seed. Plant a smile about the mouth and someone takes it up and it spreads into a grin, then into laughter, and finally all present are happy. Plant a dim, lusterless seed and the first thing we know God has coaxed it into a beautiful living green, and, if given a little care on our part, it will spread its tender fingers up and out and before we know it we are warding off the blistering summer sun by resting 'neath its cooling shade. Thus, a kind

word or beaming smile spent on our rural teachers is never lost. It is seed planted that is bound to radiate thruout the day's work and into every corner of the schoolroom, and at night when school is dismissed every child will unconsciously lug home to his parents an echo of happiness from the little seed planted in the morning.

Dear reader, my simple story is told. Take it and fit it into your own conditions. If the district in which I live seems ideal to you, you are at liberty to take patterns from it; and if yours in any way appears superior to ours, the columns of the Michigan Farmer will undoubtedly be given to the revelation and its readers be thankful for the ideas advanced. However, this much I kindly ask: that whenever you pass that schoolhouse in which your little ones are assembled, just pause long enough to study its needs. Know that the teacher is a moral person; also, that his example is for the betterment of those whom you have brot into life. You planted the seed, now look to its nourishment.

ADAM'S RIB.

BY CARRIE SCHUMANN.

Had Adam known that his rib was to be taken and made into a woman would he have consented? The woman of today is bound to pry into things and turn loose upon the world a lot of trouble. That stolen rib of Adam's is supposed to be a closed incident. The borrowed member was long since restored to man. For countless generations he has had the rib as well as the woman. The man of today isn't worrying over the affair at all. He would never think of it if the preacher didn't mention it once in a while. But woman, womanlike, must ask him whether or not he is sorry she is in existence. To be sure, she expects a compliment. The modern Eve would have the modern Adam lie if necessary to gratify her vanity, which fact goes to show that woman hasn't changed much.

Adam has left no evidence of his feelings on the subject and we can only guess at this late day whether he would willingly have exchanged a good sound rib for a woman or not. But this much we do know, that he would have been trading in the dark. It would have been impossible for him to comprehend what a woman would be like, and to this day man can't make her out. He doesn't know to this day whether or not she is necessary to his happiness. So Adam might very reasonably have balked when asked to give up one of his good ribs for something that might prove an intolerable nuisance to him.

From the beginning it was decided by the highest authority that it was not good for man to be alone. For of all creatures living, man is the most helpless when left without companionship. Another reason why man should be glad of the exchange that Adam made is that man can now, as Adam did, lay the blame of all the wrong doing upon the woman. Down thru all the years has this been done and so will be until time has ended and even at the bar of judgment he will cry, "twas the woman, 'twas the woman!"

But, after all, the most important question at this late day, is not what Adam, in his ignorance, might have done had he been allowed to choose, but what he is willing to do to gain and keep the love of a good true woman. She is more exacting than she was in those old days. She requires the right to stand shoulder to shoulder and heart to heart with the all-powerful man in all the great enterprises of our land. It is her influence that moulds the character of the coming generation. When man comes to realize more fully woman's mission on earth and her power, social and otherwise, I don't think he will have any cause to regret that Adam was called upon to exchange a rib for a woman.

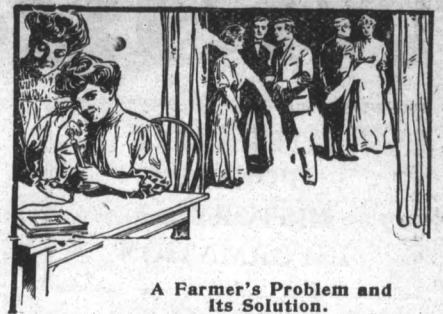
FREE DEAFNESS CURE.

A remarkable offer by one of the leading ear specialists in this country, who will send two months' medicine free to prove his ability to cure Deafness, Head Noises and Catarrh. Address Dr. G. M. Brannaman, 1540 Walnut St., Kansas City, Mo.

A Mineral Spring at Your Door.

You can drink three times every day from a healing mineral spring that cures sick people, that makes the weak strong, and need not go outside your door to do it. Vitae-Ore, advertised on the last page, is a healing mineral spring, condensed and concentrated.

The sewing machine we received some time ago is first class in every way. It is fine.—Mrs. G. W. Havens, Shultz, Mich.



A Farmer's Problem and Its Solution.

How can I keep my children on the farm? How can I make them content with farm life? How can I prevent them from forming a desire to live in the city? These are questions which are perplexing the farmers all over the country. The progressive farmer of today realizes that he cannot change the nature of his children to fit the farm so he proceeds to make over his farm to fit the nature of his children. He purchases labor-saving farm machinery and rebuilds his house in accordance with modern ideas. Steam heat, open plumbing and electric lighting, all help to make the home comfortable. In spite of these improvements, however, farm life is not everything that can be desired. Neighbors are few and life is too quiet for sociably inclined young people. They like to mingle with their friends and to have frequent social gatherings, but distances are often so great that such gatherings are difficult to arrange, especially during the long winter. It may be claimed that this is an inevitable condition of farm life and can never be changed. It is true that distances must always be great but that isolation is not a necessary feature of farm life is well illustrated by the following story:

Jones (as we will call him for convenience) was a prosperous ranch owner of Northwestern Texas. He and his wife had every reason to be satisfied with their lot. A snug bank account, a large and well managed ranch, an ambitious son just graduated from the state college, and a bright daughter of eighteen, all contributed to their happiness. Jones, like most fathers, had his ambitions in regard to the future of his children. He wished his son to learn ranching thoroly and eventually to succeed in the management of the ranch. He wanted his daughter also to remain at home until she should marry and in that event he hoped her choice of a husband would be some neighboring young ranchman.

Both children had always appeared to be perfectly happy at home, but as time went on they showed symptoms of loneliness. Fearing that this might in time lead to a desire for a more exciting life and that the old ranch would become a hardship rather than a pleasure, Jones and his wife put their heads together in the hopes of finding a means of giving their children more social life. It seemed rather a hopeless proposition but one day an advertisement in a farm magazine attracted Jones' attention. It stated that the Western Electric Company was selling standard telephone apparatus to the general public and that a book would be sent free upon request describing a telephone system suitable to rural communities, instructions for installing and maintaining such a system and a constitution and by-laws for the purpose of organization. He showed this advertisement to his wife and both decided that it furnished just the needed idea.

Jones immediately wrote for this book, entitled "Rural Telephone Equipments," and upon its receipt began putting his plans into operation. First, he visited a number of ranch owners with whom he was acquainted and secured their co-operation. A meeting was held and a corporation formed. Other farmers and ranchmen became interested and in due course of time a rural telephone system was a reality. This system was connected with the nearest town which had long distance connection.

The system was a success from the start. Jones' children had many young friends in that part of the state and the telephone service brot them in touch with one another so the sense of isolation and loneliness disappeared. When Mary wished to give a little party she had only to call her intended guests over the wire and invite them. No more tiring journeys from ranch to ranch in order to collect her friends. John, too, was able in the same way to keep in touch with his friends. Many social chats could be had over the telephone when the weather was bad and the evenings lonely.

But the benefits derived from this telephone system was not in the way of pleasure alone. News could now be obtained at any time from the town and outside world. Crop and weather reports, market conditions and prices all were received regularly.

Jones and the other subscribers soon found that this telephone service was actually a source of income to them which soon paid for the cost of the apparatus and its installation, and, thanks to the fact that the apparatus was the best made, was more than enough to pay the cost of maintenance. Many times it proved its worth in cases of sickness and accident when the prompt attendance of a physician was necessary.

But most important of all, at least in the opinion of Jones and his wife, was the fact that their children could have the social life which they had so much desired and which had been the only thing lacking to make their lives perfectly happy in every way.

It is by far the best agricultural paper we know of after trying several. The magazine section is a great improvement. We enjoy it very much.—Wm. Teneyck, Middleville, Mich.

A STUDY IN CARDBOARD.

BY ARMIN BOEHNLEIN.

An interesting and profitable pastime for old or young people during the long winter evenings is the cutting out of cardboard into useful and decorative objects. The articles necessary to the accomplishment of this purpose are a sharp knife (pocket-knife, or even a paring knife), some cardboard, gray preferred, of light weight, which can be obtained at any stationer's, and some home-made paste or mucilage. Herewith are given a few of the articles which may be made.

Lantern.

Fig. 1 shows a lantern complete, which may be hung up in a cosy corner or other desirable place. Fig. 2 shows diagram of lantern, giving all necessary dimensions. After marking and cutting out

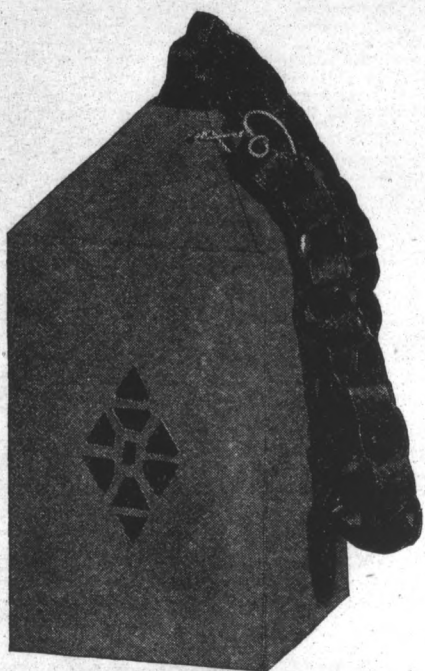


Fig. 1. Completed Lantern.

cardboard as per diagram, the four sides or panels should be ornamented with a design, such as given in Fig. 3, or perhaps you may be able to design something better. Then cut out design, using a very sharp knife for the purpose, so as not to leave rough edges. Then draw knife lightly over all dotted lines in diagram being careful not to cut too deep; then crease and fold to form the lantern, and paste. The piece in diagram marked A should be cut off and pasted on last and forms top over door C. B forms bottom of lantern. The chain on which lantern hangs suspended is made of links of cardboard strips. The panels should be backed with some colored tissue paper, red being harmonious with gray.

Lamp Shade.

A very pretty lamp or candelabra shade, Fig. 4, can be made by copying the diagram as shown in Fig. 5, and then cutting out on dark lines. The circle is 14 inches thru center and panels should be 7 inches at bottom and taper to 2½ inches at top. If a smaller shade is desired for candle holder a large dinner plate can be used for making it. The other dimensions would be reduced ac-

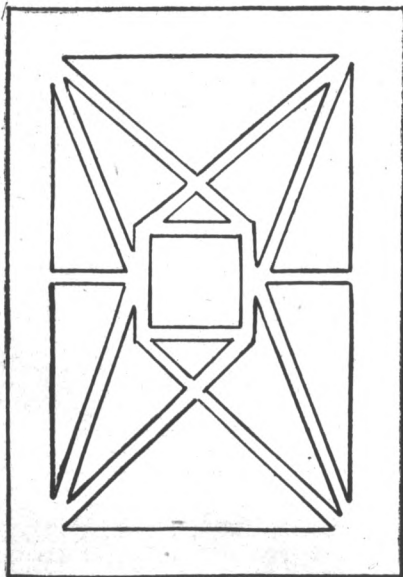


Fig. 3.

cordingly. Crease dotted lines. Fig. 6 shows a design for a panel and this can be copied or some other design used. The larger the design, the more effective it

will make the shade when illuminated. The panels should be backed with colored tissue, red or yellow being best colors. A very pretty effect is given by inking or blacking the cardboard.

[The author of this article and designer of the panels, etc., is a boy thirteen years old.—Eds.]

THAWED OUT.

BY E. RUSSELL.

Dan Crosby was a retired farmer living in a little village ten miles from the railroad. He had made his money dealing in cattle and was known far and wide in the township as one who could drive a hard bargain.

"Two children!" said Dan Crosby, "coming here! I won't have 'em—and there's the end of it!"

Dan Crosby stood on the red-brick hearth in front of his big wood fire in an attitude of the deepest animosity, an open letter in his hand, a frown darkening his rugged face.

Mrs. Crosby paused in her occupation of stocking mending, a pained expression passing over her toll-worn lineaments.

"But they're your own son's children, Dan," she pleaded. "And their grandma on their mother's side is dead, and there ain't no one to care for 'em at Hill's Hollow."

"Well, I can't help that," retorted the old man, setting his yellow teeth together. "Do the Hill's Hollow folks think I keep a free tavern? I don't like children. I never did. When John James married and had a family he didn't consult me—and I ain't goin' to support 'em. I want that clearly understood. At my age I can't have children racketing about the house. I brot up John James and Esther Anne—and that's all can be expected of me."

Mrs. Crosby's countenance fell. In her secret mind she had all the morning been planning what room John James' orphans should have, how she would unpack sundry broken toys that she kept in a chest in the garret—sole relics of the only child she ever had had—for their behoof, and what a gleam of sunshine their presence would bring into the silent, dreary house. They were no kith or kin of her, being the grandchildren of Deci-

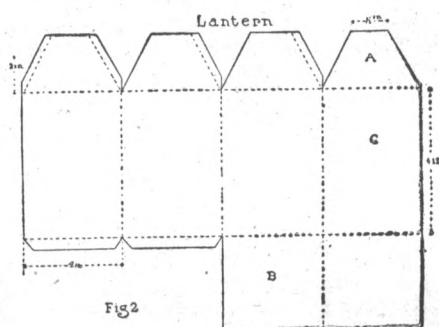


Fig. 2.

mus' first wife, yet her heart warmed to them with longing tenderness.

"It seems 'most a pity," said she, "not to—"

"We won't argy the question no further," said Dan, sharply, "I ain't goin' to hev 'em here, and that's the long and the short of it."

"But, father, they're on the way here already!"

"Then they'll hev to be on the way back, that's all, afore they're twenty-four hours older."

And Dan Crosby went out to do his chores. Five minutes later the ring of his ax at the woodpile, sharp and sudden, gave the keynote to his mood of stern resolve.

"Is this the house, Kitty?" said little Johnny Crosby, as the stage driver helped him out of the creaking old vehicle; "does grandpa live here? Oh, dear, I do hope there's a good fire, because I'm so frozen cold!"

The elder sister, a mite of ten, stood on tiptoe to sound the knocker, while little Johnny clung to her, with one hand on the tattered carpet-sack that contained their earthly stores.

"Ain't there no one there?" faltered he.

"I don't know," said Kitty. "I'll knock again."

Still no answer came. Mrs. Crosby was out feeding her chickens in the barnyard, and old Dan was performing his nightly task of milking, in the safe shelter of the cow stable. As it happened,

he was the first to re-enter the house and confront the little creatures, who were still patiently waiting on the doorstep.

"Eh!" said he. "Who be ye?"

"We're John and Catherine," said the girl. "We couldn't make anyone hear. Please, are you our Grandpa Crosby?"

The old man peered up the road. "Stage gone?" said he.

"Yes, sir!" answered Kitty, shivering.

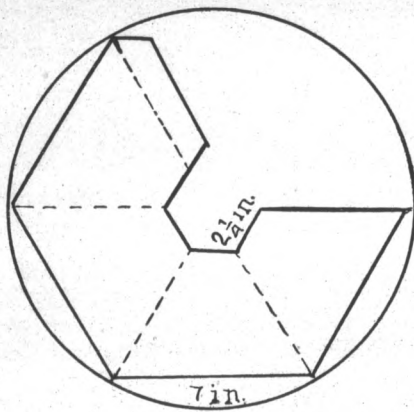


Fig. 5.

"Wal, it stops at the tavern an hour to change hosses and give the passengers their supper. You go arter it—it's only half a mile—and tell the driver to take you back on the night trip to where you came from!"

"Ain't we to stay here?" hesitated Kitty.

"No," said Dan, "you ain't. We don't want no children here. Come, start on—it'll be dark pretty soon!"

And by way of terminating matters he shut the door in their faces and went back into the house with a grim chuckle.

"It's a good thing Betsy wasn't here," said he to himself. "She'd a-been sure to hev made a fuss. Women hain't no judgment nor discretion."

Half a dozen rods down the road Regina Wheply, the village school mistress, came upon two forms crouching among the dead leaves in the angle of the old stone wall.

"Mercy upon us!" said she, with a little start. "Who is this?"

And with tears and tribulation the children told their story.

Regina was a tall, straight girl, with eyes as black as coal, a rosy color and a true womanly heart.

"It's a shame," said she. "Two little helpless creatures like you! But everyone knows that when Dan Crosby makes up his mind there's no way of softening him. Hush, there he goes now."

She drew the children back into the shadow as the old man trudged past, the visor of his fur cap pulled over his eyes, his hands thrust deep down into his pockets. All three drew a long breath of relief when he was gone.

"Look here," said kind Regina, "I'd take you in myself if I had a home; but I have none. I'm only a country school teacher, boarding around. One thing is very certain, tho; you can't go any farther tonight. I'm boarding my week with your Grandma Crosby now. I know she'll let me take you into my room there, and we can fix up some sort of a bed there, for one night at least. Your Grandma Crosby, she's a human Christian, and not a heathen sphinx!" setting her lips close together. "Come, don't cry any more, little boy. I'll take care of you."

Mrs. Crosby's amazement at the sight of Miss Wheply leading a child by either hand on her kitchen threshold may be

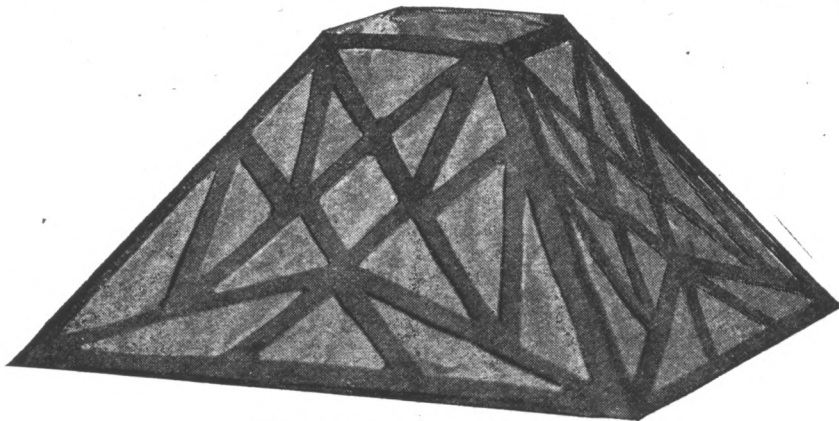


Fig. 4. Lamp Shade Completed.

easily imagined. At the piteous tale she burst into tears.

"Oh, Miss Regina," said she, "what am I to do? He says—"

"Never mind what he says," curtly interrupted the girl. "We can't let these two poor little children perish of cold this bitter March night because he hasn't

any heart! As for getting to the tavern before the stage starts again, they're not able to do it. And, after all, what would become of them at the other end of the route? No, Mrs. Crosby, we'll give them a good supper of warm bread and milk, and fix 'em a good bed in my room for tonight. And if your husband finds it out and scolds you, why, you may just tell him it was my fault. I'm not afraid of him if you are. And tomorrow we'll consider what is best to do next."

Thus relieved, to a certain extent, of the responsibility, old Mrs. Crosby set to work with a glad and pitying heart to warm and feed the two poor little children, and did not rest until she had seen them snugly asleep on a floor-bed in the corner of Regina's small apartment.

"It don't seem as if I could ever let 'em go again, Mis' Wheply," said the old woman, wiping her spectacles. "But you don't know what it is to be married."

"No, I don't," said Regina, laughing. "But, never mind, Mrs. Crosby, two sweet children like this will be sure to find a home somewhere."

Old Dan came home at the usual time from the village store.

"It's a snowin'," said he, "snowin' hard."

"Is it, father?"

"Yes; where's the lantern?"

"What do you want the lantern for?"

Dan Crosby writhed uneasily.

"I stopped in at the tavern on my way back," said he, "an' they told me the stage went back empty."

"Did it, father?" (in a low voice).

"An' I feel sorter oneasy to think what can have become o' them children," unwillingly admitted the old man. "I dare say for't, I can't get the look o' that boy outen my head. It's jest the way John Crosby used to look at me. John Crosby

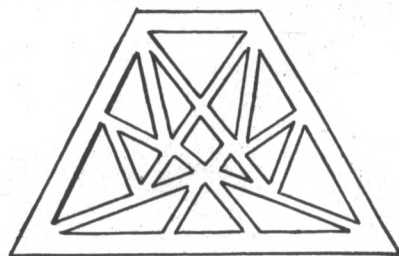


Fig. 6.

had dreadful pleasant eyes. Help me to s'arch for the lantern, mother. I must go out and hunt the children up. I wish to goodness I'd never sent them away."

At that moment the door at the foot of the stairs opened. Regina Wheply stood there, with flushed cheeks and shining eyes.

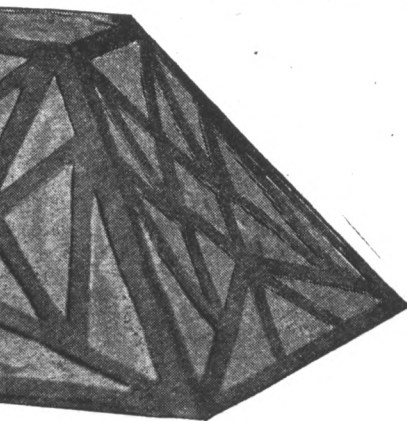
"If you really mean that, Mr. Crosby," said she, "Providence has been kinder to you than you had any right to expect. Light the lamp, Mrs. Crosby. Show him where the poor creatures are. I found them cowering under a stone fence, Mr. Crosby, and I brot them here on my own responsibility. Look!"

She held the lamp high above her head. Old Dan leaned forward and for the first time in her life Mrs. Crosby saw a big tear splash down from his dim eyes on the blue plaid coverlet.

"I'm glad on't," said he, "I'm glad on't! It's a bitter March night, and the snow is falling as I never knowed it to fall afore in March, an' if them little ones had perished—"

His voice broke down; he turned his face away.

"Father," pleaded the old woman, com-



ered hand appealingly on his arm, "they may stay here, mayn't they?"

"Yes," he answered, in a husky voice, "they may stay here."

So the little wanderers found a home, after all, and to judge by popular report, not an unpleasant one.

"For, I do declare," said Miss Wheply,

"those children rule the house. Only think of old Dan Crosby, who used to think that children had no business to exist, building a play-room for them in the barn, and buying a little pony for them to ride, and taking them with him wherever he goes. His heart had been frozen up tight these many years, but it has thawed out at last.

So it had, in the sunshine of children's smiles, the magic influence of which the Great Teacher spoke, when he said: "And a little child shall lead them."

PUTTING UP A STOVE PIPE.

BY I. Z. Y.

Putting up a stove is not so difficult in itself; it is the pipe which raises four-fifths of the mischief, and all the dust. You may take down a stove with all the care in the world, and have your wife put the pipe away in a secure place, and yet that pipe won't come together again as it was before.

You find this out when you are standing on the top of a chair, with your arms full of pipe, and your mouth full of soot. Your wife is standing on the floor, in a position which enables her to see you, the pipe, and the chair; and here she gives utterance to those remarks which are calculated to hasten a man into the extremes of insanity. Her dress is pinned over her waist and her hands rest upon her hips. She has one of your hats on her head, your linen coat on her back, and a pair of rubbers on her feet. There is about five cents worth of pot-black on her nose, and a lot of flour on her chin; altogether she cuts a figure which would inspire a man with distrust.

And while you are up there, trying to circumvent the awful contrariness of the pipe and saying that you know some fool has been mixing it, she stands safely on the floor and bombards you with some such domestic mottoes as, "What's the use of swearing so; you know no one has touched your pipe; you ain't got no more patience than a child; do be careful of that chair." And then she goes off and appears with another armful of pipe, so horribly mixed up that it does seem as if no two pieces are alike. You join the ends, and work them to and fro, and to and fro again, and then you take them apart and look at them. Then you spread them apart once more and jamb them together again. But it is no go. You begin to think the pieces are inspired with life, and you ache to kick them thru the window.

But she doesn't lose her patience. She goes about with that awful exasperating rigging on, with a length of pipe under each arm and a long-handled broom in her hand; she says she doesn't understand how it is that some people have no trouble in putting up a stove.

Then you miss the hammer. You don't see it anywhere. You stare into the pipe, along the mantel, and onto the floor. Your wife watches you and at last is thoughtful enough to ask you what you are looking for. On learning, she pulls the article from her pocket. Then you feel as if you could go outside and swear a hole twelve feet square thru a brick wall. But she only observes, "Why on earth don't you speak when you want anything, and not stare around like a dummy."

When the part of the pipe which goes into the wall is up, she holds it there with the end of the broom handle while you make the connection, and she stares at it with an intensity which is altogether uncalled for, your position in the meantime becoming all the more interesting. The pipes don't go together, of course, the soot shakes down into your eyes and mouth, the sweat runs down your face and tickles your chin as it drops off, and it seems as tho your arms are slowly but surely drawing out of their sockets.

Here your wife comes to the rescue by enquiring if you are going to be all day doing nothing, and if you think her arms are made of cast iron. And then the broom slips off the pipe. In her endeavor to secure its hold she jabs you under the chin with the handle, and the pipe comes down on your head with its load of fried soot. The chair tilts forward enough to discharge your feet, and you come down on the wrong end of that chair with a force that would bankrupt a pfe driver. You don't touch that chair again. You leave your wife examining the chair and bemoaning its injuries, and go into the kitchen to wash your skinned and bleeding hands with yellow soap.

Then you go down the street after a man to do the business, and your wife goes over to the neighbors, with the

chair, and tells about its injuries, and drains the neighborhood dry of its sympathies, long before you get home again.

A CHAFING DISH SUPPER.

BY RUTH RAYMOND.

He took her to party and concert,
To dinners and banquets a few;
To operas grand or amusing,
Yet ne'er for her hand did he sue;
She waited as maidens must ever,
Then thot of a feasible plan—
She would serve him a chafing-dish supper,
And please this adorable man.

She sat by his side while concocting
The viands most tempting and rare;
"She's a queen among cooks," he decided,
Then asked her his mansion to share;
She served while he joined in her laughter,
The chafing dish still held its place;
And happy were they ever after;
Adoring her sweet wifely grace.

GERALD CLAY'S VOCATION.

BY HOPE DARING.

Synopsis of Preceding Chapters.—Gerald, a nephew of Thomas Clay, was a senior at the University of Kentucky, where he was considered one of the best students in his class. William Brooks, an attorney, practicing in the university town of Lexington, had telephoned Gerald to call at the attorney's office. On his way he called upon Miss Pauline Hunter, a tall, slender brunette who had been a student at Hamilton College and left a book in which both were interested. At the lawyer's office Gerald was asked to enter into a partnership with the lawyer as soon as he had graduated. This offer was declined, as Gerald had already arranged to enter Johns Hopkins University. It appeared before he left the office that Brooks desired to form this partnership to secure the use of money Gerald's uncle had invested in government bonds, as the nephew was to be the sole heir of Thomas Clay's large fortune. Altho the Clays had been slave owners

they remained loyal and Thomas Clay had fought for the Union. He was a graduate of the school at Lexington in 1855, was now a trustee of the institution, and had come to attend the commencement exercises. Gerald reported the conversation with Brooks and the elder Clay approved of his action in refusing to enter the partnership. After commencement Mr. Clay went home to the farm at Elm Hill while Gerald accepted an invitation to spend a few days at the home of his classmate, Blair Arnold. The outing was cut short by a message telling of his uncle's sudden illness, caused by the failure of an investment thru William Brooks, of money received from the sale of the government bonds. The uncle's recovery was slow and when Gerald learned that the failure of the investment thru Brooks was a serious matter to his uncle, and that Brooks had disappeared, he decided to abandon his plans for further schooling and take charge of Elm Hill farm. Shortly after he learned that his college friend, Pauline Hunter, was teaching the village school. Wishing to have her meet his uncle, Gerald drove to her home for her. On the return they stopped at the village store. With Pauline alone in the carriage the horses broke away and ran for home, Gerald following on horseback. Pauline escaped without injury and she was afterward a frequent guest at Elm Hill. One day the following spring she and Gerald had taken a long ride. As they were watering their horses at the creek, Wm. Brooks crossed the bridge above them.

Chapter VII.—The Muttering of the Storm.

Pauline saw a look of rage distort her companion's face. Once she thot that he was about to pursue William Brooks, but a moment later he turned to her, saying in a quiet voice: "Shall we ride on?"

She nodded, then asked, "Was that not your cousin, Mr. Brooks?"

"Yes, I am glad to know that he is back in Lexington. I shall never feel

(Continued on page 13).

KINKS

Kink I.—Gretchen's Cats.



Here comes Gretchen with her four cats and the name of a celebrated South African person. Find the cats and the name.

Kink II.—Among Our Advertisers.

In what advertisements in this week's paper do the following expressions appear: 1. "Just a postal—now—while you think of it." 2. "A one-cent postal brings a five-cent book, 'The Care of Saws,' and a silver tie pin free." 3. "Retains the heat, excludes the cold." 4. "13c up per rd." 5. "An absolute cure." 6. "\$1 Package cures ordinary cases." 7. "Get our great offer and handsome free catalog." 8. "Are used by the best dairymen." 9. "More Big Crops in 1908." 10. "Our 1909 Seed Annual free."

Kink III.—Conundrums.

1. Why should church bells always be rung at a wedding? 2. When does a ship beat the wind?

Prizes for Straightening Kinks.

All those who send correct answers to all the Kinks given above may have choice of a package of 50 post-cards representing a trip around the world, a copy of the rapid calculator or a pair of shears. Where contestant or some member of his family is not a regular subscriber a year's subscription (75c) must accompany answers. Answers must reach us not later than Jan. 29, as correct solutions will be published in issue of Feb. 6. Address answers to Puzzle Dept., Michigan Farmer.

Answers to Dec. 5 Kinks.

Kink I.—Word Square.

B R E S T
R I V E R
E V E N E
S E N S E
T R E E S

Kink II.—Among Our Advertisers.—1.

"Mendets," Collette Mfg. Co., Amsterdam, N. Y. 2. Holland Stock Remedy Co., Wellington, Ohio. 3. Scott's Emulsion, Scott & Bowne, 409 Pearl St., N. Y. 4. Rudolph Wurlitzer Co., Cincinnati and Chicago. 5. De Laval Separator Co., New York. 6. Gombault's Caustic Balsam, Lawrence-Williams Co., Cleveland, Ohio. 7. M. Sloman & Co., Detroit, Mich. 8. Enterprise Mfg. Co., Philadelphia, Pa. 9. Harrington & Richardson Arms Co., Worcester, Mass. 10. J. Stevens Arms & Tool Co., Chicopee Falls, Mass.

Kink III.—Conundrums.—1. There is but one pea (P) in a pint. 2. A story writer is a peculiar animal because his tail (tale) grows out of his head.

Dec. 5 Prize Winners.

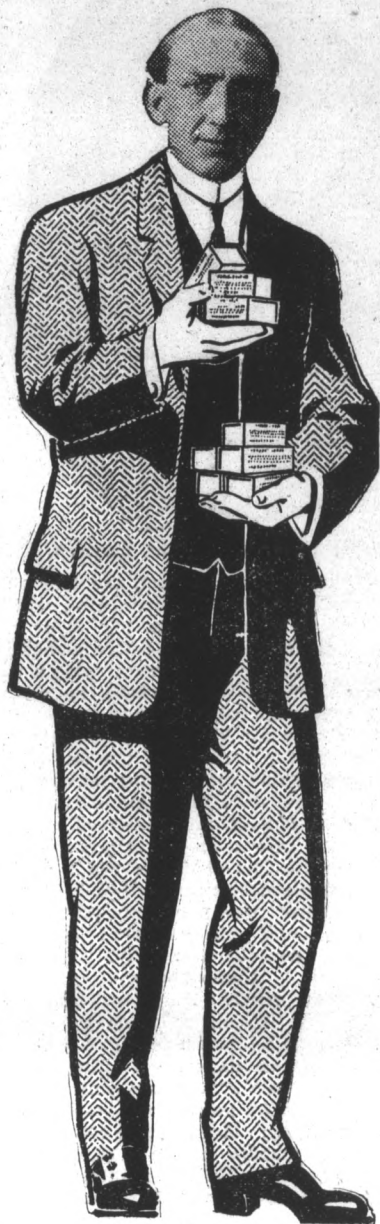
As senders of correct solutions to all the Kinks of Dec. 5, the following have been awarded prizes: Eno A. Crane, Mrs. Wesley Stevens, Mrs. Robt. Gregory and Mrs. J. L. Blackwood.

Free

Let Me Cure Your Catarrh

Trial Package of My Combined Treatment Mailed Free. No More K'hawking and Spitting or Foul Sickening Breath. Send Your Name Today.

Catarrh is not only dangerous, but it causes bad breath, ulceration, death and decay of bones, loss of thinking and reasoning power, kills ambition and energy, often causes loss of appetite, indigestion, dyspepsia, raw throat and consumption. It needs attention at once. Cure it with Gauss' Catarrh Cure. It is a quick, radical, permanent cure, because it rids the system of the poisonous germs that cause catarrh.



C. E. Gauss.

In order to prove to all who are suffering from this dangerous and loathsome disease that Gauss' Catarrh Cure will actually cure any case of catarrh quickly, no matter how long standing or how bad, I will send a trial package by mail free of all cost. Send us your name and address today and the treatment will be sent you by return mail. Try it! It will positively cure so that you will be welcomed instead of shunned by your friends. C. E. GAUSS, Marshall, Mich. Fill out coupon below.

FREE

This coupon is good for one trial package of Gauss' Combined Catarrh Cure, mailed free in plain package. Simply fill in your name and address on dotted lines below and mail to
**C. E. GAUSS, 4527 Main Street
Marshall, Mich.**

FOR YOUR HIDE'S SAKE

Have it tanned with the hair on for a coat, robe or rug. Send for price list.

The Worthing & Alger Co.
Hillsdale, Mich.

RAW FURS Highest New York prices. Write for prices.
J. I. GLEED, East Aurora, New York.

satisfied until I stand in William Brooks' presence and tell him of his villainy and double-dealing."

Pauline looked at him wistfully. That was a phase of his character which was new to her.

"I supposed you were friends," she said. Then she started. "Ah, did not Doctor Kennedy tell me that he was connected with your uncle's troubles?"

"He was the cause of it, Pauline. And it was thru my uncle's love for me that William Brooks struck him. May I tell you the whole story? I do not want you to think me unjustly bitter and revengeful."

"Yes, tell me all about it," was her frank reply.

As the horses walked along the shady country road, Gerald Clay told the story of his uncle's unfortunate investment and of what had followed it. Again the young man's face grew threatening, and his eyes gleamed with a flame-like light.

"There are two things that I cannot overlook," he said in conclusion. "One is that it was Uncle Thomas's love for me, his desire for my advancement, that Brooks appealed to. The other is my uncle's broken health. It was the mental shock that brot' on his illness. When I look upon his bent form and aged face I find myself longing to punish William Brooks as he deserves."

"That feeling is natural," Pauline said softly. "What a fearful thing is avarice! It was the love of money that caused Mr. Brooks to lie and steal."

"I am sure that the money is still in his possession, for I do not believe his story of the investment. If I could wrest it from him! It is not that I care so much for the money myself, but to lose his ill-gotten gains would be the sorest punishment that could be inflicted upon Brooks. I shall go to Lexington tomorrow and have an interview with him."

"Will that do any good?" she asked, with woman's ever-ready fear of personal danger. "I hope you will run no risks."

Gerald smiled grimly. "Brooks would run before he would fight. If I can only find that missing note!"

Early the next morning Gerald started for Lexington. He rode to a station five miles distant where he could take a train for the city. There he left Bonny Bess, as he intended returning that evening.

It was ten o'clock when he arrived in Lexington. Instead of going to the office of Mr. Brooks he went at once to the lawyer's home. That was a fine new house situated in an excellent part of the city. Gerald's ring was answered by a pleasant-faced maid.

"Tell Mr. Brooks that a gentleman wishes to see him at once."

"Mr. Brooks does not receive business callers here," the girl said hesitatingly. "He told me to say that he would be at his—"

Just then the curtains that closed a doorway opening from the hall were pushed aside, to allow Mr. Brooks to pass. He did not notice that anyone was at the door. Gerald stepped by the girl, saying: "I want a talk with you, Mr. Brooks. No, I will not take any denial."

The lawyer made a movement as if to withdraw into the room that he had just quitted. His face grew strangely pale. It was evident that he was making a great effort to retain his self-control. For a moment he stood still, breathing heavily. Then he stepped aside and motioned Gerald to precede him into the parlor.

"I am glad to see you, Gerald, but your abruptness startled me, as I am not well. Sit down and tell me how it is with you."

He walked forward, holding out his hand. Gerald drew back.

"I cannot take your hand; it struck down my uncle. No, I will not sit down."

"Can it be possible that you blame me for your uncle's loss? I have grieved over it; it was most unfortunate that I accepted his money for investment just at that time. He was not the only loser, Gerald, for I lost my all."

"I wish you would drop that mask of hypocrisy," Gerald said in a high, hard voice. "Neither my uncle nor myself believe that you lost in that transaction. You urged the investment upon Uncle Thomas, telling him that the stock would double in value in a year. Because you claimed to be interested in me, the old man trusted you. William Brooks, you are a villain. You dealt that trusting, honored man a blow from which he will never recover. And I am sure that you lied about the stock. I do not believe that one dollar of my uncle's money was ever invested in the North Lode Mining Company."

The lawyer's eyes could not meet Ger-

ald's hawk-like gaze. He turned away his face, and a shudder passed over his form.

"You are unjust to me, Gerald. No one will credit such a hot-headed, foolish statement."

"We will see as to that. You never forwarded the certificates of stock to my uncle. Where are they?"

"Why I—if I did not send them they must be in my safe at the office."

"I will go with you to get them now."

"I—I will look them up and send them to—Why, they are Captain Clay's. You have no right to demand them."

"Have I not? Well, to-morrow you shall receive an order for them, from my uncle."

"See here, Gerald. This is all nonsense. I am sure that I sent the certificates to the captain."

"When?"

"The very day I made the purchase. I remember all about it now."

"You do not lie skillfully, Mr. Brooks; you are putting yourself in a tight place. I have a letter that you wrote my uncle making a formal statement of the purchase and saying that you would send the certificates in a few days."

"What is the use of talking about them? It is not surprising that I forgot, after all of the trouble that I have had. Even if the certificates were at hand, you must know that they are not worth the paper upon which they are printed."

"That may be so, but until I see them and know that they were really purchased in my uncle's name I shall hold the note that you gave him for sixty thousand dollars as binding upon you and whatever property you possess."

William Brooks' under jaw dropped; for a moment a look of hopeless consternation swept over his face. Then he threw back his head, the light of battle in his eyes.

"What note?" I did give one to your uncle, but this transaction in stocks canceled it. You cannot produce such a note, I know that."

Gerald felt as if a hand had clutched his throat. He had not dreamed that Brooks knew of the loss of the note.

"Why do you think we cannot produce it?" he asked defiantly. "You will find out one thing, and that is that this is a fight to the death. If I cannot win back my uncle's money, I will brand you as a thief in Lexington."

"As if I cared for the opinion of Lexington! I shall not live here, not if I can gather enough out of the wreck of my fortune to live elsewhere. I understand that you hate to see your uncle's thousands slip thru your fingers; it is of yourself, not of the captain, that you are thinking. There is no use of our talking further of the matter."

Gerald had already started to leave the room. On the threshold he halted to say, "You will see me again. If there is any such thing as justice in the world, either Thomas Clay's money shall be returned to him or the thief shall be punished."

On leaving the house Gerald made his way at once to the office of Rufus Kenton, one of Lexington's leading lawyers. Mr. Kenton had long been a friend of Captain Clay's, and Gerald had before talked over the loss of the money with him. Now he asked the lawyer to take the matter up and see if some definite charges could not be preferred against William Brooks.

They talked for a long time, going into the details of the affair. Mr. Kenton said: "I have been looking up Brooks' financial status, for another client, and find that he has no property that the law can touch. He owes considerable, and I am sure that he has not a real friend in Lexington. I doubt if Captain Clay's money ever went out of the hands of Brooks, but it will trouble us to prove that. Did you notice how badly he looks? The man is going to pieces."

"Have we anything of a case against him?" Gerald asked. "Even if the money cannot be returned, I would like to show him up in court as a thief."

"Three months ago I should have said that he knew the law too well to incriminate himself, but he seems to be losing his grasp upon things. I will bring proceedings to force him to produce the certificates of stock. If we only had the lost note!"

"But Brooks does not deny that he had the money."

"He claims that the note was canceled by the transaction in stocks. If we cannot produce it, that will go to substantiate his claim. Brooks must have heard that the note is lost. You see, Gerald, the affair has been widely discussed, and



FIRE

in your home is a terrible thing to contemplate.

Stop and think.

Did you ever hear the cry of "Fire!" ring out through the air, without having a thrill something akin to horror pass up and down your spine?

And then think of the danger it necessarily brings with it, not only to the home itself, but to other things.

For instance where are your valuable papers, such as deeds, mortgages, bonds, or your will, etc.?

Are they safe?

If not, look into our idea for Safe Deposit by Mail. It is absolutely reliable.

Send for full particulars.

PENOBSCOT SAFE DEPOSIT VAULTS,
Simon J. Murphy Co. Detroit, Mich.

There's just one way to be sure of getting good value in tinware—buy by the name

Armor Brand Tinware

—the only tinware made that is sold under a trade-mark label. Armor Brand tinware is coated with an extra heavy coat of pure tin. That's why it wears and wears. Be sure the label is on every piece you buy and you'll be certain of longest service. If your dealer hasn't it, send us his name and we'll see that you get it.

THE REPUBLIC METALWARE CO.
Chicago 2 Republic St., Buffalo, N.Y. New York

FARMS

In the green fields OF VIRGINIA

Where the summers are long and delightful; where the winters are short and mild. Here you can grow splendid crops at small cost. Rich soil, abundant water, excellent markets and good neighbors.

Desirable Farms can be secured for **\$10 PER ACRE AND UP** along the N. & W. Ry. Full information and valuable booklet upon request

F. H. LABAUME
Agricultural and Industrial Agent
Norfolk & Western Railway
Box J. B. ROANOKE, VA.

DR. WHITEHALL'S RHEUMATIC CURE

FOR ALL FORMS OF Rheumatism and Gout

Write for a liberal FREE Trial Box. Sold by Druggists. Price 50c per box.

The Dr. Whitehall Megrimine Co.
136 Main St., South Bend, Ind.

ESTAB. 1889.



BROMO-SELTZER

CURES HEADACHES

10¢, 25¢, 50¢, & \$1.00 Bottles.

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 McCall's Magazine also is wanted add it at 40c 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.

It will be useless to send us subscriptions for any daily—except the Times—at Rural Route prices. If you do not give number of your route publishers will only accept them at first column prices.

If you want the MICHIGAN FARMER TWO YEARS and the other papers one year add 45c to the second column price. For the Michigan Farmer 3 years add 75c. We do not send samples of other papers. Address the publishers direct.

Send all orders to the Michigan Farmer or through our agents.

ABOUT PRICE OF DAILIES—Those having rural mail delivery pay 2d column price, all others pay 1st column price.

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 two-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.

NAME OF PUBLICATION.	See Explanation above.
Daily, (6 a Week.)	
Journal, Detroit, Mich.....	5 00 3 35 2 60
Free Press, Detroit.....	5 00 3 35 2 60
News, Detroit.....	5 00 3 35 2 60
Times, Detroit.....	2 00 2 50 2 00
News Grand Rapids, Mich.....	3 00 2 50 1 75
Courier-Herald, Saginaw, Mich. (inc. Sunday) on R. R.....	2 50 2 30 1 60
News, Cleveland, Ohio.....	2 50 2 35 2 10
Tribune, Bay City, Mich.....	3 00 2 35 1 65
Tri-Weekly, (3 a Week.)	
World, New York, (3 a week).....	1 00 1 40 90
Semi-Weekly, (2 a Week.)	
Journal, Detroit, Mich.....	1 00 1 35 75
Weekly Newspapers and Current Comment.	
Blade, Toledo, Ohio.....	1 00 1 05 85
Commoner, Wm J. Bryan, Editor, Lincoln, Neb.....	1 00 1 35 75
Harper's Weekly, N. Y.....	4 00 4 00 3 30
Cattle, Sheep, Swine, Poultry, etc.	
Americ'n Poultry Journal, Chicago (m).....	50 1 05 35
American Poultry Advocate, Syracuse, N. Y. (m).....	50 1 15 35
American Sheep Breeder, Chicago (m).....	1 00 1 50 80
American Swineherd, Chicago, (m).....	50 1 05 35
Breeders' Gazette, Chicago, Ill. (w).....	2 00 1 65 1 10
Farm Poultry Boston, Mass. (s-m).....	50 1 05 35
Gleanings in Bee Culture, Medina, O. (s-m).....	1 00 1 40 75
Hoard's Dairyman, Fort Atkinson, Wis. (d).....	1 00 1 40 75
Horse World, Buffalo, N. Y. (w).....	2 00 1 90 1 30
Horseman, Chicago, (m).....	3 00 2 25 2 00
Jersey Bulletin, Indianapolis, Ind. (w).....	1 00 1 60 1 00
Nat. Fruit Grower, St. Joseph, Mich. (m).....	1 00 1 00 1 00
Kimball's Dairy Farmer, Waterloo, Ia. (s-m).....	1 00 1 05 35
Poultry Keeper, Quincy, Ill. (m).....	50 1 05 35
Poultry Success, Springfield, O. (m).....	50 1 05 35
Reliable Poultry Journal, Quincy, Ill. (m).....	50 1 05 35
Shepherd's Criterion, Chicago, Ill. (s-m).....	50 1 05 35
Swine Breeders' Journal, Indianapolis, Ind. (s-m).....	50 1 05 35
Popular Magazines.	
American Magazine (m).....	1 00 1 50 75
Cosmopolitan, N. Y. (m).....	1 00 1 50 1 00
Century Magazine, N. Y. (m).....	4 00 4 30 3 75
Harper's Magazine, N. Y. (m).....	4 00 4 00 3 35
Harpers Bazar, N. Y. (m).....	1 00 1 50 1 00
Lippincott's Magazine, Philadelphia, Pa. (m).....	2 50 3 00 2 50
Metropolitan Mag., N. Y. (m).....	1 50 1 50 1 50
Pearson's Magazine, New York (m).....	1 50 2 00 1 50
Review of Reviews, N. Y. (m).....	4 00 3 00 4 00
McClures, N. Y. (m).....	1 50 1 50 1 50
World To-day, Chicago, Ill. (m).....	1 50 1 50 1 50
Ladies' or Household.	
Housewife, N. Y. (m).....	35 1 05 30
Housekeeper, Minneapolis, Minn. (m).....	1 00 1 45 60
Home Magazine, Atlanta, Ga. (m).....	1 00 1 40 80
Ladies' World, N. Y. (m).....	50 1 10 40
McCall's Magazine, N. Y. (m).....	50 1 10 40
Mother's Mag., Elgin, Ill. (m).....	50 1 10 50
Vick's Family Mag. (m).....	50 95 35
Woman's Home Companion, Springfield, O. (m).....	1 25 1 40 1 25
Religious and Juvenile.	
American Boy, Detroit, Mich. (m).....	1 00 1 25 75
Little Folks, Salem, Mass. (m).....	1 00 1 65 1 00
Sunday School Times, Philadelphia, Pa. (w).....	1 00 1 55 85
St. Nicholas, N. Y. (m).....	3 00 3 30 2 65
Young People's Weekly, Elgin, Ill. (w).....	75 1 18 75
Youth's Companion, Boston Mass. (m).....	1 75 2 50 1 75
(new or old).....	

(w—weekly; m—monthly; s-m—semi-monthly.)

CLUB 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.

the fact of the loss has been made public."

"I cannot give up that it is gone. Once more I will search the library," Gerald said, as he arose to go.

Two days later Gerald received a letter from Mr. Kenton who had had an interview with Brooks. Mr. Kenton had been received in the same spirit as had marked the beginning of the interview with Gerald. Brooks deplored the purchase of the mining stock and told a pitiful story of his young kinsman's unjust accusation against him. He admitted giving Captain Clay the note, but said the purchase of the mining stock had done away with the obligation. He was not sure whether the captain had returned the note to him or not. Indeed, he had given the matter little thought, as he had trusted Thomas Clay implicitly. As to the certificates of stock, he had supposed that they had been sent to the captain. If not, they must be among his own papers, or they might have been destroyed as worthless. It was really of no matter, for the stock possessed no value.

Mr. Kenton stated that, in his judgment, the whole strength of the case lay in the production of the note. While the letter containing the statement of the purchase of stock proved that the note had not then been given up, there was no proof, save Thomas Clay's word against that of Brooks, that it had not been handed over at the time of the meeting at Elm Hill. The captain's illness would make it difficult to give his account of that interview weight. Mr. Kenton promised to push the case against Brooks, but repeated the statement that, even if the lawyer could be proved guilty, he had no property to replace what he had taken.

Gerald was not disheartened. The meeting with William Brooks had stirred the depths of the young man's nature. It was not so much the money or revenge that he was seeking as it was the proving to the world that Captain Clay had been stricken down by the hand of Brooks.

Chapter VIII.—The Old Story Told.

Spring merged into summer. Gerald Clay filled many of his waking hours with earnest work. His farming operations were prospering. The number of cows kept at the farm had doubled, and the sale of the cream was proving profitable. Gerald had put out more tobacco than was usual at Elm Hill, and the crop promised ample returns for the time and labor bestowed upon it.

At the close of the school year Pauline went away from Clayton. She had agreed to come back for another year in the school. Her vacation was to be spent with a girl friend who lived near Cleveland. It was not to be a season entirely given over to pleasure, for Pauline hoped to do some good work with her camera. Encouraged and aided by Gerald she had prepared some descriptive articles for the press, illustrating her own work. The articles had been well received, and the two friends had planned to continue the work when Pauline was again at Clayton.

Gerald had let her go away without telling her of his love. She met all of his advances in such a frank spirit of good-fellowship that he feared he was only a friend. He hoped that the time they were to spend apart would help his cause, so he resolved to wait until she returned to speak. Pauline promised to write to him. She bade him good-bye in much the same manner that she did Captain Clay.

During the summer Arnold Blair spent a week at Elm Hill. It was Blair's first visit to Kentucky since his going to New York. While he liked his work in the bank, he was most enthusiastic over Gerald's position.

"It's the real thing, this life of yours," he said one morning when the two young men were tramping over the farm. "I have always felt that the farmer was close to nature, but you—you are in touch with men and things. You have read twice as much as I have since we left college. You are in correspondence with the agricultural department at Washington regarding some rare wild flowers that you have found, you are preparing a paper for the farmers' club, and Doctor Kennedy tells me that you are coming to be one of the leading men in local political circles. And to think that you narrowly escaped being a city lawyer!"

Gerald laughed good naturedly. They had paused beneath a large honey locust that stood in the lane. The young farmer lifted his hat, letting the slight breeze that swept across a field of corn,

awakening a low, melodious rustling, cool his brow.

"I am coming to look at matters from your standpoint myself," he said. "If one or two matters in which I am interested shape themselves as I desire, I shall say that the failure of the North Lode Mining Company was not so much of a disaster as it at first looked to be."

"Was it the North Lode Company that swept away the Clay fortune?" Blair asked. "It seems a little strange that I should have anything to do with it."

"You! What can you have to do with a company that failed while you were a college student?"

"It's the bank. Instead of modestly saying we, the young New Yorker says I. You know that the North Lode was a big swindle. It went into the bank's hands. My chief, Mr. Barnes, told me that as soon as I was back, he and I were to go over the North Lode's books and see if there was enough in the affair to pay the bank for its trouble. There will not be two cents on a dollar left for the poor fellows who were gulled into buying the stock."

Gerald brot his hand down with a resounding blow upon his friend's shoulder. "Blair I believe you are the very man I want the one to help me to hit that villain, Brooks."

"I'm willing to hit him as hard as you hit me," Blair replied with a grimace. "Just tell me in what direction to strike."

"It is just this way, Blair. I do not believe that William Brooks ever bot a dollar's worth of North Lode stock, either for himself or my uncle. Will it be possible for you to find out if any stock was ever sold to either one of those men?"

"Easiest thing in the world. We are to go over the books. In a fortnight after I return to New York I can tell you what you want to know."

As they walked on to the house they thoroly discussed the transaction between Captain Clay and William Brooks. Gerald had seen Mr. Kenton a few days before and learned from him that Brooks had again left Lexington. Mrs. Brooks was in poor health, and the doctors had ordered them north during the heated season. Brooks had asked to have the case against him put over until the autumn term of court, and his request could not be refused.

"Kenton says that he is confident Brooks will try to prevent the case ever coming to trial," Gerald said in conclusion. "He does not understand how bitterly I resent his treatment of my uncle. I will carry on the case—forever, if necessary."

Blair's visit was a great pleasure, not only to Gerald but also to the old captain. The young men rode, drove, fished, and spent two days in Lexington. When they were at the farmhouse both of them made an effort to include the captain in their plans. He went with them for drives, and, when they walked about the grounds, they suited their steps to his tottering ones.

"Do you think that it was so very selfish in me to let Gerald stay here, Blair?" Captain Clay asked one morning when he and young Arnold sat upon the veranda.

"Selfish in you? Now see here, Captain Clay. If any other man had called it that to me I should have knocked him down, providing he was not a bigger fellow than I am. It will be the making of Gerald. You and I thot that he was a pretty fine fellow before this happened, but here he has come into his own, and he will make a man who will be a worthy successor of yourself."

The old man smiled. "He has more force and push than I had. Sometimes, Blair, I am afraid. But for me, he might have made a name for himself."

"But for you, he would not have had an education. You mean that he shall be your heir, and such a farm as this does not come to be every young man's portion. Gerald is putting up no kick; he is happy here, and you will live to see him in Congress."

"I hope that I shall live to see his children playing round my chair. That is all I ask. Gerald is the last Clay, and I pray that he may escape the loneliness that has been my portion."

It was the last of August before Blair returned to New York. He promised that Gerald should hear from him regarding the North Lode stock as soon as the work upon the books was done.

Gerald was looking forward to the return of Pauline. Her letters had been bright and friendly, but of so impersonal a nature that he could give them to Captain Clay to read. In his replies the young man ventured to infuse a note of tenderness, but Pauline did not seem to notice it.

The girl reached Clayton on the Friday before her school was to commence on Monday. She found in her room a note from Gerald, asking her to go with him for a ride the next afternoon. He seemed sure of her acceptance of the invitation for the note closed with the statement that he would call for her, bringing Belle with him, at three o'clock.

The next day was bright and warm. Gerald tied the horses at the gate and went up the walk, between beds of blooming flowers. Pauline came down stairs in her dark green riding habit, and the color in her cheeks rose to a soft crimson as Gerald bent over her hand.

"Both Uncle Thomas and Cousin Lizzy declared that we must be at Elm Hill for the six-o'clock supper. I may keep her, may I not, Mrs. Kennedy, and bring her home by moonlight?"

"I cannot say no to that, not when I remember how glad the captain will be to see her," was Mrs. Kennedy's smiling response. "We are so glad to get her back, the doctor and I."

Soon they were off. Pauline smiled contentedly as they trotted thru the village.

"I have not been on a horse since I left here. And there never was a horse quite like you, Belle. How beautiful the fields are! It is as if all nature smiled a welcome upon my return."

For two hours they rode along the pleasant country highway. Suddenly Gerald said: "A half mile from here there is a gate which opens into one of the Elm Hill fields. Let us cross the field and ride thru the woods. We can go to the house by way of the lane. I know that the woodland is a favorite spot of yours."

Pauline nodded gayly. "All roads lead to Paradise on a day like this."

"We shall ride on, we two,

With life forever old yet new,"

Gerald quoted. "I could ask no better fate, Pauline."

Her color rose, but she made no response. They rode on in silence. Twice Gerald dismounted to open and close a gate. It was not until they had passed into the cool quiet depths of the woods that he said:

"I am going to ask you to dismount and sit with me on that log where we sat the first time we met here, nearly a year ago. Pauline, there is something that I want to tell you."

She hesitated. Her trust in him was perfect, yet her woman's intuition enabled her to discern his meaning. She was not displeased, but for him to speak would be to brush the bloom from the peach.

Gerald lifted her to the ground and tied the horses. She stooped to gather a spray of lavender, yellow-centered wild asters, then walked on and sat down upon the log that he had designated before he could join her.

Ere he took his place at her side Gerald stood for a moment, looking down upon her. She had removed her hat, and a sunbeam that wandered down thru the swaying green leaves fell across her black hair, making it gleam like jet.

"Pauline, I love you. At first when I knew that love had awakened in my heart, I said to myself that I must hold my peace, because I could not ask you to be a farmer's wife. I love the life, Pauline. For myself, I am not sure that I would change, but, if you will be my wife, when my duty to Uncle Thomas is done, our life shall be what you say. Dear, have I hoped in vain?"

It was an hour later when they arose. Gerald's face was radiant, while that of Pauline was aglow with blushes and tender smiles.

"Cousin Lizzy will be fretting because the supper is cold," said Gerald. "Come sweetheart. I long to share my joy with Uncle Thomas."

Again they rode in silence, passing along the lane and into the back yard. Pete came forward to take the horses, and Gerald led Pauline round the house, for he was confident that he would find his uncle on the veranda.

The captain was there. At the sound of footsteps he looked up from the book in his hands. He laid down the volume and rose to his feet.

"Miss Pauline! I am so glad, so very glad, to see you!"

"You must give her a daughter's welcome, Uncle Thomas. Pauline has promised to be my wife."

"Thank God that my dream has come true! Dear boy, it was what I hoped for. Pauline, my boy is as worthy of you as a man can be of a woman. My little girl, you are very welcome to Elm Hill." (To be continued).

Taste Is Sure Stomach Guide

A Barometer Which Never Fails, Though Seldom Believed.

"Taste is the direct guide to the stomach; and the taste buds are connected by the nerves with the stomach itself, so that they represent its health or disorder. If the stomach or its juices are out of tone, the blood is fermented by a change in the alkaline or acid condition, and these reach the mouth both directly and indirectly.

"The taste buds are in the tongue, and are mounted by hairlike projections called papillae; they cover the surface of the tongue."

"When you taste these buds rise up and absorb the liquid; inform the nerves; the nerves tell the stomach, and the food is acceptable or not, just as the stomach feels."

The above remarks on taste come from an eminent authority and simply explain why when one smells cooking or sees food one thinks he can eat, but when he tastes he learns the stomach is out of business.

To the person who can not taste aright, who relishes no food and simply forces himself to eat, Stuart's Dyspepsia Tablets hold the secret of enjoyable eating, perfect digestion and renewed general health.

Most men wait until their stomachs are completely sickened before they think seriously of assisting nature.

When your taste for food is lost it is a certain sign the stomach needs attention. Stuart's Dyspepsia Tablets cure such stomachs. They restore sweetness of breath, renew gastric juices, enrich the blood and give the stomach the strength and rest necessary to general duty.

Forty thousand physicians use Stuart's Dyspepsia Tablets and every druggist carries them in stock; price 50c per box. Send us your name and address and we will send you a trial package free by mail. Address, F. A. Stuart Co., 150 Stuart Bldg., Marshall, Mich.

Marlin



Take-down Repeating Shotgun

Marlin repeating shotguns are guns of perfect proportions, made in 12 and 16 gauges, with simpler mechanism than any other repeater.

They have the Marlin solid top always between your head and the cartridge, the side ejector, and the closed-in breechbolt that keeps out rain, snow and sleet, dirt, leaves, twigs, and all other foreign matter. These features add greatly to the efficiency of a gun and to the comfort and convenience of the shooter.

The Model 16, 16-gauge Marlin is the only light weight repeating shotgun made. It weighs but 6½ pounds, handles fast and shoots close and hard. It is unequalled for quail shooting, for squirrels, rabbits and all small game.

Before buying a gun, just get our 136-page catalog. Sent free by return mail—for 3 stamps postage.

The Marlin Firearms Co., 127 Willow Street, NEW HAVEN, CONN.

MONTROSS METAL SHINGLES. Light, Handsome, Fireproof, Inexpensive. Can't rust, can't crack. Last lifetime. Catalog? MONTROSS METAL SHINGLE CO., CAMDEN, N. J.

WANTED AGENTS to sell the Farmers Account Book. Exclusive Territory, Quick Seller, Big Inducements. L. L. SYMPHERS, Fort Wayne, Ind.

WANTED—For U. S. Army, able-bodied unmarried men between ages of 18 and 35, citizens of United States, of good character and temperate habits, who can speak, read and write English. For information apply to Recruiting Officer, 50 Lafayette Ave., Detroit; Heavenrich Block, Saginaw, and Post Office Building, Flint, Mich.

OF INTEREST TO WOMEN

HOME CHATS WITH FARMERS' WIVES.

BY ELLA E. ROCKWOOD.

The Old and the New in Housekeeping.

Sometimes we need the contrast between the new and the old in order to fully comprehend the improvements which are from time to time being brought into general use. We have been told that the olden days, with their primitive simplicity of living, were far superior to the present, and now in one locality at least, the truth of this statement is to be demonstrated or the idea exploded.

The department of social science at the University of Illinois is to furnish up two apartments where the women of the college will have an opportunity to study the relative advantages of housekeeping under such conditions as were to be found in our grandmothers' days and compare them with the most up-to-date of modern methods.

For this purpose one of the rooms will be equipped with every modern improvement for doing kitchen and laundry work while the other will contain only such fittings as prevailed during the period before such improvements were known. In this demonstration coal and wood are to be used as fuel, oil lamps or candles will furnish light, the water for domestic purposes will be drawn by means of an old fashioned pump, and rag carpets will be tacked over the soft pine floor, or else the latter will be left bare to be cleaned, by old-time soap and sand, we suppose.

The classes in domestic science will have charge of the two apartments and careful account is to be kept of the comparative expense in operating, as well as the difference in time and labor consumed, the relative convenience, and so on. The outcome of such a comparison can scarcely fail to prove the superiority of twentieth century ideas, and it is a foregone conclusion that not one of the women engaged in the experiment would be willing to go back to keeping house as her grandmother did, after the demonstration is over.

Yet is it not a good idea for women to recall occasionally the circumstances under which their fore-mothers labored? How else can they gain any adequate conception of the vast difference between those days and these?

Let us see what the conditions were in the home two generations ago. In the first place, there were very few cook stoves at that time in use. All the cooking was done over a fire of coals in the fireplace. Great iron kettles which women now-a-days could hardly lift were swung on heavy cranes over the fire where the contents bubbled merrily until cooking was completed.

There were two kinds of ovens, one of brick, built into one side of the fireplace, which was heated by building a fire inside of it. When it had become sufficiently heated the coals were raked out, the ashes swept away and the articles to be baked placed inside. Here there were baked those famous loaves of rye and Indian, also the wholesome wheaten loaves long before the process of the roller mill was that of. Is it any wonder that grandmother baked an ovenful at a time? When we consider what it meant to get that brick oven at the right temperature we can understand that it was good judgment to utilize it to the fullest capacity.

The other kind of oven referred to was made of tin, a later invention, and was open on one side. This was placed before the fireplace, the heat of the coals doing the work of baking such articles as cake, cookies, biscuit or potatoes. This did not necessitate so much labor as did baking in the big oven. It could be placed quite near the fire or drawn back farther as the state of the baking progressed.

Grandmother had a rain barrel to hold the soft water so much desired for laundry work. Later, when she had a cistern the water was drawn up in pails by the tedious process of hand over hand. As houses were small the amount of water obtained from the roof of each was small in proportion and lye from wood ashes was called into requisition to "cleanse" the hard water from the well or spring when the supply ran short, which it frequently did.

Few girls of the present time ever saw a spinning wheel, yet in the good old

days every household spun its own wool into yarn, not alone for stockings and socks but also for clothing. The boys and men must have the "full cloth" for their suits and the girls and women the woolen or flannel for petticoats and gowns. The wool was usually made into rolls, spun and dyed at home, altho the weaving might be done outside the home by a professional weaver. It must then be cut and made, all by hand, for there were then no sewing machines invented. The dye-tub was a regular part of the household equipment, and not only the beautiful indigo but the equally attractive reds and browns in numerous shades were products to be proud of. Indeed, dyeing and weaving as then practiced have now become lost arts.

The women of the household in those days were required to do all the knitting for the family. The endless click of the needles during every spare moment was the music to which conversation was attuned. Setting the heel, casting on or off, widening and narrowing, were familiar terms to every girl. To have pieced a quilt and knit a pair of hose before she was ten years old was nothing uncommon, indeed, it was rutable for mothers to see that their daughters did this.

Another knitting stunt performed by the women of fifty years ago was making the double yarn mittens, indispensable as hand coverings for those engaged in out-of-door occupations during cold weather. These were often real works of art, with their stripes of blue or red and white, tapering so evenly at finger and thumb that one could scarce see where the stripes vanished, when they went to nothing, one after another dropping out as the narrowing process approached a finish. The ornamented wrists of looped fringe, often blocked off in the two colors, completed these very serviceable hand coverings. Where is there a woman who could make such a pair today, unless it should be some white-haired grandmother, the last of a fast-passing generation?

When we contrast the home of that day with our own we find that we have much the best of it. We may not all have every labor-saving device upon the market, but there are few who do not have many more than grandmother had. She had no clothes wringer, no carpet sweeper, nor did she have many carpets to sweep. Upon the occasional instance when the latter was found in the average home it was made of woolen yarn; rag carpets, as we know them, were an after thought, more modern than those made of yarn. She had no friction matches; those convenient articles which we use so lavishly and which represent to us so little cost, were then unknown. Fire was started by means of a flint, and once going was kept up continually. At bed time it was carefully covered with ashes to prevent its dying out. Occasionally on awakening in the morning the householder would find that the fire had gone out during the night and some member of the family would be despatched in haste to the nearest neighbors to get some coals with which to start it again.

Going thru the list of articles considered indispensable in the homes of the moderately well-to-do, we find few with which the housekeeper of that day had any acquaintance. Even the kerosene lamp had not made its appearance; the illumination of the home, such as it was, was restricted to the use of tallow dips. The candle mold, long since relegated to the attic or to the pioneer collection, is of comparatively recent date compared to the dip. Before the day of the dip there was the rag burning in a dish of grease, called a "slut." This was made by tying a button in a rag and setting it in a saucer filled with lard or other fat, allowing one end of the rag to protrude far enough to be lighted. Think of this, ye housewives of the year 1909, and cast no longing glance into the past with a wish for the "good old days of yore."

It is not necessary to take up the other side, for all are familiar with what the inventions of science have made possible to us of the present day and generation. Yet there should be no halt in the forward march. Much remains to be done. We are going to witness wonderful progress in the next few years along the line of development with the aid of electricity. Not only will this agent be doing our lighting and heating but it will do

our cooking and many of the hard and disagreeable tasks about the house. We will have thoroughly equipped laundries run by it entirely. It will run all kinds of machines and we will have all kinds of machines for it to operate. It will do our cleaning and sweeping, wash our windows and our floors. In short, it will work greater wonders than we have witnessed in the past, and rid housework of everything but the part that we all enjoy. A friction match will be as much of a curiosity to the dwellers of this earth another century hence as is the flint as a means of striking fire at present day.

But without anticipating what the future has in store, what would our grandmothers say of our modern home equipment could the dear old ladies be given an opportunity to inspect it? It is a far call from the rain barrel to the nickel plated faucet, from the shabby out-house, with its attendant inconveniences to the model bath room. The fireplace is not in it with the commodious range, nor the tallow dip with its feeble light, with gas or electricity. The telephone is fairly magical, and the rural delivery far beyond the wildest dream of not so very long ago.

So it is dead certain that those college women will decide unanimously in favor of the twentieth century housekeeping, and it is not less a finality that a century hence our own achievements will be as irrevocably turned down by developments as yet unknown.

SIMPLE EMBROIDERIES FOR WAISTS.

BY MAE Y. MAHAFFY.

The so-called tailored waists need but little embellishment, yet receive a look of greater elegance and individuality if a few rows of embroidery are placed between the tucks at either side of the front. The same pattern may be carried out on a stock or collar, too, and a bow similarly decorated will give a dainty finish at the throat, and carry out a harmonious scheme of ornamentation.

White or colors are permissible in such embroideries; the pastel shades, delft blues, and the like being given preference over the dark colors when used on a white background.

One waist which the writer has in mind has the little vine at No. 1 worked at either side of the bosom plait for the entire length of the front, with shorter lengths between three or four half-inch tucks at the shoulders. The work was quickly done, outlining serving for the



stems, and over-and-over stitch for the leaves. A few stitches taken lengthwise of each leaf for padding adds greatly to the appearance, especially when the work is ironed over a thick pad from the wrong side.

Another waist has the quartets of diamonds in No. 2 used in similar fashion, and is exceedingly neat and effective. Padding was used in this case also.

Any little scroll design may be utilized after the manner of No. 3, and No. 4 is easily marked out around a thimble. Larger rings may be substituted by following the outline of a spool or other circular form. These may simply be outlined if preferred, but a heavier, richer appearance is obtained by solid embroidery. When outlining designs like No. 4 a pretty effect is secured by filling the centers of the rings with tiny knots or reed stitches.

Any of these designs will answer nicely for underwear, aprons, or children's clothing, and for numerous bits of fancy work where a small repeating pattern is desirable, and will doubtless remind the readers of others which they can carry out with equal ease, and with the added delight originality brings.

Wash Clothes Cleaner Easier - Faster

Write us a postal or letter today and we'll show you how much the ONE MINUTE WASHER means to you in the saving of health-strength-time-money-clothes and soap. Think of it! A tubful of clothes thoroughly washed clean with very little work in very little time. The

One Minute Washer

runs easier and washes faster-cleaner and better than any other washer made. The high-speed fly-wheel runs so easy that it hardly takes an effort to start it-yet it makes the double motion agitator inside the tub go twice as fast as any other, and washes clothes cleaner-without wear or tear.

Tub is made of Southern Cypress-the best water resisting wood grown. Bottom and sides are corrugated-thousands of knuckles rub your clothes-while boiling suds are forced through at the same time. Double motion agitator means clean clothes in one-half the time it takes other washers.

Write for Catalog No. B today. One Minute Washer Co., Sandusky, Ohio.



WESTERN CANADA More Big Crops in 1908

60,000 settlers from the United States in 1908. New Districts opened for settlement, 320 acres of land to EACH SETTLER-160 free homestead and 160 acres at only \$5 per acre. "A vast, rich country and a contented, prosperous people." Extract from correspondence of a Kansas Editor, whose visit to Western Canada in August, 1908, was an inspiration.

Many have paid the entire cost of their farms and had a balance of from \$10 to \$20 per acre as a result of one crop. Spring and Winter Wheat, Oats, Barley, Flax and Peas are the principal crops, while the wild grasses bring to perfection the best cattle that have ever been sold on the Chicago market. Splendid Climate, Schools and Churches in all localities. Railways touch most of the settled districts, and prices for produce are always good. Lands may also be purchased from Railway and Land Companies. For pamphlets, maps and information regarding low Railway Rates, apply to Sup't of Immigration, Ottawa, Can., or to the authorized Canadian Government Agent.

M. V. McInnes, 6 Ave. Theatre Block, Detroit, Mich.; O. A. Laurier, Marquette, Mich.

CASH FOR FURS

You get the highest prices and the quickest returns when you ship your furs to Funsten. We receive and sell more furs direct from trapping sections than any house in the world. The biggest American and foreign buyers are represented at our daily sales. The fierce competition among buyers enables us to get higher prices than anyone else. That's why we can send you the most money for your furs and send it quicker. Trappers' outfits furnished at cost.

Big Money in Trapping While work is slack, do some trapping. It pays big profits. We send our Trapper's Guide, Fur Market Reports and Shipping Tags FREE. Write today for Catalog B and New Trapper's Guide, full of success and money-making secrets-ALL SENT FREE.

Funsten Bros. & Co., 321 Elm St., St. Louis, Mo.

Don't Throw it Away Does Your Granite Dish or Hot Water Bag Leak? USE MENDETS PATENT PATCH They mend all leaks in all utensils-tin brass copper, graniteware, hot water bags etc. No solder, cement or rivet. Anyone can use them; fit any surface; two million in use. Send for sample pkg. 10c. Complete pkg. assorted sizes, 25c postpaid. Agents wanted. Collette Mfg. Co., Box 176 Amsterdam, N. Y.

Take Off Your Hat to the MYERS The only Glass Valve Pump-never sticks-never fails-always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices. F. E. Myers & Bro., 26 Orange St., Ashland, O.

Cash Paid for Raw Furs As New York is the best fur market in America, we can and do pay highest cash prices for hides of Skunks, Minks, Coons, Muskrats, Opposums, Foxes, Badgers, Wolves, Beavers, Otter, and all fur-bearing animals. We pay express charges. Write for price list. We also pay best prices for GINSENG. BELT, BUTLER CO. 144 Greene St. New York

WHEN writing to advertisers just say "saw your ad. in the Michigan Farmer."

OUR PATTERNS.

Price, 10 cents each. Waist and skirt patterns are usually separate, therefore be sure to send 20 cents for a two-piece suit pattern which has two numbers, e. e., a waist number and a skirt number; if such a pattern has but one number, send only 10 cents. 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.



Names of Patterns Illustrated Above.

(Be Sure and Give Size when Ordering).

- No. 8326. Attractive and Becoming House Dress. Sizes for 32, 34, 36, 38, 40, 42 and 44 in. bust measure.
- No. 8345. A popular Button Skirt Model. Sizes for 22, 24, 26, 28 and 30 in. waist measure.
- No. 8336. A neat Shirt Waist with or without yoke facing. Sizes for 32, 34, 36, 38 and 40 in. bust measure.
- No. 8334. Girl's Dress with Panel Front and Shield. Sizes for 8, 10, 12 and 14 years.
- No. 8315. An excellent Work Apron. Patterns for small, medium and large size.
- No. 8281. Ladies' Corset Cover. Sizes from 32 to 42 in. bust measure.
- No. 8302. Ladies' Dressing Sack. Sizes from 32 to 42 in. bust measure.
- No. 8330. Girls' Empire Dress. Sizes 6, 8, 10, 12 and 14 years.

Will someone kindly give instructions for making a silk quilt or slumber robe?—Invalid, Inkster, Mich.

HYGIENE IN RURAL SCHOOLS. III.

BY CHARLOTTE A. AIKENS.

A lady remarked not long ago that her little seven-year-old girl knew facts about the human body that her grandmother died without knowing. She was rejoicing in the teaching of physiology in the schools. And it is something to rejoice in—if it is taught properly, and the lessons are applied to daily life. Physiology teaches of the functions of the different parts of the body in health. Hygiene teaches how the health of these organs may be preserved and the two studies naturally fit into each other. An editorial in a school magazine calls attention to the neglect to make this study practical. The editor says: "The safeguarding of the health of the school child can be accomplished only when there is intelligent co-operation of children, parents, and the school authorities. * * * Unfortunately it is not a very interesting study to most children, or at least it is not made interesting. So much time and space have to be given to the evil effects of alcohol and tobacco that the child wonders what it is all about, and at the end has little more than a confused idea that physiology, alcohol and tobacco are in some way closely allied. Yet physiology can be made interesting as well as valuable to the child."

"A class of forty boys averaging ten years of age was having a recitation on the physiology of digestion. The use of the teeth, mouth, saliva and stomach juices were considered, and the answers given showed the results of good teaching, but when the exercise was over there was left the feeling of incompleteness. What had the boys gained that was useful? Some knowledge of the processes of digestion. But how were they to make use of this knowledge? So far, it was a general knowledge only. Could any part of it be made personal? Why, yes, the part the teeth play in the process of digestion might be made personal. Questions were then asked concerning the value of the teeth. What would happen if there were too few teeth or none at all? What caused a loss of teeth? What were the evil results of rotten teeth? The boys were eager to answer these questions, edged out of seats, waved hands frantically, scowled at wrong answers, and when called upon to answer, stood erect by the desk and proudly gave what they considered correct answers. To the final question, 'How many of you boys have cleaned your teeth this morning?' there was but one response. One boy in a class of forty had cleaned his teeth that morning. The other boys sat dejectedly in their seats. Further questioning showed that more than one-half of these boys made no use of the tooth brush at all, the others only occasionally."

"If the study of physiology were made more personal in its application, if less attention were given to the evils of alcohol and tobacco, which children use not at all, and the time thus spent were given to the study of personal hygiene made simple and attractive, an interest in physical development and the care of the body for the joys it would bring, would take the place of the present apathy."

Suppose the tooth brush test were made in your school, how many children could respond that they were required to clean their teeth daily? Without question many of the older readers of this paper will scoff at the idea of school children being asked such questions, or of children being made to clean their teeth. It may be that some of the most indignant scoffers are themselves wearing a set of "store teeth" which they secured after much pain and an expenditure of from fifteen to twenty-five dollars. It may be that their breath is foul and offensive from rotten teeth, yet they will scoff at the idea of a boy or girl being taught to try to preserve the teeth. Tooth brushes can be had at the five and ten cent store for a nickel or a dime. "Store teeth" are rather expensive necessities. Wouldn't it seem sensible to teach the coming generation if possible how to avoid having to depend on "store teeth" by caring properly for the set of teeth the Creator has provided? And why should it seem more absurd to clean the teeth than to clean the head or the face? Or it may be the man will say: "I have a good set of teeth and I never used a tooth brush in my life," which may be true but is no guarantee that his child will have an unusually sound set of teeth, no argument that his child's teeth need no care.

"If I were asked," says Professor Osler, "to say whether more physical deterioration was produced by alcohol or by defective teeth, I should unhesitatingly say

defective teeth." This is a strong statement but it is based on long years of study of physical defects and disease. Consider the numbers of men and women who never touch alcohol yet who suffer from digestive troubles due in large measure to defects of the teeth or neglect to chew the food sufficiently.

A good old farmer is bewailing the fact that the Board of Education of a certain state is requiring that physical culture be taught even in rural schools. It has long been a requirement in city schools. The teacher of the school in the district where our old friend lives, a young man, very sensibly took the children in good weather, out into the school grounds and gave them some marching exercises, arm and deep breathing exercises, etc. "They're ruining the children with these new fangled notions," the good old man bewailed. "They have them marching like soldiers, and are putting war notions in their head." In most ways this old gentleman is quite progressive but he could see no need for physical culture exercises, and no good that could result from them. Right in his own home lives a little granddaughter eleven years old, already so round-shouldered that it is distressing to think of it. She is thin, nervous and hollow chested. Her mother and her maternal grandfather went to early graves from tuberculosis. She needs all the training in physical development she will get at the rural school and a good deal more, if she is to develop into a healthy woman, yet her grandfather thinks that even a few half-hours a week spent in teaching the children to stand erect, throw the shoulders back, expand the chest, and so on is wasted. He thinks the whole time should be spent in developing the mind, and that the body will take care of itself. There are thousands like him. This same man has a grandson of seventeen almost as round-shouldered as his grandfather of seventy-five—a condition for which the school and the bicycle are partly responsible. Somehow the body doesn't take care of itself, and even in the country districts, young men and women die from one cause or another.

It would certainly be a good thing if every rural school teacher as well as every city teacher, were required to be able to teach physical exercise, if the children were required to sit and stand erect and keep the shoulders thrown back and give the lungs a full chance to expand.

"We cannot leave our children an inheritance of money," said a very sensible mother the other day, "but we can leave them the inheritance of a sound body, and I am determined to do all I can to equip them for life in that way." The child of the farm has a much better chance to develop a sound robust body than the city child, but he needs all the help that the rural school can give him in that direction. While the rural schools are being reformed and the teaching is being better adapted to rural life the authorities might as well take one more advance step and require that teachers be able to conduct physical development classes.

PUTTING ADVANCED IDEAS INTO PRACTICE.

BY M. V. B.

We hear a great deal about ways and means of keeping the boys and girls at home when they are thru with their college course, but very seldom do we hear of any successful solution of the problem, especially if the young man and young woman are ambitious and want to work out some of their ideas where they will count for experience in any particular line.

Word comes to me from a friend in Massachusetts whose only child, a daughter of twenty, a graduate of an excellent woman's college, is really being given an opportunity right at home to put into practice some of her hard won knowledge of house management. She has complete financial management of the household. The money is turned over to her, and she looks after the buying, etc., paying for everything by check. She gives her father and mother a certain allowance, and has full charge of the balance, dividing and spending it according to her theoretical knowledge. The mother writes me that the plan is working well, and that the girl is very happy, and very busy. Who can estimate the value of such an opportunity to the right kind of a girl—as this one is?

I would like to hear of some farmer giving his college-educated boy such a chance on the home farm.

This Recipe for Home-made Cough Cure is Worth Saving.

Most of the suffering and most of the serious diseases that result from colds and coughs could be entirely prevented if the proper medicine were on hand and could be taken conveniently when the first signs of trouble appeared.

By saving the recipe given below you will always have an excellent prescription for colds and coughs. Or better yet, by making up the remedy you will always have it handy. A teaspoonful dose, taken when the first symptoms arise, will ward off a vast amount of suffering and possible danger. This is the recipe:

Granulated Sugar Syrup... 13½ oz.
Pinex 2½ oz.

Put the Pinex (50 cents' worth) in a pint bottle and fill up the bottle with the Granulated Sugar Syrup, made as follows: Take a pint of Granulated Sugar, add one-half cup of water, stir and let boil just a moment. If kept well corked it will never spoil so that this pint of cough medicine will last a family a long time. It can be made in five minutes at a total cost of about 54 cents and is very pleasant to take. Dose: A teaspoonful every one, two or three hours as required. Simple as it is, it is in every way superior to the ready-made syrups that cost five or six times as much. Obsolete deep-seated coughs usually yield to it inside of twenty-four hours. It is also an excellent remedy for whooping cough, pains in the chest, bronchial troubles, hoarseness, etc.

In using this recipe get the real Pinex, which is the most valuable concentrated compound of Norway White Pine Extract and is vastly superior to the weaker pine oil or pine tar preparations. Your druggist has it or will gladly get it for you if you ask him.

LET US TAN YOUR HIDE,

Whether Cow, Steer, Bull, or Horse Hide, Calf, Dog, Deer, or any kind of hide or skin, soft, light, odorless and moth-proof for robe, rug, coat or gloves, and make them up when so ordered.

But first get our illustrated catalog, with prices, shipping tags and instructions. We are the largest custom fur tanners of large wild and domestic animal skins in the world.

Distance makes no difference whatever. Ship three or more cow or horse hides together from anywhere, and Crosby pays the freight both ways. We sell fur coats and gloves, do taxidermy and head mounting.

The Crosby Frisian Fur Company,
Rochester, N. Y.



HIDES TANNED For Robes and Coats.

Send us your Cattle and Horse Hides, or any skins you have, and we will make you a Fine Coat, Robe or a Floor-Rug at a reasonable price.

We have one of the largest Fur Coat and Robe Factories in the country, and tan and dress, in our own plant, all the hides and skins we use. We can therefore handle your custom work in the very best manner. All hides are soft and pliable when finished. We guarantee our work. Send for our circular. Write Now.

HUGH WALLACE CO.
Custom Dept. DETROIT MICH.

PIONEERS AND LEADERS
"THE OLD RELIABLE"

DIETZ LANTERNS

STANDARD SINCE 1840

Used by Three Generations
For Sale by All Hardware Dealers
R. E. DIETZ COMPANY, NEW YORK

Three Daily Papers

For those who would like to have three daily papers a week, we have arranged with the New York Thrice-a-Week World so that we can offer it with the Michigan Farmer a year for only \$1.40; that is, both papers a year each for that price. Send orders to us or thru our agents.

THE MICHIGAN FARMER,
Detroit, Mich.

RUPTURE MEN Wanted as agents for "rupture cures" "Heal while you work." Trial sample FREE. Also booklet "How Rupture is Cured" free. We also make Burdick appliances, safe, sure, easy. S. H. Co., Westbrook, Maine, Box 117

LOOKING FOR VICTIMS.

DETROIT, MICH.

For the last month, I have been receiving from two to six letters a day, asking me to invest in all sorts of get rich quick schemes; such as oil wells, gold, silver and copper mines, rubber plantations, nurseries, patent rights of all descriptions, city lots, and various other kinds of real estate, and scores of other things too numerous to mention. All of these promoters promise me from 10 to 200 per cent profit if I would only buy a few hundred dollars' worth of stock. And most of them not only promise an increase of dividends, but that my stock would also keep on increasing in value, so that by the investment of a few hundred dollars, I could in a few years become a comparatively rich man. These letters come from many different states, which goes to prove that in nearly every city there is a certain class of men who are studying up all sorts of schemes to get money from the unwary. And they certainly must succeed in finding some victims or they would not be sending out such letters, when by chance they can get hold of a person's name and postoffice address. It hardly seems possible that if any one had a little spare money to invest, he would take the word of an entire stranger, and buy stock in some wildcat scheme that he knew nothing about. But the writer has personal knowledge of several such cases. With most of us farmers, if we have any spare cash we can invest it in new machinery, or make some improvements on our farms where it will be safe, and certainly much more profitable than to invest in any "get-rich-quick" scheme.

Ottawa Co. JOHN JACKSON.

CHANGE IN OUR PRICES WITH SOME DAILIES.

On and after this date the combination price of the Michigan Farmer and the Daily Journal, the Daily Free Press and the Daily News will be \$3.35. The Michigan Farmer and Daily Herald, of Grand Rapids, will be \$2.85. Agents allowed the regular commissions as usual.

CROP AND MARKET NOTES.

Southern Clare and Northern Isabella Counties, Dec. 17.—Very mild winter weather, with about nine inches of snow, very little marketing being done. Cattle and hogs dull sale, and but little wheat and oats going to market. Auction sales seem to be mostly over; quite a lot of lumbering and wood cutting being done owing to the fires of the past summer.

Emmet Co., Dec. 22.—Have had fair to good sleighing all the month, the recent high winds have filled the roads full in places, interfering with traffic yesterday. One sees the need of shelter belts at such times. About 13 inches of snow has fallen but the ground is to be seen in many fields. It is a wonderment where the snow all goes to. A local option campaign is on in this county and the people are wakening up to the fact that we stand a pretty good chance of getting rid of the saloon. Considerable wood moving, \$1.65 to \$2 for green, \$2 to \$2.25 for dry. Lumbering is nearly done in this county. A great shortage in feed stuffs. Hay, \$12 to \$13. Pork, dressed, 7c to 8c. Fowls, 12c.

Eaton Co., Dec. 21.—The ground is covered with a thin coating of snow, and the work for the year is about complete, but still some husking to be done. Farmers are holding hay for the lifting of the quarantine, and also for better prices. Wheat, 98c; beans have dropped to \$1.85; oats, 48c; rye, 7c; potatoes, 50c to 60c; cloverseed, \$4.50 to \$5; butter lower, 18c to 22c; eggs, the stores are offering 25c to 30c, but one of the local buyers is paying 34c for large sized, and strictly fresh eggs, and 32c for small ones; hogs, \$4.50 to \$5; calves, 3c to 5c; sheep, 3c to 4½c; lambs 4c to 5c; chickens, 9c.

Shiawassee Co., Dec. 21.—Weather steady, with prevailing west winds. Plenty of snow in the air. Good sleighing. Farmers taking advantage of the light fall of snow to handle feed and market the hay crop. Wheat went into the winter in excellent condition, the ground having been well saturated with moisture a few days previous to the final freeze up. Some corn in shocks in the field, but the crop in general has been well secured. Many farmers have been holding onto their bean crop, feeling that the price was too low to warrant selling. Farmers who have a large amount of hay to dispose of are slow about selling, hoping that a long steady winter will stimulate a higher price. Taxes are much lower this season than in former years and farmers in general are much pleased over the situation. What few apples were put into the cellar are keeping well. Potatoes are being hauled to market that were piled in shallow pits. The quarantine placed on Michigan live stock has hit a large number of farmers pretty hard and especially those who are depending on their hogs to pay taxes. The securing of the best acreage is being pushed and considerable competition is in evidence on account of the dissatisfaction between farmers and the local factory. Lambs that are on feed are doing well. A few cars of cattle are being fed.

FARMERS' INSTITUTES FOR JANUARY.

During the first half of January the following list of Farmers' Institutes will be held in Michigan:

County Institutes: Presque Isle Co., Millersburg, Jan. 5-6; Alpena Co., Long Rapids, Jan. 7-8; Iosco Co., Whittemore, Jan. 8-9; Arenac Co., Standish, Jan. 9; Gladwin Co., Gladwin, Jan. 11-12; Clinton Co., Ovid, Jan. 15-16; St. Clair Co., Emmett, Jan. 8-9.

One-day Institutes will be held at the following places during the above period: Presque Isle Co., Posen, Jan. 4. A. L. Hopkins, Bear Lake, State Speaker.

Montcalm Co., Greenwood, Dec. 29; Greenville, Dec. 31; Trufant, Jan. 1; McBride's, Jan. 2; Butternut, Jan. 4, E. K. Smith, Hart, State Speaker.

Kalamazoo Co., Augusta, Dec. 28; Richland, Dec. 29; Cooper Center, Dec. 30; Oshkemo, Dec. 31; Texas Corners, Jan. 1; Portage Center, Jan. 2; Schoolcraft, Jan. 4; Scott's, Jan. 5; Climax, Jan. 6; N. P. Hull, Dimondale, State Speaker; Pavilion, Jan. 7; Alamo, Jan. 8; N. I. Moore, Hanover, State Speaker.

Saginaw Co., Frost, Jan. 4; Kochville, Jan. 5; Frankenmuth, Jan. 6; Bridgeport, Jan. 7; Merrill, Jan. 8; Chesaning, Jan. 9; L. W. Oviatt, West Bay City, State Speaker.

St. Clair Co., Avoca, Jan. 4; China Twp., Jan. 5; Smith's Creek, Jan. 6; Goodells, Jan. 7; Capac, Jan. 11; Wesley Schlichter, Brown City, State Speaker.

Sanilac Co., Marlette, Jan. 4; Elmer, Jan. 5; Shabbona, Jan. 6; Argyle, Jan. 7; Minden City, Jan. 8; Deckerville, Jan. 9; Carsonville, Jan. 11; Crosswell, Jan. 12; Peck, Jan. 13; Melvin, Jan. 14; Lexington, Jan. 15; N. A. Clapp, Northville, State Speaker.

Arenac Co., Omer, Jan. 4; Delano, Jan. 5; Turner, Jan. 6; Melita, Jan. 7; Moore's Junction, Jan. 8; Standish, Jan. 9; C. S. Bartlett, Pontiac, State Speaker.

Barry Co., Middleville, Jan. 4; Glass Creek, Jan. 5; Prairieville, Jan. 6; Hickory Corners, Jan. 7; Johnstown Grange Hall, Jan. 8; Assyria, Jan. 9; W. F. Raven, Brooklyn, State Speaker.

Newaygo Co., Sitka, Jan. 5; Ashland, Jan. 6; Ensley, Jan. 7; White Cloud, Jan. 8; Big Prairie, Jan. 9; Lincoln Center, Jan. 11; J. F. Edmonds, Hastings, State Speaker.

Griatiot Co., Pompeli, Jan. 5; Sickels, Jan. 6; Breckenridge, Jan. 7; Elm Hall, Jan. 8; E. K. Smith, Hart, State Speaker.

Kent Co., Sand Lake, Jan. 5; Carlisle, Jan. 6; Caledonia, Jan. 7; Kinney, Jan. 8; Alto, Jan. 9; Paris, Jan. 11; Grattan, Jan. 12; Courtland, Jan. 13; Lowell, Jan. 14; W. F. Taylor, Shelby, State Speaker.

Lenawee Co., Macon, Jan. 9; Tipton, Jan. 11; Adrian Twp., Jan. 12; Madison, Jan. 13; Fruit Ridge, Jan. 14; Rome, Jan. 15; Onsted, Jan. 16; Addison, Jan. 18; Hudson Center, Jan. 19; Medina, Jan. 20; N. I. Moore, State Speaker.

Lapeer Co., Burnside, Jan. 11-12; Im-lay City, Jan. 13; Dryden, Jan. 14; Almont, Jan. 15-16; Hadley, Jan. 18-19; Lapeer, Jan. 20; L. W. Oviatt, West Bay City, State Speaker.

Cass Co., LaGrange, Jan. 7; Jones, Jan. 8-9; N. P. Hull, Dimondale, State Speaker.

L. R. TAFT, Supt.

PURCHASERS' CONTEST DISCONTINUED.

On account of the lack of interest taken in the contest in which we offered prizes for those who patronized our advertisers most liberally prior to May 1st, 1909, we have concluded to discontinue the contest and withdraw the offer. The number calling for blanks was too small to justify the effort involved.

Hereafter the price on the Free Press and Michigan Farmer will be \$3.35.

Concrete Construction About the Home and Farm.

The above is the title of a 130 page pamphlet published by the Atlas Portland Cement Co., 30 Broad Street, New York, for free distribution among Michigan Farmer readers who will mention seeing the advertisement in this paper. The advertisement will be found on another page of this issue. This book contains minute instructions with regard to the making of cement mortar and concrete work of all kinds from the description of the materials to the mixing, using, re-inforcing and the finishing of same for the very many purposes to which this material is adapted about the farm home. These purposes as explained in this book, include sidewalks, gutters, floors, cellars, foundations, barn and stable construction and equipment, making steps and stairs, piers, chimney caps, cisterns, water troughs, tanks, well curbs, horse blocks, posts, hog pens and troughs, chicken houses, ice houses, green houses, silos, culverts, cement plaster or stucco work, etc. It also gives a description of the different kinds of tools needed in the carrying on of this work and is profusely illustrated showing the finished work and all the details of its construction, being a most valuable addition to any farmer's library and a helpful guide in the making of all kinds of concrete work. It will be sent to any reader mentioning the Michigan Farmer. Write today to the above address for a free copy of this valuable book on concrete construction.

Cut Out All the Drudgery of Washday. If you really want to cut out all the drudgery of washday—write a postal to the One Minute Washer Co., Sandusky, Ohio, for their Free Book which tells how you can wash clothes absolutely spotlessly clean in less time—with less work—than you can in any other way. Their advertisement appears on page 15 in this issue and it will pay you to read it. Save your health, strength, clothes, and money by washing the One-Minute Way. Be sure and read their advertisement—then see your dealer or write for their Free Book.

Was a Poor Tool Ever Cheap?

No farmer ever saved anything by buying poor implements and wasting his time trying to make them work. A saw that gets stuck in the wood, that makes the work twice as hard and has to be filed often, is not cheap at any price.

ATKINS CROSS SAWS

Hold their edge longer, cut faster and run twice as easy as any other. The blade is "segment-ground," tapering from tooth edge to the center of back, and from the ends to the middle. Hence it makes room for itself and does not stick nor bind in the wood. Try one. Be sure it bears our name on the blade. If it doesn't save your time and make the work easier than you ever thought it could be, take it back to the dealer and get your money back. Your dealer has them or can get them for you. If he is slow about it, write us.

A one-cent postal brings a five-cent book, "The Care of Saws," and a silverine tie pin free.

E. C. Atkins & Co. Inc., Indianapolis, Ind.

Largest Exclusive Saw Manufacturers in the World.

With branches carrying complete stocks at New York, Chicago, Minneapolis, Portland, Ore., Seattle, San Francisco, New Orleans, Memphis, Atlanta and Hamilton, Ont.

This Shows:

Cost of an Atkins Saw.....\$2 to \$3
Savings 25 per cent.
in time and labor
at \$2 per day..... 50c
per day
Saves in four to six
days.....\$2 to \$3
Pays For Itself

WE'LL TAN YOUR HIDE

and make warm, comfortable coats with high collars, or into robes, mittens, jackets, ladies' furs, etc. and save you a lot of money as well. We tan by nature's method only and use no chemicals or dyes which cause the hairs to shed. Color makes no difference. Almost any hide looks well when made up into a fine comfortable robe or coat. Will resist cold, wind, rain or snow, are soft and pliable as cloth and very little heavier. Instead of selling your hides to the butcher, let us make them into useful garments that will wear for years and enable you to enjoy the coldest weather.

If you send in your hides now, we will pay the freight on all hides sent to be made into coats and robes and give you FREE—with each cow or horse coat or robe a pair of fur-knit-lined mittens with horse-hide palms. If you have no hides to send us, we can

Sell You Furs and Save You Dollars

We not only tan the hides you send us, but we have in stock hides and skins from which we manufacture to measure coats, robes, neckpieces, ladies' jackets, children's coats and fur goods of every description. We make to order any kind of fur goods.

Write today for Catalog and Prices.

THE NATIONAL FUR & TANNING COMPANY

214 Hooker Ave., Three Rivers, Mich.

Send No Money

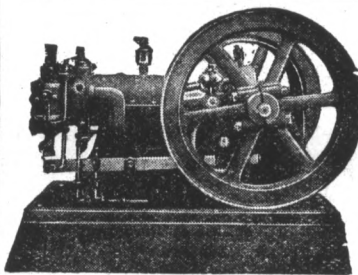
FREE On 30 Days Trial This Fine Razor



JUST SEND US YOUR NAME AND ADDRESS

so that we can send you postpaid a Vulcan Razor. Use this fine English crucible steel, oven tempered and bevel edge razor for 30 days. If at the end of that time you can't say it's the finest razor you ever used, send it back and there will be no charge of any kind. If it's satisfactory send us \$1.75 and you'll own the easiest shaving razor you ever used. No matter how good your present razors are you'll find the Vulcan gives the smoothest, easiest shave of any. Remember, it won't cost you one cent to try the Vulcan for 30 days. State whether you want round or square point, whether your beard is stiff, medium or soft and how often you shave. Write to-day.

U. S. CUTLERY COMPANY Department X, St. Louis, Mo.



GET TO KNOW THE "ALAMO"

The Gasoline Engine that combines QUALITY, DURABILITY and ECONOMY. A perfect farm power. It will lessen your work and increase your income. It will pump water, grind feed, churn, run a separator, saw wood, bale hay, shell corn and is adaptable to many other purposes. In Stationary from 3 to 50 H. P., Portables, all sizes. Send for our Picture Book Catalog—Free.

THE ALAMO MFG. CO., HILLSDALE, MICHIGAN.

Wisconsin Farmers' Institute Bulletin No. 22.

is now ready for distribution. A 320-page handbook for the farmer and stockman. Treats of the dairy, sheep and swine husbandry, horse breeding, poultry, fruits, etc., etc.

To Wisconsin farmers—25 cents for cloth bound and 10 cents for paper covered copies. Outside of Wisconsin—40 cents for cloth bound and 25 cents for paper covered copies. Address: GEO. MCKERRROW, Supt., Madison, Wis.

ICE PLOWS

AND ICE TOOLS
Double row plows. Equals 20 men with saws. Catalog free.
WM. H. PRAY, Clove, N. Y.

THE GENUINE SMITH STUMP PULLERS

30 DAYS' FREE TRIAL
W. Smith Grabber Co., Dept. 24 LaCrescent, Minnesota

300,000 CHERRY TREES, 2 years old, 4 cents each. Boxing Free. Catalog free to Everybody. Sheerin's Wholesale Nurseries, Dansville, N. Y.

PATENTS ALEXANDER & DOWELL, Attorneys at Law, 918 F. St., Washington. (Est. 1857.) Procure Patents and Trade Marks; Render Expert Opinions on Patentability of Inventions; Validity and Infringement of Patents; Practice in all Federal Courts. Will send book O of Information on request.

PATENTS Watson E. Coleman, Patent Attorney, Washington, D. C. Advice free. Terms low. Highest ref.

Patrons' Pride—New Grange song book. Endorsed by O. S. G. Stirring songs. Only 20c. Geo. W. Armstrong, Lisbon, Ohio.

MENTION THE MICHIGAN FARMER when writing to advertisers.

Test My Seed Corn

This year I grew 10,000 bushels of corn. For years I have been selecting for a more prolific crop—for full sized, perfect ears. I kept at it until I succeeded. That's why I grew this year's big crop. It is the finest type of corn I ever saw and I have selected the best of it for seed. I guarantee it. I will refund your money if you do not find it satisfactory. Send us your orders now—before it is all sold. An order means a full corn crib for you next fall.

My new oats and seed potatoes are the same high grade. Catalogue free. If you are interested in fruit, I will send you a nice plant—free.

W. N. SCARFF, Dept. N, New Carlisle, Ohio.

DO NOT FAIL

to subscribe for the MICHIGAN FARMER this year. There will be one article that alone will be worth the subscription price to every man, woman or young person above 12 years of age. It will appear during the next few weeks.

MARKETS

DETROIT WHOLESALE MARKETS.

Dec. 30, 1908.

Grains and Seeds.

Wheat.—Altho the market has been slow, prices ruled higher last week than for the previous period. However, reports indicate a general improvement in the crop conditions over the country, but the world's visible supply showed only a small increase and the amount in sight in Europe has decreased during the week. The Liverpool market is easy and harvesting and threshing are progressing in Argentine without serious interruption. It is believed that the higher prices prevailing this year have called out much wheat that would under ordinary circumstances be held by the farmers, and for this reason, traders prophecy that the receipts will fall off heavily during the latter part of January and strengthen the market. One year ago the price for No. 2 red wheat was \$1.02½. Quotations for the week are as follows:

	No. 2	No. 1	No. 3	Red.	White.	May.	July.
Thurs.	1.04½	1.03½	1.01½	1.08½	1.01		
Fri.							
Sat.							
Mon.	1.04½	1.03½	1.01½	1.08½	1.01		
Tues.	1.05	1.04	1.02	1.09	1.01½		
Wed.	1.05½	1.04½	1.02½	1.09½	1.02½		

Corn.—The local corn market is quiet with prices advanced a shade over the closing figures of a week ago. The wheat market has influenced this trade to some extent. The strength, however, comes largely from the expectations that deliveries will soon be falling off and the market will not have this bullish feature to hold prices down. One year ago No. 3 corn was quoted at 58c per bu. Prices for the past week are:

	No. 3.	Yellow.
Thursday	60	61
Friday		
Saturday		
Monday	60	61
Tuesday	60	61
Wednesday	60½	61½

Oats.—This market is steady and quiet with prices advanced over the closing figures of a week ago. The volume of trade has been extremely small. The discrimination against Michigan oats is still being felt. The present price of oats is 6 cents below what it was a year ago. Quotations for the past week are:

	No. 3 White.
Thursday	51
Friday	
Saturday	
Monday	52
Tuesday	52
Wednesday	52½

Beans.—The quotations given for cash beans is the same as last week, while the May option is off 5 cents. Sellers are on hand but no one appears to want to buy at present prices. Quotations are as follows:

	Cash.	May.
Thursday	\$2.15	\$2.25
Friday		
Saturday		
Monday	2.15	2.20
Tuesday	2.15	2.20
Wednesday	2.15	2.20

Clover Seed.—The market is active and firm. Offerings are fairly liberal and prices hold around last week's figures. Farmers are apparently disposing of their surplus holdings. The following quotations ruled during the past week:

	Prime.	Spot.	Mar.	Alsike.
Thursday	\$5.45	\$5.55		\$7.75
Friday				
Saturday				
Monday	5.50	5.60		7.75
Tuesday	5.50	5.60		7.75
Wednesday	5.55	5.65		7.75

Rye.—Market continues dull and inactive with the price fixed at last week's value. Quotation for cash No. 2 is 77½c.

Visible Supply of Grain.

	This week.	Last week.
Wheat	51,676,000	52,061,000
Corn	6,994,000	5,570,000
Oats	10,248,000	9,554,000
Rye	1,080,000	1,073,000
Barley	5,396,000	5,509,000

Flour, Feed, Provisions, Etc.

Flour.—Unchanged. Demand is active. Receipts of flour on Tuesday were 400 bbls., and shipments 200 bbls. Quotations are as follows:

Clear	5.00
Straight	5.15
Patent Michigan	5.75
Ordinary Patent	5.25

Hay and Straw.—Prices unchanged. Carlot prices on track are: No. 1 timothy, new, \$10.50@11; No. 2 timothy, \$9.50@10; clover, mixed, \$9@10; rye straw, \$7.50; wheat and oat straw, \$6.50 per ton.

Feed.—No change in prices. Bran, \$24 per ton; coarse middlings, \$25; fine middlings, \$28; corn and oat chop, \$25.50; cracked corn and coarse cornmeal, \$28.50.

Potatoes.—General condition of the trade is bearish. Prices in Detroit are about the same as last week but elsewhere declines are recorded. The holiday trading has had its influence no doubt and Atlantic ports expect to get supplies from Germany where the crop was good. The local trade is steady with good stock selling at 70c per bu.

Oils.—Lined in barrels, 48c per gal; boiled, 50c; lard oil, extra winter strained, 80c; extra No. 1, 66c; No. 1, 50c; No. 2, 45c; stove gasoline, 13c; headlight kerosene, 9½c; perfection, 10c; turpentine by the bbl., 43½c per gal.

Provisions.—Family pork, \$16.50@17; mess pork, \$16; light short clear, \$18; heavy short clear, \$18.50; pure lard in tierces, 10½c; kettle rendered lard, 11½c; bacon, 11½c; shoulders, 7½c; smoked hams, 10½c; picnic hams, 7½c.

Hides.—No. 1 green, 9½c; No. 2 green,

8½c; No. 1 cured, 11½c; No. 2 cured, 10½c; No. 1 green kip, 11c; No. 2 green cured calf, 13½c; No. 1 horsehides, \$3.25; kip, 9½c; No. 1 cured calf, 15c; No. 2 No. 2, \$2.25; sheepskins, as to wool, lambs, 50c@\$1.

Dairy and Food Products.

Butter.—A good general demand and a small supply has strengthened prices in all large markets. In Detroit the advance for creamery grades was 1 cent. Trade is being restricted by the high figures but still the demand is sufficient for the supply. Quotations: Extra creamery, 32c; firsts, 30c; packing stock, 19c; dairy, 22c.

Eggs.—Altho other markets show lower values the local trade is holding to last week's prices. Fresh stock is quoted at 29c per dozen; refrigerator extra, 25c.

Poultry.—Contrary to the usual experience after-Christmas prices are fully as strong as those during the rush of the holiday trade. Advances are to be noted in nearly all kinds for both dressed and live birds, since a week ago. The supply is short. Quotations:—Dressed chickens, 13@14c; fowls, 12@13c; ducks, 14@15c; geese, 12@13c; turkeys, 19@21c per lb. Live—Spring chickens, 12@13c; fowls, 11@12c; ducks, 12c; geese, 10@11c; turkeys, 17@18c per lb.

Fruits and Vegetables.

Apples.—There are very few apples in the smaller towns of the state. Best grades are quoted at \$3.25@4.50 per bbl. Western apples in bushel boxes, \$2.75@3.

Grapes.—Market is small. Catawba, 20c per pony basket.

Onions.—Spanish, \$1.65 per bu; home-grown at 60@65c per bu.

Cabbage.—Home-grown selling at \$6@7 per 100 heads.

Vegetables.—Green onions, 15c per doz; radishes, 30c per doz; cucumbers, \$1.90 @2 per bu; lettuce, 13c per lb; head lettuce, \$1.20 per doz; beets, 40c; turnips, 40c; carrots, 40c; watercress, 40c per doz; celery, 20@35c; spinach, \$1 per bu; parsnips, 60c per bu.

OTHER MARKETS.

Grand Rapids.

A feature of the market this week is the stiffening of meat prices. Turkeys are up 2c and all other poultry 1c. Dressed hogs are also up a full cent, being worth 7@7½c, as against 5½c a few days ago. No change in eggs, tho the market is weak and with continued mild weather fresh stock will begin to come in. Dairy and creamery butter are up ½c. Greenhouse men report a strong demand for lettuce at 12c retail, radishes 20c, cucumbers \$1.50. The growers are raising a greater variety of stuff this winter. Wheat is worth 99c, other grains unchanged. Hay is bringing \$10@11 per ton.

Quotations follow:
Grains.—Wheat, 99c; corn, 60c; oats, 51c; buckwheat, 80c per bu; rye, 70c.
Beans.—Handpicked, \$1.90 per bu.
Butter.—Buying prices: Dairy, No. 1, 24c; No. 2, 17c; creamery in tubs, 31½c. Cheese.—Michigan full cream is selling at 13@14c per lb; brick, 15c; Swiss, 16c; limburger, 15c.
Eggs.—Case count, 27@28c; candled, 30@31c.
Apples.—75c@1.25.
Potatoes.—60c per bu.
Cattle.—Cows, \$2.50@3 per cwt; steers and heifers, best quality, \$3@4; dressed mutton 6c; dressed veal, 6½@7½c; dressed beef, cows, 4½@5½c; steers and heifers, 5½@7c.
Hogs.—Dressed, 7@7½c.
Live Poultry.—Fowls, 9@10c; spring chickens, 10@11c; roosters, 7@8c; turkeys, 16@18c; young ducks, 10@11c; geese, 9@10c.

Chicago.

Wheat.—No. 2 red, 1.04½@1.05½; May, \$1.07½; July, 99c.
Corn.—No. 2, 58@58½c; No. 2 yellow, 58½@59½c; May, 61½c; July, 61½c.
Oats.—No. 3 white, 48½@51c; May, 51½c; July, 46½c.
Barley.—Good feeding, 59@59½c; fair to choice making, 61@64c.
Butter.—Steady; creameries, 22@32c; dairies, 21½@25c.
Eggs.—Steady. At mark, cases included, 26@29c; firsts, 30c; prime firsts, 31c.
Potatoes.—Car lots in bulk. Fancy, 74 @76c per bu; ordinary, to good, 62@70c.

Pittsburg.

Butter.—Creameries, 33@33½c per lb; firsts, 31@32c; prints, 34@34½c.
Eggs.—Lower. Fresh candled, 33@35c; current receipts, 30@32c.
Potatoes.—Prices lower. Michigan, 75 @80c per bu.
Apples.—King, \$4.50 per bbl; spy, \$3.75 @4; Spitzenburg, \$3.75@4.
Poultry.—Dressed. Turkeys, 26@30c; spring chickens, 15@17c; hens, 14@15c; ducks, 15@16c.

New York.

Grain.—Wheat, No. 2 red, \$1.08@1.09½; corn No. 2, 66½c; oats, mixed, 54@54½c.
Eggs.—Steady. Western firsts, 32c; seconds, 30@31c.
Butter.—Firm. Creamery specials, 33@33½c; western factory firsts, 21½@22c.
Potatoes.—Western, in bulk per 180 lbs., \$2.25@2.37; per bu, 78@80c.
Poultry.—Dressed, firm; western spring chickens, 12½@18c; spring turkeys, 16@24c; fowls, 12½@14½c.
Hay.—Choice timothy, \$17@18; No. 1, \$17.50; No. 2, \$16@17; No. 3, \$14@15; shipping, \$13; little clover, mixed, \$15@16; No. 1 clover, \$14; No. 2, \$12; No. 1 rye straw, \$18.50@19; No. 2 do, \$17; No. 1 tangled rye, \$12; oat straw, \$8@9; wheat, \$9.

Boston.

Wool.—The market continues quiet. Prices are firmer than they were a few days ago. Individual buying is becoming a feature of the market and quotations will not mean as much from now on

since buyers will come to the market and get all the wool they can for the price agreed upon between themselves and the seller. An active demand is expected in the very near future and this is sure to advance prices. The difference between prices here and abroad is so wide that either declines will be necessary there or an advance here, and since the market on the other side has continued to show firmness, there is little likelihood of a decline under the present active demand. All kinds of wool are being inquired after, and more or less trading is being done with the different grades. The London auctions show considerable strength and American buyers have been active there. Good wools are scarce and they are being picked up wherever found. Ohio fleeces are practically cleaned up. Michigan quarter bloods are more plentiful and sales are being made at 26 to 27c per lb.

Cincinnati.

Potatoes.—Market lower. Bulk on track, 73@78c per bu.

Butter.—Creamery prints, 33½c per lb; extra, 33c; firsts, 29½@30c.

Eggs.—Extra, 30c per doz; firsts, 29c.

Apples.—King, \$4.50 per bbl; snow, \$3.50; Baldwins, \$3.75; Spy, \$3.75; Greenings, \$3.50@3.75.

Poultry.—Live—springers, 11c per lb; hens, 9c; cocks, 6½c; ducks, 10@11c; turkeys, 9@16c.

Elgin.

Butter.—Market firm at 32c, which is an advance of 1c over last week's quotation. Sales for last week amounted to 611,200 lbs., compared with 619,400 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Chicago.

Dec. 28, 1908.

Receipts.

	Cattle.	Hogs.	Sheep.
Received today	19,000	30,000	22,000
Same day last year	21,936	36,654	11,313
Received last week	53,850	125,530	47,068
Same week last year	46,061	134,883	83,304

Cattle are always poor sellers during the Christmas holidays, and, country shippers, being aware of this fact, sent in extremely small supplies last week. Despite this precaution, weak and lower markets were experienced, and there was a lower closing, altho a rally took place on Thursday. A good share of the beef steers found buyers at \$4.75@6.75, there being a great scarcity of the better class of corn-fed beefs that were taken at \$6.80@7.75. The cheaper class of light-weight steers sold at \$3.50@4.75, with a medium grade of steers selling at \$5.50@6.20 and good cattle going at \$6.25@6.75. A return to normal activity and steadiness is expected after New Year's, as that is supposed to end the season of especial animation of the poultry trade. Cows and heifers have been selling at \$2.80@5.50, a very few fancy heifers selling at \$6@7. Canners and cutters had a limited sale at \$1.50@2.75, with bulls selling at \$2@4.35. Calves were the highest of the year under small offerings and a good demand, buyers paying \$3.50@9 per 100 lbs. Milkers and springers were in moderate supply and demand at \$25@50 per head. The demand for stockers and feeders was in excess of the moderate offerings, and prices averaged higher at \$2.60@5, many heavy steers of the feeder class falling into the hands of killers, who outbid intending country buyers. Reports from the interior indicate enough ordinary to pretty good feeder cattle in feeding sections to meet the requirements of the trade, and the demand promises to show animation for some time, many farmers wanting to do some feeding.

Cattle were unexpectedly scarce today, and this caused such good buying that prices rallied and recovered all they lost last week. No prime beefs were offered.

Hogs are not generally expected to sell much better during the month of January, but by February and March higher prices appear probable. The packers are very bearish at the present time and they are ready to put prices lower whenever the eastern shipping demand drops off. Weakness is naturally shown most in the light weights which are still comprising a large proportion of the receipts, the recent average weight having been but 205 lbs. compared with 217 lbs. a year ago and 225 lbs. two years ago. Christmas week saw much smaller receipts of hogs than other recent weeks, and this tended to check declines in prices. The demand for fresh pork was moderate, and so were cash sales of provisions, but this condition of things was regarded as merely temporary. Farmers are still to a great extent believers in sacrificing their hogs in order to save their corn, but heavy hogs are good money-makers.

The market advanced 10@15c today under unusually small Monday receipts, with an active demand at \$5@6.15.

Sheep and lambs were marketed very sparingly during Christmas week, as is usual, and the great scarcity of fat flocks caused big advances, but half-fat stock was neglected and was slow to sell any higher. In the absence of prime muttons, however, buyers were often obliged to fall back on the next best grade as substitutes, and some lambs of the feeder class were taken for converting into mutton. Existing conditions were regarded as only temporary, and a speedy return to normal receipts and prices was predicted. Feeders had little chance to stock up, but several sales were reported of feeder lambs at \$5.25@6.25, prices ruling firm. Lambs went at an extreme range of \$4@7.75, while ewes sold at \$2.25@4.65, wethers at \$4.25@5.25, yearlings at \$4.50@6.50 and rams at \$2.25@3.50. Live stock commission firms are sending out letters to their country patrons, advising them to finish off carefully their flocks. Today's market was active and firm.

Horses have shown moderate activity

for a week past, with more than enough offered on the market for the holiday trade, and it was not always possible to maintain former prices for animals that lacked quality. As usual, the best demand was for heavy drafters at \$165@215 per head, with an occasional sale of something extra at \$225 to \$250 or higher. The demand for light drivers at \$150@350 was of fair proportions, and farm mares had a fair sale at \$110@160. There was a slow trade in southern chunks, and feeders were slower at \$165@215. After New Year's normal animation in the general horse trade may be expected, and prices will probably rule firm if too many horses are not shipped in.

F.

LIVE STOCK NOTES.

A great deal of money has been made in sheep this season, but it was made by experienced sheepmen who thoroughly understand the business and the farmers who take up the business when the outlook looks good to them and stay out most of the time are generally failing to share to any great extent in the profits. The average feeder fails to grasp the important fact that in order to fetch high prices the flocks must be made thoroughly fat and not half or three-fourths fat, and it is due to the great predominance of poorly fattened flocks in the markets of the country that the fat mutton flocks command such good prices. And not only is this true, but the careful manager sees that his flock is selected well at the start and also arranges it so that they can be marketed at the right time. The recent demand for Christmas holiday mutton was extremely large, or it appeared to be so to the live stock commission firms in Chicago and other markets when contrasted with the meager showing of prime stock. Under such circumstances it was no trick at all for sellers to mark up prices anywhere from 25 to 50 cents per 100 pounds. Of course, such opportunities do not happen often, and any such booms are certain to be followed by corresponding reactions as soon as normal receipts are restored and the demand returns to merely ordinary proportions. Nine times out of ten at least, lambs make the most money for feeders, always provided that they are well selected and fed carefully. They need shelter in northern climates, as well as sheep, and make good returns for their care. Iowa farmers have in many instances taken up sheep and lamb fattening of late, and some of them are thoroughly successful, but many flocks of range lambs, after being fed in that state for a few months, are returned to market much too poor in flesh to suit a high-class mutton trade and are apt to be resold to go back to the country to be finished off properly. It is a great pity that at such a favorable time as the present winter so many farmers should thru sheer neglect, let good money slip from their fingers.

Ever since the time when fall pasture was no longer available for owners of hogs farmers have been marketing an improved class of swine, but that is no great compliment, as the autumn grass-fed droves were about as inferior in their average grading as any ever seen. Of course, hogs that had been fed no corn, as was the case with many shipments, in the fall, were inferior in every way, and it was remarkable what large numbers were rushed to market regardless of the extremely low prices that prevailed at that time. Ever since then there has been gradual improvement in the average marketings, but hogs are still greatly deficient in weight and finish, and it is plainly evident that farmers generally are not of the opinion that high-priced corn should be fed to stock. In a recent week the hogs marketed in the Chicago stockyards averaged only 210 pounds, which is certainly a remarkably poor showing as compared with former years. The December marketings of hogs have shown a deficiency in pounds of product as compared with former normal years, and the recent average weight has been the lightest since 1901, when there was a failure of the corn crop and the average weight of the hogs received in Chicago fell to 202 pounds. No intelligent person doubts the actual scarcity of heavy hogs, and the packers are evidently anxious regarding the future supply of big lard hogs. Even shipments from hog raising regions beyond the Mississippi River are scant in weight, and few big barrows are being marketed, while inferior light weights are numerous. The lighter weights of butcher hogs are offered freely in the Chicago market at the present time, there being a good showing of barrows weighing from 200 to 225 pounds, and the hog growers are evidently in a hurry to sell their holdings as soon as they can get any decent size. Naturally, the recent decline in prices for corn resulting from increased marketings by farm renters in various western states has a tendency to make farmers do more fattening, but a greater decline is required to stimulate general feeding. Corn must break in price to a point that will bring about cattle feeding on a large scale in order to encourage owners of hogs. It has been remarked in former years that when farmers do not need swine to follow cattle in the feed lots the hogs are always sold when of medium or light weight. Recently eastern buyers in the Chicago market have purchased fewer hogs than usual, the consumption of fresh pork being much smaller than usual, as it always is during the Christmas holidays, and this was a weakening factor in the market. The best authorities do not hesitate to declare that there is going to be a nice profit in feeding corn this winter to healthy growing pigs. Even at the present time plenty of farmers are making it pay well, but it is doubtful whether as much can be said of the men who send in many lots of thin, light hogs.

THIS IS THE LAST EDITION.

In the first edition the Detroit Live Stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

Dec. 31, 1908.

Cattle.

Receipts, 478. Market strong at Wednesday's prices, 10c higher than last Friday.

We quote: Extra dry-fed steers and heifers, \$5@5.50; steers and heifers, 1,000 to 1,200, \$4.50@5; steers and heifers, 800 to 1,000, \$4@4.50; steers and heifers that are fat, 500 to 700, \$3.50@4; choice fat cows, \$3.50@4; good fat cows, \$3@3.50; common cows, \$2@2.50; canners, \$1@1.50; choice heavy bulls, \$3.50@4; fair to good bolognas, bulls, \$3@3.50; light bulls, \$2.75@3.25.

Spicer, M. & B. sold Knauff 1 cow weighing 1,100 at \$3, 1 do weighing 950 at \$3.75, 2 bulls av 985 at \$3.40, 5 butchers av 962 at \$3.40, 2 steers av 675 at \$3.75, 2 do av 1,180 at \$5, 7 butchers av 850 at \$4.15; to Mich. B. Co. 4 cows av 1,075 at \$3.25, 4 do av 1,112 at \$3.25, 1 do weighing 1,200 at \$2.50.

Roe Com. Co. sold Newton B. Co. 2 butchers av 820 at \$3, 3 do av 1,033 at \$4, 8 do av 948 at \$3, 7 do av 800 at \$4, 8 do av 860 at \$3, 12 do av 631 at \$3.65, 5 do av 640 at \$3.50, 2 do av 740 at \$4, 5 do av 720 at \$4; to Kamman 2 do av 1,000 at \$3.50, 1 cow weighing 920 at \$2.50, 4 butchers av 1,037 at \$3.50, 4 do 1,107 at \$3.50; to Bresnahan 4 do av 506 at \$3.40, to Sullivan P. Co. 6 steers av 826 at \$4.25, 9 butchers av 1,096 at \$3, 3 bulls av 1,306 at \$3.50, 2 cows av 810 at \$1.75; to Newton B. Co. 13 steers av 1,200 at \$5.40, 1 do weighing 1,060 at \$4.50; to Goose 2 cows av 815 at \$3.

Bishop, B. & H. sold Jones 1 cow weighing 1,210 at \$3.50, 1 do weighing 830 at \$2.50, 3 heifers av 1,076 at \$4.75, 4 butchers av 962 at \$3.20, 1 cow weighing 950 at \$3.75, 2 canners av 750 at \$1.50; to Kamman 3 cows av 966 at \$3, 1 heifer weighing 600 at \$3.75, 2 cows av 830 at \$1.75; to Sullivan P. Co. 1 bull weighing 1,550 at \$3.50, 2 do av 1,585 at \$3.75, 2 cows av 1,085 at \$2.75, 4 bulls av 1,210 at \$3.75, 13 butchers av 700 at \$3.75, 1 cow weighing 690 at \$1.50, 1 do weighing 770 at \$2, 1 bull weighing 590 at \$2.50; to Kamman 3 butchers av 983 at \$3.60, 4 do av 760 at \$3.75; to Newton B. Co. 1 cow weighing 1,390 at \$3.60, 1 steer weighing 900 at \$4.60; to Kamman 7 butchers av 936 at \$3.40; to Schuman 6 bulls av 926 at \$3.25; to Thompson Bros. 2 cows av 815 at \$3, 1 do weighing 1,070 at \$2, 16 butchers av 625 at \$3.60; to Markowitz 1 bull weighing 1,520 at \$3.75; to Newton B. Co. 2 cows av 975 at \$2.75, 1 steer weighing 1,580 at \$4.50, 2 do av 650 at \$4, 1 cow weighing 700 at \$2, 2 do av 1,105 at \$3, 3 steers av 916 at \$4, 2 cows av 825 at \$2, 8 butchers av 1,000 at \$3.25, 1 cow weighing 800 at \$2, 9 steers av 888 at \$4.50, 3 do av 1,177 at \$3.50.

Haley sold to Braum 5 cows av 926 at \$2.90; to Bresnahan 7 heifers av 583 at \$3.55; to Sullivan P. Co. 1 bull weighing 1,330 at \$3.25; to Newton B. Co. 13 butchers av 665 at \$3.50; to Rattkowsky 1 bull weighing 1,000 at \$2.75.

Johnson sold Newton B. Co. 2 steers av 865 at \$4.25, 3 do av 693 at \$3.50.

Sharp sold Mich. B. Co. 12 butchers av 836 at \$4, 2 cows av 1,025 at \$3.50.

Adams sold same 2 cows av 1,135 at \$3.75.

Waterman sold Sullivan P. Co. 2 cows av 865 at \$4.50, 1 bull weighing 800 at \$4.00.

Wilson sold same 4 steers av 1,290 at \$4.40, 4 cows av 937 at \$3.50.

Groff sold Applebaum 3 cows av 1,033 at \$3.50, 2 do av 810 at \$3.

Veal Calves.

Receipts, 260. Market strong and 25c higher than on Monday. Best \$5.50@6; others, \$4@5.

Spicer M. & B. sold Sullivan P. Co. 3 av 150 at \$5.50.

Roe Com. Co. sold Barlage 7 av 150 at \$5.00.

Cheney & H. sold Fitzpatrick 8 av 145 at \$6.

Casement sold same 2 av 125 at \$5.

Lewis sold Markowitz 1 weighing 150 at \$6.

Adams sold Burnstine 4 av 150 at \$5.50.

Dwelle sold same 7 av 140 at \$5.50.

Lovewell sold same 5 av 145 at \$5.

Johnson sold same 6 av 115 at \$5.

Bishop, B. & H. sold Parker, W. & Co. 2 av 120 at \$5, 4 av 135 at \$5.50, 3 av 170 at \$5.50, 2 av 155 at \$5.50, 12 av 140 at \$5, 3 av 120 at \$5.50, 4 av 125 at \$5.50; to Sullivan P. Co. 4 av 135 at \$5.50, 6 av 155 at \$5.50; to Mich. B. Co. 17 av 150 at \$5.75.

Sheep and Lambs.

Receipts, 2,735. Market 50c lower than on Wednesday.

Best lambs, \$5.75; fair to good lambs, \$4.75@5; light to common lambs, \$3.75@4.25; fair to good butcher sheep, \$3@3.25; culls and common, \$1.50@2.

Downey sold Mich. B. Co. 107 mixed av 70 at \$4.

Stephens sold same 10 lambs av 99 at \$6, 2 sheep av 120 at \$3.

Adams sold same 9 lambs av 70 at \$4.75.

Spicer, M. & B. sold Mich. B. Co. 31 lambs av 70 at \$5.85; to Halse 10 sheep av 65 at \$3.50; to Sullivan P. Co. 43 lambs av 75 at \$5.25; to Parker, W. & Co. 93 lambs av 72 at \$5.50; to Barlage 10 lambs av 49 at \$4; to Robison B. Co. 18 sheep av 85 at \$3.25; to Barlage 24 lambs av 65 at \$4.25.

Roe Com. Co. sold Sullivan P. Co. 2 sheep av 140 at \$3; to Barlage 37 do av 85 at \$3.35, 12 do av 75 at \$3.35.

Cheney & H. sold Young 3 sheep av

120 at \$3, 38 lambs av 80 at \$5.50.

Bishop, B. & H. sold Robison B. Co. 18 sheep av 110 at \$3, 84 lambs av 55 at \$4.75, 27 do av 70 at \$5, 1 sheep weighing 170 at \$3.50; to Newton B. Co. 71 lambs av 75 at \$6; to Halse 23 lambs av 67 at \$5.60, 2 sheep av 135 at \$3; to Hammond, Standish & Co. 8 sheep av 110 at \$3, 16 lambs av 80 at \$6, 90 do av 85 at \$6.25, 36 do av 80 at \$6.25, 6 sheep av 110 at \$4, 2 do av 115 at \$3, 17 lambs av 85 at \$6, 11 do av 100 at \$6, 2 sheep av 130 at \$3; to Fitzpatrick Bros. 14 sheep av 100 at \$3, 1 buck weighing 150 at \$2, 9 sheep av 80 at \$2.75, 38 lambs av 55 at \$5.60, 49 do av 60 at \$4.75, 15 sheep av 90 at \$3, 23 do av 95 at \$3.30; to Mich. B. Co. 39 lambs av 85 at \$5.75, 16 do av 77 at \$5.75, 17 do av 80 at \$5.75, 3 sheep av 82 at \$2, 30 do av 110 at \$2.75.

Hogs.

Receipts, 14,013. Market 20@25c lower than on Wednesday.

Range of prices: Light to good butchers, \$5.25@5.30; pigs, \$3.75@4.25; light yorkers, \$5; stags, 1/2 off.

Wednesday's Hog Sales.

Sundry shippers sold Parker, W. & Co. 154 av 170 at \$5.45, 382 av 190 at \$5.30, 193 av 143 at \$5.40.

Spicer, M. & B. sold same 271 av 174 at \$5.45, 646 av 192 at \$5.50, 69 av 154 at \$5.40.

Sundry shippers sold Hammond, S. & Co. 463 av 192 at \$5.50, 193 av 160 at \$5.40.

Bishop, B. & H. sold same 1,775 av 180 at \$5.50, 109 av 160 at \$5.30, 462 av 175 at \$5.40, 184 at 195 at \$5.45.

Sundry shippers sold Sullivan P. Co. 96 av 177 at \$5.45.

Roe Com. Co. sold same 227 av 184 at \$5.50.

Roe Com. Co. sold Newton B. Co. 25 av 248 at \$5.50, 41 av 200 at \$5.20, 26 pigs av 120 at \$4.50.

Good headway has been made by the Bureau of Animal Industry and State authorities in eradicating foot-and-mouth disease. No outbreaks in new territory have been discovered in the past two weeks altho the disease has been found on a few additional farms adjacent to those where it already existed. So far 152 herds or farms have been found affected as follows: In Michigan 8, in New York 44, in Pennsylvania 98, and in Maryland 2. All of the diseased and exposed animals in Michigan, New York, and Maryland so far as known have been slaughtered, and the work of slaughtering and disinfection in Pennsylvania, where the disease has been most extensive, is well advanced and is being pushed as rapidly as possible. If no new infection is discovered, it is believed that the disease will be entirely eradicated within a very short time. As an extra precaution, however, a careful canvass of the infected territory will be made, inspecting the animals from farm to farm to make sure that no cases have been overlooked.

It is very important for the prompt suppression of this outbreak that all cases should be reported without delay. There is nothing to be gained by a stock owner concealing the presence of the disease among his animals. The hearty co-operation of all farmers in reporting all suspected cases will facilitate the work of eradication and hasten the time when the quarantine can be raised and normal conditions restored.

OUR SUGAR SUPPLY AND ITS CONSUMPTION.

The average citizen of the United States consumes half his own weight in sugar every year, and the sugar bill of the country aggregates a million dollars for every day of the year.

These assertions are justified by a statistical statement just prepared by the Bureau of Statistics of the Department of Commerce and Labor, which shows the quantity of sugar produced in the United States, the quantity brot from our own islands, the quantity imported from foreign countries, and the quantity exported, showing a total consumption of from 6 to 7 billion pounds a year, the total for the latest year, 1907, being 7,089,667,975 pounds. Calculating this enormous total at the average retail price of 5 1/2 cents per pound, we get a total of 372 million dollars as its cost to the consumer, or more than a million dollars for each of the 365 days of the year. Dividing this total of 7,089,667,975 pounds by the 1907 figures of population, we get an average consumption for 1907 of 82.3-5 pounds per capita, which is more than one-half of the average per capita weight of the people of the country, including men, women, and children in this calculation.

One-fifth of this enormous total of 7 billion pounds, speaking now in very general terms, is produced at home, one-fifth is brot from our own islands, and the remaining three-fifths from foreign countries. Speaking more accurately, the Bureau of Statistics' statement shows that 21.3 per cent of the sugar consumption of the country in 1907 was of home production, 17.7 per cent from our own islands, and the remaining 61 per cent came from foreign countries. The home product amounted to 1,511 million pounds, that brot from the islands, 1,254 million pounds, and that from foreign countries, 4,367 million pounds. Of the 1,511 million pounds produced at home, 544 millions was produced from cane and 967 millions from beets. Of the 1,254 million pounds brot from our own islands, 408 millions was from Porto Rico, 821 millions from Hawaii, and 25 millions from the Philippines. Of the 4,367 million pounds brot from foreign countries, 3,236 millions was cane sugar from Cuba, 732 millions from other cane-sugar countries, and 398 millions beet sugar produced in Europe. Meantime, 43 million pounds were exported, leaving the total consumption at home, as above indicated, over 7 billion pounds.

The sugar record of the United States

in 1907 was unique in several particulars. The quantity of sugar imported from foreign countries was larger than ever before, the quantity brot from our own islands was larger than in any former year, the quantity produced at home exceeded that of any other year, the quantity exported was larger than in any year of the past decade, and the per capita consumption was the largest ever recorded, an average of 82.6 pounds for each man, woman, and child of continental United States. An equally interesting feature of this record year of 1907 was the fact that the production of beet sugar, for the first time exceeded the production of cane sugar; the product of the year being, cane sugar, 544 million pounds; beet sugar, 967 million pounds.

The increase in the production of beet sugar in the United States has been very rapid in recent years. A decade ago, in 1897, the production of beet sugar was about 84 million pounds, against 644 million pounds of cane sugar. Five years later, in 1902, the beet-sugar production was 369 million pounds, against 729 million pounds of cane sugar; in 1907, beet-sugar production was 967 million pounds against 544 million pounds of cane sugar, the beet-sugar production of 1907 being greater than that of cane sugar in any year in the history of the country.

CONSUMER'S MEAT COST.

Investigations of meat prices by the national Bureau of Labor indicate that the average price of meat per pound paid by consumers in 1900 was 12 1/2 cents; 13 cents in 1901; 13 1/2 cents in 1905, and 13 1/2 or possibly 14 cents in 1906. It follows that the retail meat bill of this country was \$2,052,279,000 in 1900, and about \$2,304,000,000 or more in 1906. Every increase of a cent per pound in the national average retail price of meat raises the total yearly expense to consumers by \$168,000,000.

RELATIVE DECLINE OF STOCK OF MEAT ANIMALS.

While the national stock of meat animals has absolutely increased since the first livestock census in 1840, it has steadily decreased relative to population, with the exception that a contrary tendency was indicated for 1890 on account of the large number of range cattle at that time.

One-eighth of the national production of meat and its products in 1900 was exported, so that seven-eighths of the production constitutes the national consumption. Having in view solely the stock of meat animals that sustains the national consumption of meat, a ratio between the number of these animals and the population may be computed for each census year as far back as 1840, and, if this ratio of animals to population be represented by 100 for 1840, the corresponding stock for 1900 is only 59. The decline from 1890 to 1900 is one-fourth. Otherwise stated, if the per capita stock of meat animals in 1890 from which the domestic consumption was derived be represented by 100, the similar stock in 1900 was 75.

We have given the machine a good trial and are well pleased with the results. It runs easier and does as good work as a \$40 machine we had here on trial before purchasing your machine. I see no reason why your machine should not last as long as the higher priced one.—Wm. E. Hill, Davison, Mich.

VETERINARY.

(Continued from page 6).

too expensive for veterinary use. Give 1 oz. bicarbonate soda at a dose in feed twice a day.

Chronic Cough—Ophthalmia.—I have a cow that has been troubled with a cough and looseness of the bowels for several months. I consulted our local Vet. He told me she had indigestion. I also have some sheep that are troubled with sore eyes. This ailment is inclined to produce partial blindness. O. W., Saginaw, Mich.—It is possible that your cow has tuberculosis; if she is losing flesh and growing worse you had better have her tested with tuberculin. This will determine whether she has consumption or not. Give 1/2 oz. ground gentian, 1/2 oz. powdered sulfate iron, 1 oz. ground ginger and 1 oz. powdered charcoal at a dose in feed twice a day. Give your sheep 5 grs. iodine potassium at a dose once a day and blow a little calomel into eye once daily.

Periodic Ophthalmia.—I have a 6-year-old horse that I fear is going blind. He has had several attacks—the eye becoming a little more dull after each one. Now there seems to be a white substance forming in eye. W. W., Copemish, Mich.—I am inclined to believe that a cataract is forming in eye and if so medication will not give you satisfactory results; however, it will do no harm to give a dessert spoonful syrup iodine iron once a day in feed. Leave the eye alone.

Foot and Mouth Disease.—I would like to know if horses are in danger of contracting foot and mouth disease; also are they liable to have anthrax? H. M., Marion, Mich.—No.

Contagious Abortion.—Is there any way in which I can prevent my bull from contracting contagious abortion? And prevent him infecting other cows he is mated with? And what can I give a cow to prevent her giving thick milk? S. C. C. Hillsdale Mich.—When a bull is mated to cows that suffer from contagious abortion it is likely to infect the bull and he may infect well cows. If you have no cases of infectious abortion in your herd and your bull has not been mated with any infected cows in your locality you had better be careful. You have doubtless read my prescription for treating

such cases. Give cow 1 oz. bicarbonate soda twice daily.

Opacity of Cornea.—I have an 8-year-old race mare that I keep for breeding purposes, which has a thick white film covering her right eye. Can she be cured? J. J. S., Plymouth, Mich.—It is very doubtful whether you will succeed in absorbing the growth on eye or not. Blow a little calomel into eye once a day, drop 2 grs. nitrate silver in 1 oz. rain water and apply a little once a day. Give 1 dr. iodine potassium daily.

WANTED!

HAY OF ALL GRADES.

Write for quotations. One profit, from producer to consumer.

F. D. HEWITT,
120 Liberty St., New York.

HAY & GRAIN

We want to hear from shippers of Hay and Grain—Our direct service to large consumers in this district enables us to get top prices for good shipments. Liberal advances to consignors.

Daniel McCaffrey's Sons Co., Pittsburg Pa.
Ref.—Washington Nat'l Bank, Duquesne Nat'l Bank.

We Always TOP PRICES FOR EGGS

We want nothing but fresh select stock. Must be direct from first hands. Hucksters and collectors' shipments not solicited. We supply shipping cases and pay express charges. Prices sent on application.
The W. H. THOMAS CO., 421 Woodland Ave., CLEVELAND, O.

WANTED Share Tenant, 180-acre farm, all available, ready now; cows, swine and machinery now on farm. Address by Mail, STANLEY WILCOX, Jackson, Mich.

I WANT TO RENT a 160-acre potato farm, half mile from Lowell, to some up to date reader of the Mich. Farmer who is a success as a potato grower and who wants to give his time to this crop. He to furnish and have 1/2 share. I might be willing to back the right man a little on tools, seed, fertilizer, etc., if necessary. Write JOHN B. MARTIN, 98 Monroe St., Grand Rapids, Mich.

FARMS AND FARM LANDS
FOR SALE OR EXCHANGE

MICHIGAN FARMS ALL KINDS
Bourne & Fisk, 501 Chamber of Commerce, Detroit.

FOR SALE—Number of fine farms and business chances, fine locations, good country, for particulars write R. W. HICKMAN, Cheesaning, Mich.

I SELL FARMS IN OCEANA.—The banner country of Michigan; fruit, grain and stock farms. Write for my list. J. D. S. HANSON, Hart, Mich.

MICHIGAN FARMS ALL SIZES
Southern & Central Counties. Write for list, S. R. HAYES, Ashton Building, Grand Rapids, Mich.

ANOTHER 100 ACRE SNAP—Close to Ypsilanti, 135 acres. Easy terms. Buildings good soil good, running stream. A great bargain.
BOURNE & FISK, Detroit.

GOOD FARM FOR SALE Close to Town. Good soil. On time.
W. P. CROTHER, Traverse City, Mich.

FOR SALE OR RENT—My 175-acre FARM in S. W. Michigan. Good soil, running water, well fenced, large basement barn, silo, etc. Description and terms sent by return mail.
H. C. CROSBY, Three Oaks, Berrien Co., Mich.

ELEGANT FARM—160 acres. Near Ypsilanti! Fine 12 room house, basement barn, sheep barn, all outbuildings. Rich soil. No waste. New fences, orchard and fruit. Everything choicest. See it, 68.75 acre. Easy terms. Bourne & Fisk, Detroit.

CASH FOR YOUR FARM
If you want to sell, send description to
FRANK P. CLEVELAND,
948 Adams Express Building, Chicago, Ill.

WHY PAY RENT
when you can buy the Best Land in Michigan at from \$6 to \$10 an acre near Saginaw and Bay City. Write for map and particulars. Clear title and easy terms. STAFFORD BROS., (owners) 16 Merrill bldg., Saginaw, W. S., Mich.

CAN'T BEAT THIS FARM BARGAIN—On electric line, close to Ypsilanti, 250 acre farm. Complete and good. \$50 acre. Worth twice as much. Let us prove it. BOURNE & FISK, Detroit.

Cheap Tennessee Farms
Making Men Rich!

Fortunes are being made on fertile Tennessee farms. They raise big crops of Cantaloupes, Cabbage, Tomatoes, String Beans, Green Corn, etc., also Horses, Cattle, Sheep, Swine, Poultry and Eggs. Write me at once for Free Literature. I'll tell you how to get one of these splendid farms for \$5 to \$20 per acre. Act quickly!
H. F. Smith, Traf. Mgr. N. C. & St. L. Ry. Dept. P., Nashville, Tenn.

WEALTH IN SOUTHERN FARMS

Southern farms keep the bank account healthy. Crop after crop in a single season the rule. For real profit buy a farm in Tidewater, Virginia, or Carolina. Climate just right. Early markets. Best prices. Good railroad facilities. Finest trucking lands in the world. No irrigating or fertilizing. Living cheap. Lands on easy terms. Write

F. L. MERRITT, Land and Indust' Agt., Norfolk and Southern Railway, 20 Citizens Bank Building, Norfolk, Va.

The NATION'S GARDEN SPOT

Atlantic Coast Line RAILROAD
In Virginia, North and South Carolina, Georgia, Alabama and Florida, write to
WILBUR MCCOY,
Agri. and Immi. Agent,
Atlantic Coast Line, Jacksonville, Fla.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

RELATION OF DAIRYING TO SOIL FERTILITY.

Plant food is stored up in the air and in the soil. We do not have to bother ourselves about the plant food stored in the air, the plants have a way of getting that food, the carbon and oxygen of the air, so the farmer does not have to worry about it. Many of the plant foods in the soil are very abundant so the farmer does not have to bother with them. We do not talk about iron as a plant food yet plants cannot live without iron but all soils contain sufficient iron to grow maximum crops for an indefinite period of time. There are other elements of plant food which are not sufficiently abundant in all soils to maintain profitable agriculture for any considerable length of time. The three most important of those, the three essential elements of plant growth, are nitrogen, phosphoric acid and potash, and so when we talk about fertilizers we always confine ourselves to the three essential elements of plant growth, nitrogen, phosphoric acid and potash and the plant gets all of these from the soil.

When you grow crops upon the soil, those crops take out of the soil these elements. If we sell these crops from the farm to get our income, we simply sell the nitrogen, phosphoric acid and potash from the soil. If we raise hay, and wheat, and oats, and corn, and potatoes, and ship them out to feed the people of the world, we are simply mining the nitrogen, phosphoric acid and potash which kind nature has deposited in the soil; we are taking it out of the soil and shipping it away to feed the millions of the world.

On the other hand, if, instead of taking those crops which are produced here and selling them off the farm, we first feed those crops to an animal, what is the result? On careful investigation we find that the animal does not utilize, does not need, all of the nitrogen, phosphoric acid and potash which the crop took out of the soil for its growth and sustenance. The balance is a waste product and can be returned to the soil in the form of nature. The percentage of the plant food which can be returned depends somewhat upon the age and nature of the animal to which we feed the crops. For instance, young growing animals, where they are developing bone and muscular tissue, take more nitrogen and phosphoric acid from the soil because they have to develop bone and tissue, which are composed largely of these elements. When we grow those animals and fatten them on the farm and sell the carcass off the farm to get our profit, we sell that much more plant food than when we feed those crops to the dairy cow and manufacture the animal product—milk—into butter, because in that case, practically all of the plant food the crops took out of the soil, which furnished sustenance for the dairy cow, is returned to the soil because butter-fat is not a plant food. As somebody has aptly said, "butter and sugar are nothing more nor less than crystallized sunshine." It is carbon. If we grow up the dairy cow on the farm, keep her there and make her product into butter, sell nothing but butter from the farm, and when the cow passes her period of usefulness we compost her and put her bones and flesh back into the soil, we have not removed anything in the way of plant food from the soil.

But, besides that, the physical condition of the soil has much to do with its crop-producing power. Many soils in this state that will not produce profitable crops today are in that condition, not from the fact that they do not contain enough nitrogen, phosphoric acid and potash, but from the fact that a poor system of farming has depleted the soil of vegetable matter—humus—and the soil has gotten into poor physical condition. In order to have a productive soil we must have vegetable or organic matter in it as well as soluble plant food. When we grow crops and sell them from the farm we are removing all the vegetable matter from the soil and in a short time we will get that soil in such condition that we cannot grow profitable crops because of the fact that its physical condition does not make it a congenial home for plants to grow in, but when we feed those crops to animals and put the manure back in the soil we have practically saved all the organic matter. None

goes off the farm; it is put back into the soil and maintains its physical condition.

Now if people will become interested in dairying there is no reason why the soil cannot be maintained at its present degree of fertility and more, it can be improved; and what is the use of waiting until we cannot grow good crops on our farms before we commence this better system of agriculture.

FIGURES ON COST OF A DAIRY RATION.

I have before me a monthly journal in which a Mr. N. A. C. writes on cheap feeds for dairy cows. He uses silage as the principal feed and places a value on it of \$2.50 per ton, the cost of production.

Now is the value of corn silage just the cost of growing and putting the corn into the silo? I have noticed other writers placing it as low as \$2. I have a silo and would not part with it at any reasonable price, but cannot place the value of silage as low this year as above. I have put corn into the silo this year that cut 15 tons of green forage and would husk at least 100 bu. of ears, or 60 bu. of shelled corn per acre. We husked an acre to learn the above facts. It will be seen that we have put into the silo with every ton four bu. of shelled corn. Had this corn been husked and cured it would have sold this fall for 80c per bu. According to this we have, in each ton of silage, \$3.20 worth of corn. Three tons of silage would make about a ton of dry stalks, which usually sell for \$3 to \$4. Each ton should therefore contain at least \$1 worth of stalks, making the value of the silage \$4.20 per ton.

Now some will argue that the extra cost of husking and curing the corn will offset the difference in value. With the improved large huskers corn can be cribbed, re-loaded and shoveled into the hopper at the elevator as cheaply as it can be put into the silo, the tons of water considered in putting in green corn. I know that corn can be raised and put into silo for less than \$2.50 per ton, but every crop raised on the farm should have a market value, which should be above cost of production. We have raised beans this year that cost not to exceed 50c per bu. We know that beans are an excellent sheep feed, but how would our lamb feeding account look to charge them 50c per bu. for beans when the market pays \$2.

Here is Mr. N. A. C.'s ration for a cow per day: 40 lbs. silage at \$2.50 per ton, 5c; 10 lbs. clover hay, 2½c; 4 lbs. cottonseed meal, 6c; total, 13½c.

Now the difference in 40 lbs. of silage at \$2.50 and \$4.20 per ton is 3.4c per lb., making cost of ration about 17c per day, which is still a very cheap ration for a cow.

Lapeer Co. G. H. FORCE.

VALUE OF THE CREAM SEPARATOR.

It has been but a comparatively short time since cream separators were available to the farmer. Our more progressive farmers were not slow in grasping the first opportunity to purchase a machine at what would seem now an exorbitant price yet they are unanimous to a man that the investment paid and paid them well.

So many farmers today are timid, or cautious, lest the venture will not pay for itself the first year or that the good wife will not be able to turn the machine after milking the cows. Yet these same farmers would not hesitate to buy a corn or grain binder which, with the best of care, will not much more than pay the interest on its cost.

Questions are often asked as to the number of cows a farmer should keep in order to make a separator pay. Now, at present prices, a man with two cows cannot afford to be without a separator.

I will give a little personal experience to illustrate. One of my neighbors persuaded me to try a machine. To please my wife, rather more than my neighbor, I allowed one to be put in. It was in the month of June. We were milking two cows and using the so-called water separator, in which the water is mixed with the milk. We had been making the butter used in a family of five and were selling 5 lbs. a week at the grocery. After we began using the hand separator we sold 10 lbs. a week, a gain of 5 lbs. in favor of the separator. This gain, at 20c per lb., would, in one year, about pay for a machine, as a standard machine can be had for \$50.

Before cream came to be a commercial

article, as it is today, the care of the product of the cow was a difficult problem. With the cream separator a man can keep as many cows as his farm will carry, and his wife will have no more work to care for a separator for five, ten or more cows than for two, while the extra gain in cream will be clear profit. Eaton Co. H. W.

THE DEVELOPMENT AND PERFECTION OF THE SILO.

The silo has doubtless become the greatest of modern institutions in connection with dairying. It is simply a modification and elaboration of the old potato or cabbage pit, and in fact the first silos were pits. What has probably deterred the modern silo from coming into universal use is the rather prevalent idea among farmers that it requires a great amount of skill and experience to ensure success, and that the silo of today is much further removed from the old pit than is the reality. Experience, however, points to the fact that so long as the crop is cut at the right stage and put together with ordinary care, be it in stack, pit, or overground silo—chaffed or unchaffed—success must result, the amount of waste being inversely proportionate to the amount of care exercised.

It is quite natural that, being a new thing to most, and having heard reports of failures, farmers have in the past hesitated in risking their crops by attempting to ensilage them, but now with silos scattered all over the country, in every district, it is easy for them to see for themselves. As to the merits of any particular method, or any particular structure of silo, opinions are varied. Each, doubtless, has something to recommend it, and only a man's particular conditions and requirements can determine for him the most suitable plan.

G. E. M.

KIND OF SILO TO BUILD.


I would like to build a silo about 14x30 ft. Do you consider it would be cheaper to buy a stave silo in the knock down than to get the material from my timber. I have plenty of good oak that I think would be all right for studding. Would you cut the studding say 16 ft. long? That would leave two feet for splicing, or would you cut them different lengths so as to break joints? What kind of timber would you prefer to sheet it up with for plastering. I have elm, black ash, oak and cottonwood. About how much studding and sheathing do you think it would require. I can buy a stave silo, delivered at the station, for about \$165. Would also like to know which would be most durable. Gratiot Co. J. H. SOMERS.

I think you can build a lath and plaster silo out of your own lumber that will be entirely satisfactory, as I have explained many times in The Farmer. How much you make by doing this will depend largely upon how much time you have to give to it. If you have plenty to do, you must understand that it will cost you something to go into the woods and get out the timber, get it to a mill and have it sawed, and that sort of thing. On the other hand, if you buy a stave silo it is all ready to put up and it takes but little time. But if you haven't much to do and can spare the time, you can certainly get a good silo and not have it cost anywhere near as much in cash as a stave silo would cost you.

The oak timber would be entirely satisfactory for the studding, and 2x4's would be strong enough. Set them about 16 in. apart and lath it up on the inside with almost any kind of lumber; it doesn't matter very much what the lumber is for the lath because it will not be exposed to the weather at all and will keep an indefinite length of time. On the outside, you can clapboard it with common pine clapboards, or you could saw them out of cottonwood if you wish, which would do just as well. If you lath and plaster on the studding on the inside, mix the cement in the proportion of two parts sand to one part cement and you will have a good durable silo. About every third year it ought to be whitewashed with a pure cement whitewash. The plaster, under such care, will probably last ten to fifteen years. Mine lasted fifteen years. Then if it begins to get soft from the action of the ensilage you can plaster it again, right over the first coat of plaster, and it will last just as long again and will be entirely satisfactory.

Do not feed cold milk to the calves these cold mornings. They will not grow as fast. Have the milk as near the temperature of maternal milk as possible. —M. A. P.

29
yrs



1909

Tubular "A"

The latest model of the greatest cream separator ever built. The Tubular "A" represents everything good and desirable in cream separator construction. An advanced type of the best known separator in the world.

The celebrated Tubulars are used by the best dairymen in every section of the earth where cows are milked.

Our new illustrated catalogue No. 152 free for the asking.

THE SHARPLES SEPARATOR CO.
West Chester, Penna.

Chicago, Ill. Toronto, Can. Portland, Ore.
San Francisco, Calif.



CREAM SEPARATOR

The simplest, most durable, most economical of all Cream Separators. Every requirement of the most modern dairy methods. Holds World's Record for clean skimming.

THE 1909 MODEL has solid, low frame, enclosed gearing, ball bearings, and is the easiest running separator our FREE Catalogue No. 111.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.
A 16 Distributing Warehouses in U. S. and Canada.

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.**



Victory

FEED MILL

Will crush and grind corn and cobs and all kinds of grain. Is a fast grinder and takes little power. Made in four sizes for 1 to 10 H. P. Free catalog.

THOS. ROBERTS, Springfield, O.

DAIRY FEEDS for Immediate Shipment.

Choice Cotton Seed Meal @.....	\$30.00 Per ton.
(Mutual Brand 41% protein.)	
Genuine Old Process Oil Meal @.....	33.00 "
(Ground or pea size f. o. b. Toledo)	
Best Quality Beet Pulp @.....	23.00 "
Schumacker Feed @.....	31.00 "
Maz-All Corn Flakes @.....	26.00 "
(A Splendid Hog Feed.)	
Gluten Feed @.....	32.00 "

Flour-Mill Feeds—Poultry Supplies—Incubators.
Special Price on 5 to 20 tons of FEED delivered.
MUTUAL SUPPLY CO., Jackson, Mich.

ROOFING "Old Style Iron"
SEND FOR CATALOGUE

**Bykes Iron & Steel Roofing Co. CHICAGO, ILL.
MILWAUKEE, WIS.**

DAIRY FEEDING PROBLEMS.

Will It Pay to Buy Feed for Cows?

What feed would you advise where a man has no silo? Will a man get his money back if he has to buy all his feed for dairy cows, and how much would you advise a man to feed?

Ottawa Co.

H. K.

I wouldn't recommend that a man keep cows unless he raised some of his feed. That is, I wouldn't buy all of the hay and straw and cornstalks, and the grain that cows eat, and keep cows. If I didn't raise some of this on my own farm, then I wouldn't keep cows, and yet, good cows, well taken care of, will give a man a profit and buy all of the feed which they consume. We, however, keep cows on a farm so that we can sell some of the roughage of the farm to them and make something from it. If we didn't have live stock of some sort to consume this roughage we would get very little out of it. For instance, clover hay should be raised on every farm because clover benefits the land and improves its mechanical condition. It pumps up the phosphoric acid and the potash from the subsoil, and also gathers the nitrogen from the atmosphere, and leaves the land in much better condition to raise cereal crops than before we raised the clover. But clover hay is not a very salable product. Timothy hay sells much better, and yet, as I say, we want to raise the clover.

Now after we get the clover we can sell it to cows to good advantage. So, too, when we raise corn. We want the grain for feeding hogs, or horses, or something of that sort. We have the cornstalks as a by-product, and we want to feed these to the cows and get something from them. I suppose that H. K. wants to know if it will pay to buy the grain which the cows consume, and I surely think it will. He doesn't say anything about what kind of roughage he has to feed them and so I can only in a general way give a ration. I will simply suppose that he has mixed hay and cornstalks. In that case I would feed some corn meal, wheat bran and oil meal in connection with this ordinary roughage raised on the farm. If you have good cows, you can rest assured that it will pay to do so.

Peas and Oats with Corn Silage.

How would peas and oats be for a balanced ration to be fed with silage? Can speltz be fed to advantage with silage? Would it be necessary to mix other grain with speltz?

Grand Traverse Co.

D. N.

As I have stated many times thru the columns of The Farmer, I do not think there is any better grain ration for dairy cows than peas and oats. When they are sown in equal quantities by weight and threshed, and the grain ground, they make a most excellent grain ration for cows and you need not feed anything else with this grain to balance up clover hay and corn silage as the roughage food. If you will follow either of the rules that are many times given, viz., to feed a pound of grain a day for every pound of butter-fat produced in a week, or feed a pound of grain for every three or four pounds of milk produced by the cow, you will have no trouble in getting satisfactory results.

Speltz would not take the place of peas and oats. It is not so rich in protein, consequently, if you feed ground speltz as a grain food you ought to buy oil meal, or cottonseed meal, to mix with it. I would mix in the proportion of equal parts by weight, either oil meal or cottonseed meal. Cottonseed meal would probably be a little the cheapest as it can be fed with perfect safety as long as you have corn silage for roughage. Then the same rule would apply as to the amount of grain to be fed each day.

Grain to Feed with Clover Hay and Corn Fodder.

What is the cheapest grain to feed to cows giving milk, in connection with clover hay and corn fodder, all grain to be fed at present prices?

Van Buren Co.

G. W. WAITE.

Taking everything into consideration, for the good of the cows and the cheapness of the ration, I would recommend that you feed wheat bran, corn meal and oil meal in equal proportions by weight. Corn meal is pretty high and so is wheat bran, but they are excellent foods. I don't think there is any grain, or any food, better for any kind of stock, than a certain amount of the entire corn plant. You are feeding the corn fodder as roughage. Now I would put in enough corn meal so that I would have about the corn that would naturally grow on the corn fodder that you feed. Feed this grain ration night and morning. You can feed a pound of the grain ration per day for every pound of butter-fat

your cows give in a week, or you can feed a pound of grain ration for every three or four pounds of milk which the cows give. Either one of these rules is, in a general way, a guide to proper feeding, but of course a feeder must always use his own judgment, taking into consideration the individual capacity of each cow.

Is Oil Meal Necessary with Peas and Oats?

I am an old reader of your paper and like it very well. I think it quite a favor that we farmers ask questions and talk with each other thru its columns. Please advise me in regard to feeding milk cows. For roughage I have corn fodder, clover and timothy hay, and straw. For grain, I have oats and peas, also corn. What concentrated foods shall I buy to make as cheap a ration as possible? I thought of feeding drilled corn fodder, ears and all, at night; oats and pea meal, cottonseed meal, and probably dried beet pulp, for grain, and husked corn fodder in the morning; also hay and straw during the day. Must I feed any oil meal if I feed pea meal?

Do you think dried beet pulp better to feed than bran at present prices and without a silo? How much grain should I feed in the morning?

Ottawa Co.

BENJ. VOSS, JR.

For a grain ration with corn fodder, clover and timothy hay, and straw, I would feed corn meal and peas and oats in the proportion of 1 lb. of corn meal to 2 lbs. of peas and oats. If you have plenty of the peas and oats you do not need to buy any other concentrated feed, as you will get no better ration than this. If, however, you haven't enough of the peas and oats, I would recommend, where you have no corn silage, that you buy oil meal instead of cottonseed meal. If, however, you use dried beet pulp you can with perfect safety use cottonseed meal in connection with it. When feeding the drilled corn fodder, ears and all, if there are quite a lot of ears, I would not use any corn meal in the ration, because the ears on the stalks will be all the corn they will need. So while feeding the drilled corn fodder you can simply leave the corn meal out of the ration and feed only peas and oats.

It will not be necessary to feed oil meal, unless, as I say, you are going to run short and not have enough of the pea meal to last you thru. If this is the case, then it might be policy to feed a little oil meal with the peas and oats to make them last longer. Otherwise, when you have fed up all your peas and oats you must depend entirely upon some other kind of grain for your cows.

With dried beet pulp and wheat bran at about the same price, I should prefer the wheat bran. I would feed about the same amount of grain in the morning that I did at night. With good dairy cows you will find it profitable to feed from 5 to 8 lbs. of grain per day, perhaps more to some of your best cows. You will have to study the individuality of each cow and feed her accordingly. One ought to know his cows well enough to know just about how much grain they will consume and yet make him a profit and then not feed in excess of the profit. On the other hand, he must feed up to the capacity of the cow in order to get the greatest profit. Nothing but careful attention to details will determine this.

A Grain Ration with Clover Hay and Cornstalks.

I am retailing milk and have no silo. My rough feed is clover hay and cornstalks. Will you give a ration of grain to go with this?

What is your opinion of beet pulp in connection with cottonseed meal, oil meal or bran, and what proportion of each should I use?

Berrien Co.

R. P. SHERMAN.

I don't think you can get a better ration to go with clover hay and cornstalks than corn meal, wheat bran and oil meal mixed equal parts by weight. I would feed the clover hay and cornstalks liberally—all they will eat up clean. So far as I know the company you name is perfectly reliable and I do not know of a better place to purchase your supply of grain, unless it should be of your local dealer.

If you do not have corn silage and wish to feed cottonseed meal, then I would recommend that you feed beet pulp in connection with it. Moisten the beet pulp several hours before you feed it; then put it in the manger first and put the cottonseed meal on top of it. That is the best way I know of feeding cottonseed meal unless you have corn silage to feed. I would feed the dried beet pulp and cottonseed meal in the proportion of 2 lbs. of pulp to 1 lb. of meal. But do not mix them; moisten the beet pulp as I say, then feed the cottonseed meal clear, on top of it. The meal will stick to it and the cows will do better than when it is fed separately in the manger.

AWAY IN THE LEAD FOR 1909.

DE LAVAL CREAM SEPARATORS

The year that is past was one of unusual interest and importance in a Cream Separator way. Twelve months ago we announced to cow owners the introduction of a complete new line of DE LAVAL farm and dairy sizes of machines, marking another great move forward in the development of the Cream Separator. ers everywhere exceeded even our great expectations and nearly The enthusiastic welcome given these improved machines by buy-carried us off our feet. Orders came so thick and fast that stock was soon exhausted and the DE LAVAL factory was forced to run day and night from March to July and continued with increased force on full time throughout the entire year. Notwithstanding the universal business depression DE LAVAL sales for 1908 were over 50% greater than in 1907. The new machines simply swept the field of all separator honors and made the year a notable one in separator history. Practical experience in the actual sale and use of 100,000 of the new machines has but served to suggest still greater refinement of perfection and to enable us to offer in the DE LAVAL for 1909 a machine that those who know say IS MILES AND YEARS IN THE LEAD OF EVERYTHING ELSE IN A SEPARATOR WAY. If you have not seen and used an IMPROVED DE LAVAL you really cannot know what a Cream Separator is today. It's surely in your own interest to do so before thinking of buying any other. Why not write at once for a catalogue and full information, to be had for the asking.

THE DE LAVAL SEPARATOR CO.

42 E. MADISON STREET
CHICAGO
1213 & 1215 FILBERT ST.
PHILADELPHIA
DRUMM & SACRAMENTO STS.
SAN FRANCISCO

General Offices:
165-167 BROADWAY
NEW YORK.

173-177 WILLIAM STREET
MONTREAL
14 & 16 PRINCESS STREET
WINNIPEG
107 FIRST STREET
PORTLAND, OREG.

WAIST HIGH **29⁷⁵ FOR THIS NEW LOW DOWN 29⁷⁵**
AMERICAN CREAM SEPARATOR
A SEPARATOR THAT EXCELS ANY SEPARATOR IN THE WORLD

EASY RUNNING

AMERICAN SEPARATOR CO., Box 1061, BAINBRIDGE, N. Y.

DON'T HESITATE BECAUSE OUR PRICE IS LOW. The quality is high; we guarantee it. It is up to date, well built and well finished. It runs easier, skims closer and has a simpler bowl with fewer parts than any other cream separator. Don't accept our word for it. Judge for yourself. Our offer enables you to do this at our expense. Write us a postal card or a letter and receive by mail, postpaid, our 1909 catalogue. It is handsomely illustrated, showing the machine in detail, and fully explains all about the Low Down AMERICAN. It also describes the surprisingly liberal LONG TIME TRIAL proposition we can make you. Competition is defied by the quality and price we make. Our generous terms of purchase will astonish you. Remember, we are the oldest exclusive manufacturers of hand separators in America, and the first to sell direct to the user. You are not dealing with any agent, middleman or catalogue house when dealing with us. Not one single profit is paid anyone between ourselves and our customer. You save all agents', dealers', even catalogue house profits and get a superior machine by dealing with us. Our New Low Down AMERICAN Waist High Separator is the finest and highest quality machine on the market and our own (the manufacturer's) guarantee protects you on every AMERICAN Separator. We can ship immediately. Western orders filled from Western points. Write us and get our great offer and handsomely free catalogue on our New Low Down AMERICAN Separator. Address

The New Way AIR-COOLED ENGINE **LOOK FOR**

is replacing the old fashioned water cooled just as surely as power is replacing manual labor on the farm.

DON'T BUY A WATER COOLED ENGINE and have to fill and empty a big water tank and crank half the morning trying to start a wet engine.

ASK THE MAN WHO OWNS A "NEW WAY." He don't have this trouble. Use judgment. Profit by the experience of others. Write us for catalogue C.

The only Air-Cooled Engine **The New Way Motor Company** Guaranteed for all work. **LANSING, MICHIGAN, U.S.A.**

THIS BRAND 7 ASH STREET.

TO EVERY FARMER IN MICHIGAN KEEPING COWS

few or many, who earnestly desire to know more about how to manage the farm with greater profit, the first thing to do is to subscribe for Hoard's Dairyman. Take advantage of our clubbing offer and secure the

MICHIGAN FARMER } Both One
AND } Year for **\$1.40**
HOARD'S DAIRYMAN

Hoard's dairyman is the leading dairy authority of the country. It is a weekly of from 28 to 36 pages and filled with intensely practical and interesting reading. It covers the whole scope of dairy farming from soil and crops to the marketing of the milk. It discusses breeds and breeding without prejudice. It discusses feeds and feeding with a thoroughness hardly attempted elsewhere. Nicely illustrates dairy cattle and dairy scenes and has much to say about dairy barns and other farm buildings. It is a journal that every farmer keeping cows should read. Be sure and include it with your subscription to the Michigan Farmer. Both papers one year, \$1.40. Send all orders to

THE MICHIGAN FARMER, Detroit, Mich.

UNICORN DAIRY RATION a new feed in Ready to Feed Form that every Farmer and Stock Raiser should know all about. 72% of digestible organic matter, and 22% protein—No salt or filler. This is far more digestible food material than any other dairy feed ever marketed. Made of Ajax Flakes properly balanced. Write, CHAPIN & CO., Box 18, Buffalo, N. Y.

When Writing to advertisers mention the Michigan Farmer

HORTICULTURE

SOIL DYSPEPSIA—ITS CAUSES AND REMEDIES.

To the general or ordinary farmer the above caption may sound ridiculous, and the writer thereof may perchance be accused of talking, or writing, in riddles. Be this as it may, the fact remains that land sometimes gets balky, and in spite of all "whipping"—or encouragement—it may receive by way of high manuring and intensive culture it refuses to work satisfactorily or yield proper returns.

The writer has had some opportunity of studying conditions where intensive work both as to fertilizing, cropping and culture were conducted on the high pressure system, and we do not hesitate to say that we have often found these balky or dyspeptic conditions very strongly in evidence. I have talked these matters over with truckers who have been falling in the fertilizer and applying the muscle and elbow grease for years and yet with all their efforts their land would not grow the crops of former years. They could easily see that with widely increased demand and far and away better market facilities they ought to be making more money. The exact opposite was really true, and while the evidences were plainly visible, the reasons were not so clear to many of them at least. So the groping continued, with the reasons in full sight. It is nature's plan to keep the soil busy; and true to her instincts she would see to it that it is kept busy; and if not in producing the good and the useful, then the thorns and the weeds and the thistles will grow. But "all work and no play makes Jack a dull boy," holds good with the soil just as well as with "Jack" or any other boy. Again, change is rest, and that is as good as play. So if we fail to give the needed change, but continue to prod the soil on to grow the same class of crops from year to year, the end of successful cropping is easily in sight. It by no means follows that the soil should be left in idleness, or to produce worthless trash. But change is what is needful and that should be as radical as possible. One man who had been highly successful in paying for his land, erecting good buildings and surrounding himself with home comforts, was complaining that his place was growing less productive from year to year. The failure was plainly visible; but the remedy was not so clear.

Some of the Remedies.

I pointed out that the reasons were not far to seek; and also, that the remedies were in sight. My advice was to divide up the ground and with a portion of it begin a rotation that would introduce a radical change of crops. Only a portion of the ground need thus be taken in any one or two years; but with that portion abandon the vegetable crops entirely for a time, using only the cereal and legume crops. Later on another portion could be thus used and so continue until the whole had undergone an entire change.

While admitting it to be sound logic, the truck crops made his cash income and there was the difficulty. He could see in a way, the wisdom of the course, but the cash income was his idol and he was closely joined to it and preferred to be let alone.

Well, immediate cash returns matter, and doubtless would have been perceptibly less, until these radical changes were at least, well under way. But the final outcome would have been radical benefit, and likewise increased gain.

Rest, in the sense of lying idle or worse, is not what is required in restoring the worn out truck lands. Simply a move backward toward the original would only increase the difficulty; but a radical change in the nature of the crops, and the consequent changes in cultural methods are the necessary requirements. Much of the depletion of the garden soils, as we firmly believe, comes about by what is sometimes called "manure sickness." So much has been poured into the soil that it actually becomes dyspeptic and fails to properly assimilate the constant pouring of manure. It is simply soil dyspepsia and what is needed is radical change in the crops and the diet as well. Substitute the cereals and legumes for a time, and while the immediate cash returns may, for a time, be less the ultimate gains will be far greater.

Wayne Co.

J. E. MORSE.

Club root of cabbage is one of the most annoying yet easily controlled diseases. To be on the safe side cabbage plants

should be started in soil which has not been previously used for cabbage culture. A field in which the disease is found should for several years be kept free of cabbage, turnip, kale, wild mustard, etc., since the fungus winters over in the soil and thrives on any plants of the brassica family.

TO MAKE AND PRESERVE A LAWN.

Among the improvements for the farmer's home on its outside surroundings, a handsome lawn is beginning to have due consideration. It is often as ornamental as the flower garden, and naturally has its place in connection with ornamental trees and shrubs. No village or city home is considered quite complete without its fine lawn, tho it be ever so small.

A good lawn may either be made by laying sod or by sowing seed. If turf is used, the lawn is sometimes ready for use in less time than when seed is used, but, practically the difference is very slight. Fewer lawns are made from turf every year. The turf or soil is nearly always obtained from some nearby field, and as a rule abounds in coarse grasses and pernicious weeds. The former may be got rid of after considerable trouble, but the latter rarely ever. Sod laid lawns are nearly always uneven, seamy and varied in color and texture. Their cost, too, is much in excess of seeding the lawn down.

A lawn produced from a mixture of good, new, cleaned seeds of the finer grasses and clover, is superior in quality and texture to the best sod obtainable. To obtain the best results from sowing, the ground should be carefully dug over—not too deep, six or eight inches will be enough—and nicely levelled off; then sow on broadcast a good fertilizer, 600 pounds to the acre, or about 10 lbs. to every 15x15 feet; rake this in, and roll well; then sow 70 pounds of good lawn seed to the acre, or one pound to every 15x15 feet. Sow half of this quantity walking one way, and half walking at right angles to it, so as to get even distribution. Do not sow in windy weather, and be sure to rake the seed in, and after sowing roll it well.

Those seeds that are deeply buried will not germinate and those that are exposed will be scorched by the sun, blown or washed away or taken by the birds.

The best time for sowing is from the middle of March to the middle of May, the earlier—within reason—the better. Whenever necessary to sow in summer it is better to mix with rye or oats to protect the tender shoots from the hot sun.

Lawns need to be carefully looked after. They will not always run themselves after having been once started. If low lying land, it should be drained. Annual weeds will appear. Most of these can be checked by the regular mowing of the grass, but some, like dandelions, plantains and thistles, must be taken up, each one singly, about an inch below the surface. Another way is to dip a wooden skewer into a bottle of sulfuric acid, and run this into the heart of the weed. Care should be taken in handling the acid, as it burns holes in the clothes if it gets on them. The weeds should in all cases be attacked systematically. Mark off a strip about six or eight feet wide with a garden line, and weed this thoroughly; then change the line, and weed the next strip.

Water should be sprinkled and not poured upon the lawn.

Old lawns become thin in places. Use the rake vigorously on these. It will look bad for a time but the grass will soon spring up again, and be the better for it. Over the loose surface sprinkle some finely ground fertilizer, and rake it evenly in. After a few days add some good lawn grass seed; rake this in and roll it. For moss and chickweed on lawns rake or harrow them out, and treat as above.

Next in importance to cutting comes the use of the roller to keep the lawns perfectly smooth and help the roots. Lawns are voracious feeders, and some fertilizer should be thrown broadcast over them two or three times a season. Dry manure scattered over the surface in hot weather will certainly scorch the grass.

Do not let a poor, thin lawn run to seed. It never improves it, but weakens it more. Rake or harrow it well over, and treat as above for old lawns.

Canada.

W. R. GILBERT.

The Best Paper.

Inclosed find money for two subscriptions for one year, one new and one renewal. Will say it is the best paper I have ever taken.

Bellevue, Mich.

MRS. H. BARLEY.



This
is the trademark which is
on every genuine bottle of

Scott's Emulsion

sold in nearly all the
countries of the world.
Nothing equals it to build
up the weak and wasted
bodies of young and old.

Send this advertisement, together with
name of paper in which it appears, your
address and four cents to cover postage,
and we will send you a "Complete Handy
Atlas of the World" : : : :
SCOTT & BOWNE, 409 Pearl St., N. Y.

Trappers—Fur Traders

Ship your Furs direct to the World's largest Fur
market, where prices are always highest. Write for
our latest Price List, giving highest prices for Furs
and Pelts of all kinds from all sections. It's FREE.
MYERS-BOYD COMMISSION CO., St. Louis, Mo.

HIDES and FURS

Make money by shipping your Hides and Furs to
us. Small shipments our specialty. We give each
shipment our personal attention, and make cash re-
turns same day shipment is received. Established
in 1865. The steady growth of our business for 43
years is accounted for by our thousands of perma-
nent satisfied shippers. Write for our latest price
list and shipping tags.

Doorley Bros., 226 Kinzie St., Chicago, Ill.

OLDEST AND LARGEST HOUSE IN THE WEST

Thorburn's Seeds

Catalogue Ready January 1st.

One customer writes:—

"For 32 Years Your Seeds
Have Been Unfailingly Good."

Send for our 108th successive annual
catalogue; examine our prices, keep-
ing above in mind, and then decide
whether it would be to your advan-
tage to place your order with us.
Catalogue contains invaluable cul-
tural directions.

IF THEY SUIT OTHERS WHY NOT YOU?

Catalogue Mailed Free.

J. M. THORBURN & CO.

Dept. M.

33 Barclay St., thro' to 38 Park Place,
NEW YORK.

107 Years in Business in New York City.

WHICH SPRAY PUMP

shall you buy? Buy the Pump
that fully meets the demands of the Government
Agricultural Scientists and all Practical Fruit
Growers. These pumps are known as Deming
Sprayers made in 23 styles for use in gardens
or orchards. Write for our 1909 Catalog with
Spraying Chart. Add 4 cents postage and get
"Spraying for Profit," a useful guide book.
THE DEMING COMPANY,
705 Depot St., Salem, Ohio

MAKE A VELVETY LAWN

from our hardy grass seed. Full detailed direc-
tions are given in our new catalog. It's illus-
trated with good cuts. Easy to follow cultural
directions appear under each heading. Gives
prices on garden and flower seeds. Send for
catalog H and make up your list while you
have leisure. It's free and better than most.
SHERMAN & EBERLE, Albany, N.Y.

HARRIS' HIGH CLASS SEEDS.

Being seed growers, not mere dealers,
we can furnish the very highest grade
of seeds at the lowest possible prices. Don't let agents fool you. Get our catalog
with wholesale price list and buy direct from the grower at half agents' prices.
We offer some very fine improved varieties of Oats, Corn, Potatoes, and other
farm and garden seeds. Catalog free, it is worth having. JOSEPH HARRIS CO., Coldwater, N.Y.

SEED CORN

Diamond Joe's Big White. Earliest Maturing Big Eared
Corn in the world. Made 163 bushels per acre. It costs but 25
cents per acre for seed. Big illustrated catalog of seed corn
and all kinds of Farm and Garden Seeds mailed FREE if you
mention this paper.

RATEKIN'S SEED HOUSE, Shenandoah, Iowa.
(LARGEST SEED CORN GROWERS IN THE WORLD.)



'The double layer of glass does it

Lets in the light always.
Never has to be covered or uncovered; no
boards or mats needed.
Retains the heat, excludes the cold.
Saves three-fourths of the labor and expense
and makes stronger and earlier plants than
single-glass sash.
Ask for catalog K. It tells all about it

Address,
Sunlight Double-Glass Sash Co.
506 Floyd Street LOUISVILLE, KY.

If you are in want of anything for ORCHARD, VINEYARD, LAWN, PARK, STREET, GARDEN OR GREENHOUSE

why not patronize the old,
reliable, up-to-date S. &
H. Co., who have made a
specialty of dealing direct
with planters for over half
a century? Seeds, Bulbs,
Roses, Vines, mail size
Shrubs and Trees post-
paid. Safe arrival and sat-
isfaction guaranteed. Im-
mense stock of SUPERB
CANNAS, the queen of
bedding plants. Catalog
No. 1, 112 pages, FREE to
buyers of Fruit and Orna-
mental Trees. No. 2, 103
pages, to buyers of Seeds,
Bulbs, Roses, Ferns,
Palms and greenhouse
plants in general. Try us. We will give you a square
deal. 65 years. 44 greenhouses. 1200 acres.

THE STORRS & HARRISON CO.
Box 171, PAINEVILLE, OHIO

HURST SPRAYER ON FREE TRIAL

No money in advance—pay us out
of extra profits. Sprays anything—trees,
potatoes, vineyards, truck, etc. Pushes easy—high
pressure. Guaranteed 6 Yrs. Pay when you
can—at wholesale price. We pay
freight. Catalog and Spraying
Guide free. Free
Sprayer Or-
der to first
in your locality.
H. L. Hurst &
Co., 171
North Street
Canton, O.

AS POTATO SPRAYER AS ORCHARD SPRAYER

FERRY'S SEEDS

Ferry's are best because every year
the retailer gets a new supply, freshly
tested and put up. You run no risk of
poorly kept or remnant stocks. We take
the pains; you get the results. Buy of the
best equipped and most expert seed grow-
ers in America. It is to our advantage to
satisfy you. We will. For sale every-
where. Our 1909 Seed Annual free.

Write to
D. M. FERRY & CO.,
Detroit, Mich.

GREGORY'S SEEDS

If you want to be sure of a growing crop,
plant Gregory's Seeds. Always sold under
three warrants. For over fifty years they have
been the standard for purity and reliability.
Gregory's Seed Book—FREE
to everyone who writes for a copy. It is
full of practical instruction. One of the
most valuable books for
farmers and gardeners ever
given away.
J. J. H. GREGORY & SON
Marblehead, Mass.

"KANT-KLOG" SPRAYERS

Something New
Gets twice the results
with same labor and fluid.
Flat or round, fine or coarse sprays
from same nozzle. Ten styles. For
trees, potatoes, gardens, whitewashing,
etc. Agents Wanted. Booklet Free.
Rochester Spray Pump Co.
9 East Ave. Rochester, N. Y.

GRANGE

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

THE JANUARY MEETINGS.

State Lecturer submits the following program outlines for meetings to be held during the present month:

Suggestions for First Meeting.

Installation of officers.
Reports of delegates to State Grange.
Five-minute addresses by new officers: Master, "Our Grange Field;" Overseer, "Our Duties as Officers;" Lecturer, "Our Grange Plans."

General discussion, "Good of the Order in this community in 1909."

Well known Grange songs should open and close this program, with instrumental music to accompany the installation.

Suggestions for Second Meeting.

Song by the Grange, "America."
Roll call, a fact from Michigan history.
Types and Breeds of the horse.
Select reading, "Black Beauty," chapter 12.

Home economics: (a) Some essentials of the home; (b) The water supply; (c) Furnishing of the home.

Song, No. 84, in Grange Melodies.
Discussion: "Direct Nominations."
Closing song, "Michigan, my Michigan."

A "CHRISTMAS" GRANGE.

While the members of Chesterfield Grange, of Macomb county, are not seriously considering the matter of changing the name of their organization, it is a fact that they have been called the "Christmas" Grange. This distinction has come to the Grange thru the fact that its members make much of their annual Christmas meeting. Chesterfield Patrons are fortunate in numbering among their most interested and faithful members, Mr. and Mrs. J. M. Hall, of Detroit, and this year's Christmas meeting occurred at the palatial home of Bro. and Sister Hall, on Wednesday, Dec. 16. The large "limited" car, which had been chartered for the occasion, was loaded to the doors with happy Patrons and their well-filled baskets. The excellent dinner proved to be only one of the splendid features which made up the day's program for, after all had feasted, Bro. Hall conducted his guests to a large upper room where all were seated around a well-loaded Christmas tree. The host then assumed the role of Santa Claus and genuine Christmas cheer and merriment reigned until the tree had been stripped of its gifts and every member of the Grange had been remembered.

Then the tree was pushed aside to make way for the speakers, for this



Miss Jennie Buell.

Popular Grange Worker and Present Lecturer of Michigan State Grange.

Grange does not believe in giving all its time to merrymaking, even at the Christmas season. Miss Jennie Buell, State Lecturer, brot out many good thots in the course of her talk on "The Farm Home, Within and Without." She reminded the members that when we study farm homes we must take into consideration much more than the buildings and their environment. The real true home spirit must be there. Miss Buell presented a number of photographs of farm homes, calling attention to many little features which, while apparently insignificant in themselves, point unmistakably to the

presence or the lack of the true home spirit.

Live topics seem the order with this Grange, and Dr. Dunphy, former State Veterinarian, was next introduced to talk on "Cattle Foot and Mouth Trouble." A better understanding of the nature of this disease resulted from this talk. The fact that the actual mortality is low he held to be largely responsible for the fact that the seriousness of the trouble is not better appreciated. The fact that one attack does not render an animal immune from future ones, also that few animals ever completely recover from its effects, and the further fact that the detection of the germ is practically impossible, it being known as an ultra-microscopic organism, were cited as reasons justifying the heroic measures adopted by the government in stamping it out.

A number of entertainment features followed, consisting of comic songs, clever



Chas. A. VanDeventer.

Elected Overseer of Michigan State Grange after more than 10 years of telling service in the Strong Grange County of Gratiot.

impersonations, crayon talks, etc., furnished by local artists. That there was something doing every minute of the afternoon is evident from the fact that this well varied program was completed by 5 o'clock. The rousing vote of thanks given their host closed the most enjoyable meeting ever held by Chesterfield Grange.

POMONA MEETINGS.

Lapeer County.

Despite the cold and wind, 60 Lapeer county Patrons were present at the regular Pomona meeting which convened Dec. 3, in Oregon Grange hall. The hostess, Grange, built this hall some six years ago and has since taken satisfaction in its varied uses for the social life of the community. On this occasion the members had decorated the main hall heavily and tastefully with festoons of cedar, over which hung the permanent mottoes of the Grange, namely, "Welcome," and "Unity, Peace and Brotherly Love." The cordial opening address of the Oregon Master, Bro. E. F. Reamer, voiced the same spirit of pleasure at having Pomona as guests. "The benefits," said he, "of Pomona's visit to a subordinate Grange are always noticeable in good effects afterward."

The election of officers resulted in choosing L. F. Chandler, master; M. W. Judd, lecturer, and A. M. Bullock, secretary.

The subject of local option was presented by Phineas Arms who, in conclusion, raised the query, "Cannot the Grange have an actual and helpful part in the coming campaign for local option?" "What may we expect of the Grange today?" was the topic assigned Miss Jennie Buell, of Ann Arbor, who made it the basis of an outline of present live topics that might well receive studious attention from Granges everywhere, i. e., our country's natural resources, legislative matters affecting the farmer, and Country Life Commission questions, combining these with the new reading course work.

In the evening the state speaker's topic was, "New Outlook for Farmers." An animated discussion occurred in the afternoon over the question, "Is the silo practical for the average farmer?" and again in the evening on "Resolved, that dairying is more remunerative than beef production." The dairymen in both instances outnumbered their opponents and were enthusiastic, both for cows and the silo. The advocates of feeding for beef contended that their business was less confining and arduous but, brought as large returns.

COMING EVENTS.

Pomona Meetings.

Muskegon Co., with Silica Grange, Thursday and Friday, Jan. 7-8, J. W. Helme, State Speaker, Western Pomona, with Ottawa Grange, Friday and Saturday, Jan. 8-9, Miss Jennie Buell, State Speaker.

Berrien Co., at Berrien Center, Tuesday, Jan. 12.

Clinton Co., a Pomona rally at Olive Grange hall, Wednesday, Jan. 20.

FARMERS' CLUBS

Address all correspondence relative to the organization of new Clubs to Mrs. W. L. Cheney, Mason, Mich.

Associational Motto.—

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

Associational Sentiment.—

The farmer; he garners from the soil the primal wealth of nations.

THE ASSOCIATIONAL SECRETARY'S REPORT.

Space did not permit the publication of the Associational Secretary's report in the issues which were devoted to a general report of the recent annual meeting of the State Association of Farmers' Clubs, but it will be presented in this issue as the first feature of the meeting to be given special notice, as follows:

As we meet here for our sixteenth annual meeting, we see many familiar faces and hope those who meet with us for the first time will feel at home and will think "it is good to be here."

If the Farmers' Clubs of the state of Michigan have a home, it is here in the senate chamber where the State Association was organized in February, 1894, with 31 delegates from 22 clubs. A little different today—the attendance shows growth and proves the old adage, "Tall oaks from little acorns grow."

We believe more active work has been done by the local clubs than the previous year, judging from the messages received at the secretary's desk and from the accounts published on the club page of the Michigan Farmer each week. There has certainly been more work done by the secretary this year for the Association having a tent at the state fair was an innovation this year and caused a great deal of extra correspondence, responsibility, etc.

The members of the executive board have worked well together, and since our last annual meeting, there have been held in Lansing, two conferences of president and secretary, two executive meetings, and one executive meeting was held in Detroit.

Here followed a detailed account of the work done at these several meetings, including the drafting of letters to members of congress and of the constitutional convention to accompany the copies of resolutions on national and state affairs, the formulation of plans for club extension, and the scheme of having a tent, or headquarters, at the State Fair, and many other important matters were discussed, the arrangement and carrying out of same falling in large measure on the Associational Secretary. A review of the apparent results from the establishing of headquarters at the State Fair was also given, showing that 51 clubs were represented by the 136 members of the organization who registered at the tent. A report of the executive meeting held in the tent on the fair grounds, at which the plans for the annual meeting were laid, and the execution of which also devolved on the secretary to a great extent, was also given. In continuation, the report was as follows:

As stated before, we enrolled 136 clubs Jan. 1, 1908. During the year five clubs have reported disbanded, five others have said no meetings in 1908, and two others, "Ayr," Emmet county, and "Wide Awake," Shiawassee county, have not been heard from in two years. This makes 124 clubs and one new club, "Hickory," Tuscola county, makes a total of 125 active clubs in 31 counties. On Nov. 2, a program, a report blank and two credential blanks were sent to the secretary of each club. The following day programs were sent to 97 presidents. Of the balance, 28 presidents, we have not the address. Programs have also been sent to officers, ex-officers and many interested persons.

During the year the secretary has received four inquiries about club organization, one inquiry for secretary of Jackson county, one inquiry for entire list of clubs, three inquiries for Report of 1907, one inquiry for song book, two inquiries for local constitution and by-laws, one inquiry for reports of committee on State and National Affairs.

An inquiry from Liberty H. Bailey, of Cornell, for the correct name of this organization when organized, and secretary's address, the same to be published in the fourth volume of Encyclopedia of American Agriculture. A brief report of the associational work for the year ending June 30, 1908, was written for the Report of the State Board of Agriculture as was done one year ago.

There have been four inquiries for speakers. One at the institute at Almont, Col. L. H. Ives, was secured. One for the Club Fair at Rives Junction by the Rives and East Tompkins Club. Ex-President C. B. Cook attended. One to talk on the revised constitution at the October meeting of the Perry-Bennington Club. President A. L. Chandler did the deed, and a speaker was asked for Club Day at Calhoun County Fair, but the day never materialized.

The statistical part of this report seems very incomplete for only a few over half of the clubs have reported and why? The question is unsolved. About

two weeks ago 50 extra blanks were sent to as many clubs but only a few of them have been returned. Seventy-eight blanks have been returned and statistics compiled are as follows: Membership, 1907, 5,650. Membership, 1908, 6,127. 784 meetings held, with an average attendance of 50; 15 clubs have yearly programs; 34 clubs have an annual picnic; 15 clubs held fairs; 20 clubs held a temperance meeting; 52 deaths have occurred; 63 secretaries take the Michigan Farmer. This last question the secretary took the liberty of adding to find out just how many local secretaries she was reaching thru The Farmer when she sent any requests.

Here the report mentions the successful work done by the secretary in securing quarters for delegates in Lansing homes, this being the first time that adequate accommodations have been thus provided for the delegates in advance of the meeting. The closing paragraphs of the report follow:

For the first time in our remembrance has an officer been detained from the annual meeting by sickness, but our treasurer, Mr. A. C. Patterson, suffered a severe fall on Sept. 28, and is still in a critical condition, but he sends as his deputy, a member of the same club, Mr. E. Z. Nichols, of Hillsdale.

At the meeting of 1896 there was passed this resolution, "Resolved, That the Michigan Farmer be selected as the official organ of the Michigan State Association of Farmers' Clubs, and the secretaries of local clubs instructed to keep such publication by monthly communications posted in regard to the sentiments of the members of the clubs on the various subjects of general interest."

There have 41 different clubs reported the past year, ranging from one to ten times. Ellington and Almer and Salem Clubs take the lead. Ingham and Looking Glass Valley follow with seven reports. Odessa and Sherman with six.

The editor of the Michigan Farmer, Hon. I. R. Waterbury, is an ex-president of this association and is much interested in club work, and to him the associational secretary owes many thanks for assistance and suggestions received. Also the secretary wishes to thank the officers and directors and officers of local clubs for the courtesies and help extended to her.

CLUB DISCUSSIONS.

Discuss Education.—The Wise Farmers' Club met with Mr. and Mrs. G. H. Hersey in Clare Dec. 10, with fair attendance, and everyone in good humor. Club called to order by its new president, P. M. Loomis. After opening exercises and dinner, Louisa Walker gave a fine recitation, L. M. Converse sang a song, Mrs. L. M. Converse, select reading, Mrs. J. H. Wilson, recitation. Then the discussion, "Resolved, That education has done more for the world than religion," was opened by P. A. Bennett, editor of the Sentinel. Rev. Walker spoke on the negative side and both talks were very interesting. Mrs. J. E. McDonald followed with a fine recitation, also Mrs. G. H. Hersey. Closed with a song by Club.—J. H. Seeley, Reporter.

Hold Annual Meeting.—The December meeting of the Ingham County Farmers' Club was held Saturday, Dec. 12, with Mr. and Mrs. H. Wilson. A good report was given of the State Association and as 20 or more members were present the discussion was quite general. The following officers were elected: President, Col. L. H. Ives; vice-president, Mrs. W. H. Taylor; recording secretary, Mrs. W. H. Haskell; corresponding secretary, Mrs. J. E. Tanswell; treasurer, E. C. Russell; directors, two years, J. H. Shafer, Mrs. E. P. Rowe; directors, two years, W. H. Taylor, Mrs. H. Wilson; directors, one year, N. A. Crittenden, Mrs. W. S. Root. This board of directors forms the program committee and locating committee. The treasurer reported all bills paid and over \$8.00 in the treasury. The next meeting will be the second Saturday of January, at Maple Ridge Farm, with Mr. and Mrs. J. E. Tanswell, Prof. J. Fred Baker, of the M. A. C., will give a talk upon Forestry.—Mrs. Tanswell, Cro. Sec.

The Annual Meeting of the Salem Farmers' Club was held Dec. 2, at the pleasant home of H. W. Smith. Nearly one hundred friends and members of the club assembled. The program consisted of music, by Miss Mabel Naylor and Mr. and Mrs. Will Stanto. An essay on "Thanksgiving," by Mrs. D. Thompson, select readings, etc. The following officers were elected for the coming year: President, Charles Ross; first vice-president, Will W. Hamilton; second vice-president, Bert Wilson; recording secretary, Mrs. Mar. Atchinson; treasurer, Will Naylor; cor. secretary, Mrs. H. C. Thompson. Club adjourned, with music by Miss M. Naylor.—H. C. T., Reporter.

Hold Annual Meeting.—The November meeting of the Napoleon Farmers' Club, of Jackson county, was largely attended and after the transaction of business and choosing delegates to the State Association of Farmers' Clubs, dinner was served. As this meeting was the annual meeting the afternoon was devoted to the election of officers, which was made interesting by interspersing a short program consisting of readings, recitations, and music. The following officers were elected for the ensuing year: Pres., F. M. Andrews; 1st vice-pres., Mrs. B. R. Tracy; 2nd vice-pres., N. J. Nichols; recording sec, M. E. Russell; cor. sec., R. H. Bronk; treas., Mrs. Eugene Bromley; chaplain, E. A. Galusha. The December meeting will be held at the home of Mr. and Mrs. Dan Watson.—Mrs. Grace E. Merriman, Reporter.

The watch I purchased from you keeps good time, that is nearly two years ago.—John Burt, Ortonville, Mich.

Don't Spend

A
Penny



Be Sure First

by a Test at our risk. Don't spend a penny before you have tested it, before you are sure, before you have seen and felt. We know what we have to offer, we know the public. We trust to the power of what we offer. We trust to the public's sense of Honor and Gratitude. The sick man or woman suffering day by day for lack of the right kind of help, is glad and happy to pay when they get the help. We know this, we know how Vitae-Ore helps, we know we will get our pay when it does help, and so we take the risk. We want to take it—all of it. We are glad to do it.

It is not a gamble, not an experiment, but a test, and a test that has led in thousands of cases to positive knowledge that Vitae-Ore is a right medicine for sick and ailing, poor, thin-blooded, weak, debilitated, worn-out, Rheumatism-racked, Stomach-tortured, Kidney-tyrannized, Heart-frightened men and women. It is a test that leads to our pay and Vitae-Ore's popularity. That is why we take all the Risk and why we plainly and boldly say to you **Don't Spend a Penny until you have tested it.**

You Don't Risk

One Single, Solitary, Red Cent. You must use a postage stamp to write for it or we cannot know that you need it, but we will return a 2-cent stamp to you after 30 days if you ask for it. We want the test to be absolutely, entirely and completely free of any and all cost to you if Vitae-Ore does not help you. We do not want it to cost you one single penny unless the 30-day treatment benefits you, unless it proves Vitae-Ore the remedy for your ills, as it has proven the remedy for so many thousands of others. We don't want a nickel of your hard-earned money unless you are glad, willing, happy and proud to send it to us for what Vitae-Ore has accomplished for you. Then we want our pay and deserve it, but not otherwise! We take absolutely all of the risk. We leave it entirely for you to decide, to say that we have earned our pay or that we do not deserve it. Read our trial offer; read the proof we give upon this page; read what Vitae-Ore is; read what it has accomplished for others, and write today for the \$1.00 package on 30 days' trial.

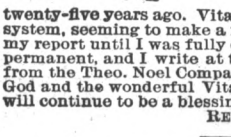
Cured Four Years Ago.

Permanently Relieved of Rheumatism and Nervousness at the Age of Seventy-eight.

INDIANAPOLIS, IND.—I was afflicted with Rheumatism for many years, the attacks being especially strong during last winter. I could not sleep nights on account of the pain which centered in my back and left leg. My Nervous System was also affected. The doctors who treated me said they could not help me, as I was seventy-eight years old, and my system was entirely worn out. I doctored with so many kinds of medicine that I had a small drug store at home, but nothing helped me. I had new hopes, as summer approached, that the warm weather would bring me relief, but this hope was not gratified, as I grew no better. Then I gave up all thought of a cure, thinking that the doctors were right and that nothing could help me.

One day I read the Vitae-Ore advertisement in my church paper and sent for a package. After five days it had done me so much good that I was well pleased. After using two packages I was entirely cured of the Rheumatism and my nervous system is now so wonderfully improved and strengthened that I can work with as much force and vigor as I could twenty or twenty-five years ago. Vitae-Ore has caused an entire change in my system, seeming to make a new man of me. I wanted to wait with my report until I was fully convinced that the benefit is entire and permanent, and I write at this time without the least inducement from the Theo. Noel Company, merely through appreciation toward God and the wonderful Vitae-Ore medicine. I hope that Vitae-Ore will continue to be a blessing to all ailing mankind.

REV. JOHN FUCHS, 1007 Ashland Ave.



Re-affirmed Four Years Later.

INDIANAPOLIS, IND., March 27, 1908.—I was cured of Rheumatism by Vitae-Ore about four years ago, but I use it regularly for two reasons: First: it strengthens my Nerves wonderfully. I am 82 years old and preach every Sunday, do all the work of a pastor and serve the congregation. Second: it keeps my Kidneys in good order so that I have no trouble to urinate, which often is the trouble of old men. I never will do without Vitae-Ore. If everyone would only know how good it is, no one would be without it.

REV. JOHN FUCHS.

Read This Trial Offer!

If You Are Sick we want to send you a full-sized \$1.00 package of Vitae-Ore, enough for 30 days' continuous treatment, by mail, postpaid, and we want to send it to you on 30 days' trial. We don't want a penny—we just want you to try it, just want a letter from you asking for it, and will be glad to send it to you. We take absolutely all the risk—we take all chances. You don't risk a penny! All we ask is that you use V.-O. for 30 days and pay us \$1.00 if it has helped you, if you are satisfied that it has done you more than \$1.00 worth of positive, actual, visible good. Otherwise you pay nothing, we ask nothing, we want nothing. Can you not spare 100 minutes during the next 30 days to try it? Can you not give 5 minutes to write for it, 5 minutes to properly prepare it upon its arrival, and 3 minutes each day for 30 days to use it. That is all it takes. Cannot you give 100 minutes time if it means new health, new strength, new blood, new force, new energy, vigor, life and happiness? You are to be the judge. We are satisfied with your decision, are perfectly willing to trust to your honor, to your judgment, as to whether or not V.-O. has benefited you. Read what V.-O. is, and write today for a dollar package on trial.

What Vitae-Ore Is.

Vitae-Ore is a mineral remedy, a combination of substances from which many world's noted curative springs derive medicinal power and healing virtue. These properties of the springs come from the natural deposits of mineral in the earth through which water forces its way, only a very small proportion of the medicinal substances in these mineral deposits being thus taken up by the liquid. Vitae-Ore consists of compounds of Iron, Sulphur and Magnesium, elements which are among the chief curative agents in nearly every healing mineral spring, and are necessary for the creation and retention of health. One package of this mineral substance, when mixed with water, equals in medicinal strength and curative, healing value, many gallons of the world's powerful mineral waters, drunk fresh at the springs.

KIDNEY and BOWEL DISORDERS

Back and Side Pained Her. Also Had Rheumatism, Stomach and Female Troubles.

CUMBY, TEXAS.—My Kidneys were badly affected, my Bowels were out of order and my Stomach was in such a bad condition that I could not eat anything without its almost killing me. I also had Rheumatism and had gone down from 225 pounds to 175 pounds. I had been in this state for a year, but the first of October 1903, I grew worse; my back and side pained me so much I could hardly go about, my kidneys acted continually, day and night, as did my bowels; there seemed to be a fire in my stomach and at times the suffering was so great it seemed I could not live. I took everything I know of, including several kinds of patent medicines; some relieved me for a short time, but none cured me, and no one but a woman can know what I suffered. I saw the Vitae-Ore advertisement and I decided to see what it would do and sent for a package. It helped me right from the start. I kept on using it and today I am sound and well because of it and think it the grandest thing on earth. We now use it for every ailment in the family and it always helps. Too much cannot be said of it. MRS. J. B. MAHAFFEY.



USE THIS COUPON

If You Do Not Wish to Write a Letter.

THEO. NOEL CO., Vitae-Ore Bldg., CHICAGO

Gentlemen—I have read your advertisement in THE MICHIGAN FARMER.

and want you to send me a full-sized One Dollar package of Vitae-Ore for me to try. I agree to pay \$1.00 if it benefits me, but will not pay a penny if it does not. I am to be the judge. The following is my address, to which the trial treatment is to be sent by mail, postpaid:

NAME _____
TOWN _____
STATE _____
Street or Rural Route _____

A Trial of Vitae-Ore

Will tell to you its own plain story, a story that has meant Comfort, Peace and Happiness to thousands.

WE DON'T CARE if you are skeptical, we care not if you have no confidence, it makes no difference to us if you give no credence or belief, it matters not even if you lack hope. We ask only for your personal investigation, and at our expense, regardless of what ills you have, by sending to us for a \$1.00 package on trial. If you need it, if you are suffering, wasting away day by day, for lack of that help and health which it may bring to you, send for it today! It will not cost you one single penny if it does not help. Nothing to begin with, nothing at any time if not satisfied. You are to be the judge!

IF YOU SUFFER FROM Rheumatism, or any Kidney, Bladder or Liver Disease, Dropsy, a Stomach Disorder, Female Ailments, Functional Heart Trouble, Catarrh of Any Part, Nervous Prostration, Anaemia, Sores and Ulcers, Constipation or Other Bowel Trouble, Impure Blood, or are just Worn-Out, send for a 30-day trial treatment of Vitae-Ore right away and see what this remedy will do for you. ADDRESS US AS BELOW.

THEO. NOEL CO., M. J. Dept. **CHICAGO, ILL.**
Vitae-Ore Bldg.