

Mr. Johnson

PUBLIC LIBRARY
— OF THE —
CITY OF DETROIT

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY

JOURNAL
ESTABLISHED 1843.

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

VOL. CXXXVIII, No. 17.
Whole Number 3597.

DETROIT, MICH., SATURDAY, APRIL 27, 1912.

\$1.00 A YEAR.
\$2.75 5 YEARS.

Supplementary Forage and Catch Crops

THE use of supplementary forage crops has increased rapidly in recent years, but supplementary forage and catch crops are not now used by the average farmer to the extent which he would find profitable. Whether a dairyman, a live stock breeder or a general farmer who keeps a variety of live stock, supplementary forage and catch crops for forage purposes will be found a valuable aid, both in the maintenance of live stock kept in a thrifty condition and in the maintenance of soil fertility.

In the early days, before the farms were all cleared and improved, there was an abundance of pasture for such live stock as was maintained upon the farm. But, when practically all of the land suitable for cultivation was brought under the plow and it became necessary to pasture the cultivated fields devoted to general crop rotation, the situation became different. An abundance of good pasturage was enjoyed by the stock for some two months after the pasture became good in the spring, and this period of abundance was followed by a dearth of forage in the fields during midsummer in the average season, until the early fall rains again rejuvenated the grass so that it furnished an abundance of feed for the stock maintained. This is, in brief, the history of the evolution from pasturing of the public commons, then the unimproved lands upon the farm and finally the cultivated fields devoted to the crop rotation.

Even where the stock kept upon the farm was not large, this system very often resulted in a scarcity of forage and the resorting to practices in midsummer which have been a factor in the depletion of our soil fertility. The fields have too commonly been so closely grazed in the midsummer season as to leave absolutely no covering for the soil, which was exposed to sun and wind and the tramping of the stock with the result that even when rains came the pasture would not again be productive and there would be little in the way of sod or a growth of grass to plow down when the field was broken up for another crop.

But the harm did not stop here. Of necessity the stock was turned into the hay fields after the hay was cut and into the stubble fields after the grain was cut, with the result that the stand of grass for the next year's pasture and hay crop was injured and, even though the live stock maintained upon the farm was not increased, it annually required closer and more exhaustive grazing to support them through the summer season. The inevitable result has been a gradual decrease in live stock production and a rather rapid depletion of soil fertility upon many farms where a little different management would have changed conditions materially.

Our dairymen were the first to recognize the necessity of providing supplementary feeds for their stock for the reason that the dairy cow tells her owner at once when she is in need of supplementary feed by a marked reduction in her pro-

duct, and in order to make the business profitable it was found necessary to provide supplementary feed for the dairy cows during the summer months, and today no progressive dairyman would think of trying to go through the summer without supplementary feeding of some sort, whether it be silage, a green crop used for soiling purposes or the feeding of hay and grain in the stable, as many dairymen have been compelled to do in order to keep up production in dry seasons.

But the general farmer has not learned this lesson as well as he ought, and in far too many cases his stock will be found roaming fields with such scant forage as to barely enable them to keep alive without making a profitable growth and a possible profit for their owner, while at the same time the producing power of the land is being injured by this practice, as above indicated. Any observing farmer cannot but have noted that nature provides a covering for the soil at all seasons of the year wherever the soil is sufficiently fertile to be of value for agricultural purposes, and, if we would preserve the soil fertility, as well as make a profit from our live stock, we must follow

with his general scheme of farming and as are best adapted to the kind of stock which he may keep. Among this class of crops there are many which are well adapted to Michigan conditions upon which we should place our dependence, experimenting on a small scale perhaps with others about which we know less but may profitably know more.

Owing to the very general failure of new seedings of clover last year, due to the severe summer drouth, there will certainly be a short hay crop in Michigan this year and there are many farmers who will be obliged to plant supplementary forage crops to make up this deficiency. The acreage of corn may profitably be increased where it is possible without breaking up the crop rotation, but there are other valuable forage crops, such as oats and peas, millet, soy beans, where they are known to be well adapted to local conditions, and possibly some other promising forage crops in an experimental way. But, as above noted, for a main dependence we should stick to crops which we know are well adapted to our local conditions and with the culture of which we are sufficiently familiar to insure a fair degree of success.

can be cheaply seeded and profitably grown as a forage crop. The seed may be sown alone upon well prepared ground at the rate of about four pounds per acre, broadcast, at any time from early spring to midsummer. If sown in the early spring it may be successfully used as a crop with which to seed clover which will not be destroyed by the pasturing, provided it is not unreasonably severe or too long continued. Or it may be sown in oats or barley at the time of seeding and will make a good growth after harvest as a summer feed for sheep, hogs or even young cattle where other pasturage is also available. Or a stubble field may be plowed immediately after harvesting and sown to this plant with the prospect of having good feed within six weeks after sowing. The seed may also be sown in the corn at the last cultivation and under favorable conditions will make excellent late fall feed.

This crop has the advantage of being cheap to seed, the seed only costing a few cents per pound and requiring but a few pounds per acre. This will serve as a means of tiding the stock for which it is well adapted as a green forage over the summer season of scant pasturage to

their own benefit and to the great benefit of the fields devoted to grass in the regular crop rotation. Some small fields about the barn, which should be provided upon every farm, may be sown to this crop or planted to corn very early, or a variety of crops used in them in order that a succession of soiling crops may be provided for feeding in the yard during midsummer. But where a single large field is used for this or any other crop to be pastured in midsummer, it will often be found profitable to divide the field by temporarily stretching a wire fence through it so as to provide a change of pasture as occasion may require. In England the hurdle system is used almost entirely, and undoubtedly gives better results, but it involves so much bother that it will not be likely to gain favor among the farmers of this country under present conditions.

The temporary system of dividing fields by means of wire fencing is, however, entirely practical, involves little labor and expense and will be found profitable in very many cases.

This question of supplementary forage and catch crops is one which no reader of this article can afford to neglect. It holds possibilities of which even its most sanguine advocates are not fully appreciative. As an instance of the possibilities of supplementary forage crops one striking example will suffice. Readers of our Practical Science department will recall that not many weeks ago one farmer of an inquiring turn of mind sent a small sample of buckwheat hay, produced last year, for analysis to determine its feeding value, stating that he had produced a good yield of same last year and that the stock ate it with avidity, and that if it proved to be a nourishing feed he would grow it again next year. The analysis showed it to compare favorably



Rape Sown On Barley Stubble, Plowed and Fitted After Harvest.

nature's plan in this regard. There is something about a moderate covering for the soil which promotes its fertility, probably through the improved conditions for the work of the beneficial soil bacteria which such protection affords. But in any event, live stock cannot be profitably maintained unless they are well fed at all times and experience has demonstrated that where a maximum amount of stock is kept upon the farm it cannot be provided with an abundance of feed on grass pastures alone unless two or more pastures are available so that the stock may be alternated between them, and even in that event there will be a waste of grass in the flush season and a dearth of nutritious forage in the short season of midsummer.

In order to avoid this condition, the average farmer will find it profitable to use supplementary forage and catch crops, making such selection of crops and planting at such seasons as will best fit in

So much has been said about the culture of these crops in recent issues of the Michigan Farmer that it seems unnecessary to dwell upon their cultural methods at this time, but for the benefit of those who have not given previous attention to the subject it would not be out of place to advise those who will sow oats and peas to prepare the ground and get them in as early as possible and drill them deeply; and where soy beans are grown to avoid planting them until the weather is suitable and the soil warm, drilling them in rows to cultivate and putting the seed in shallow, not more than an inch deep in a well prepared seed bed.

But in addition to the need of supplementary forage crops for the making of hay, there will be an undoubted need of such crops for pasture upon many farms. Where sheep and hogs or perhaps young cattle are maintained there is no better pasture than Dwarf Essex rape, which

with timothy hay in feeding value, digestive nutrients considered, thus bringing into the range of possible supplementary forage crops a common plant which few, if any, had ever before thought of using for this purpose.

In fact, a list of crops which it would be possible to use with profit in this manner could be enumerated at much greater length, but the purpose of this article is to interest the reader in the need for, and the possibilities of, the profitable use of supplementary forage and catch crops upon his farm. The problem of how to best employ them is one for individual solution, rather than general suggestion or advice, since the conditions and environment will vary with each individual case. But it is a subject to which thought and experimentation may be profitably devoted by every Michigan Farmer reader, and there is no better time than the present to plan on the probable future needs in this direction during the present summer and to provide for supplying them in planning our summer campaign upon the farm.

WHAT ABOUT THE SEED CORN.

Have just finished testing out some seed corn. A word of explanation concerning the corn before giving the results. The second week of September last, I filled my silo. At that time I saved quite a lot of seed corn and put it up in a seed room over the woodhouse. The fore part of October I filled the second silo and saved quite a lot more of seed that was well matured, but not dry. This was also put up with the other and was all hung on poles, an ear in a place, and given all the chance it could have to dry out. No artificial heat was used as I thought I had it put up so early that it would be sufficiently dried before the cold weather set in so as to be out of danger of freezing. Here is where I missed it. Had I started a fire in the room for a while after putting up the corn, I would have had 50 bushels of seed for sale this year. As it is I will barely have enough for my own use. I have tested all that I saved at first and from 60 to 70 per cent of it was good enough to plant. Practically all the corn saved the second time was no good. Much of it is beautiful corn to look at, but it will not grow, and so I have an extra amount of hog feed that I was not counting on.

It is probable that very little seed corn was saved before the first, and in most cases before the middle of October last fall, and as the weather was so unfavorable for curing out corn from that time on it is very probable that much of the seed that was saved and not dried with artificial heat will be dead or very low in vitality. I would urge that all who have seed corn saved make ear tests at once to see how much of their corn will be fit to depend upon for planting, in order that they may know in time whether or not they will have to buy, and if they have to, that they may begin to look around at once for their this year's supply of seed corn. I tell you the fellow that waits till about the last thing to secure his seed corn is going to have some mighty close picking to find what he wants. The poor quality of corn for growing purposes is practically universal throughout the country.

One thing is certain. I have learned my lesson at a pretty dear cost, and it will be some time in the future before I forget to see that my corn is thoroughly dried hereafter before there is a possibility of its getting frozen while in the uncured state.

Oakland Co.

E. M. MOORE.

SOWING OATS WITHOUT PLOWING.

It has always been my practice to fall plow for oats the last of October or first of November after the corn was harvested. But last fall it was so wet until winter set in, that it was impossible for me as well as almost every farmer in this section to do any plowing. So this spring as soon as the ground had become sufficiently dry to work, we put three horses on the disk harrow and after going over the ground twice, it was in very good shape to sow with the disk drill. We first sowed about six acres and then went over the ground with a fine tooth lever steel drag, which left the field comparatively level and fine on top. I prefer this to using a roller as it seems to prevent the formation of a crust, especially if a heavy rain falls soon after the oats are sown. We finished sowing the next six acres, in the same field, on the 17th, and that night there was quite a snow storm, which slowly melted the next day. This left the ground so wet that it will be im-

possible to go over the balance of the field with the light harrow.

This will give me a chance to find out whether there is any advantage to follow the drill with light harrow, when sowing oats. It has always been my practice in the spring to go to work as soon as the ground was dry enough to work, and sow my oats, and by so doing have generally had very good success. But last year in a couple of days after my oats were sown a heavy rain fell which flooded the field and washed the soil in bad shape, covering many of the oats so deep that they rotted, with the result that the crop was a very poor one. Perhaps I am caught again in the same way this year, because as stated, the snow storm has left the ground in a very wet condition. If oats once get sprouted they will stand much wet, cold weather and come out all right. But when it comes on very wet and cold before they have a chance to sprout, many of them are quite apt to rot. Farming is sort of a lottery business anyhow. All we can do is to go ahead and do the best we can, as we cannot look into the future.

Ottawa Co.

JOHN JACKSON.

APPLYING LIME.

Please advise me as to whether it would be all right to apply lime with fertilizer drill when sowing oats. I wish to use quite a little lime on my soil, and wanted to sow it with oats, so I thought to put it on with a drill. Would it be safe, or would it tend to hurt the seed?

Hillsdale Co.

C. W. B.

It would be a better way to apply the lime as soon as possible after the ground is plowed in order that it may be thoroughly incorporated in and mixed with the soil in fitting same for the oat crop. There might be a possibility of caustic lime injuring the germinating quality of the seed in case weather conditions were just right for that effect, although it would not, in the writer's opinion, be probable. However, better results would be secured by the plan above advised.

RAW PHOSPHATE ROCK AS SOURCE OF PHOSPHORUS.

Could you advise me as to the advisability of using ground phosphate rock as compared to the commercial fertilizers? My land was originally oak timbered, with other timber mixed with it, and is in a good state of fertility. Grow plenty of clover and have from 150 to 200 loads of manure yearly on 120 acres. In an editorial in The Gazette the editor advises the use of ground phosphate rock to the farmers of the corn belt. Why will it not do for me here in Shiawassee county? I can and do raise on an average of 100 bushels of ear corn per acre. I am interested in growing as large crops as possible but want to do it as cheaply as possible.

Shiawassee Co.

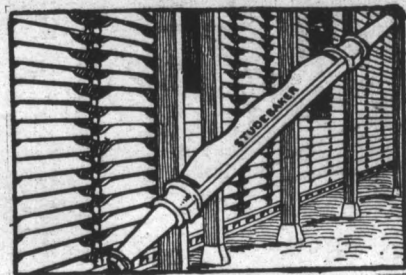
S. E. B.

So far as I can learn from a number of people who have used this ground rock in Michigan, it has not proved a satisfactory source of phosphorus; that is, they did not get satisfactory results from its use. The phosphorus in this rock is in the form of what the chemist calls the three lime phosphate and is insoluble in water. Plants cannot use it in its natural form. The only way it can be used as plant food is to in some way change its chemical combination and make it soluble in water or in citric acid. The advocates of this rock as a source of plant food claim that if it is plowed down with clover, when the clover decays organic acids will be generated in the soil which will act upon the raw rock and make a portion of the phosphoric acid in it available for plants. Or, if it is plowed down with stable manure, then the decomposition of stable manure generates the acids in the same way and liberates a portion of the rock so that it is available plant food. No one claims that you will get any results by putting this onto bare land and plowing it down, or by putting it onto any land as a top-dressing the same as we do commercial fertilizers, because it is insoluble and must be in the presence of decaying organic matter in order to get results.

Over in Illinois the farmers seem to get good results from the use of it, but it seems to me that the Illinois conditions are different from those in Michigan. Chemical analysis reveals the fact that the prairie soils of Illinois are naturally deficient in phosphoric acid, but on the other hand, repeated analysis made of Michigan soils many years ago by Dr. Robert Kedzie, of the Michigan Agricultural College, revealed the fact that Michigan soils were comparatively rich in phosphoric acid. According to the analysis made at the time, compared with the analysis recently made of Illinois soils, Michigan has two or three times as much inert phosphoric acid in her soil as has the corn belt or

Timber is the Foundation of the Wagon

OUR great lumber yards, covering eighty acres, are the largest and contain the finest selection of wagon wood stock in the world. We buy our wood in the tree from selected localities, stack it in our own yards, cut it at our own mills and thoroughly season it.



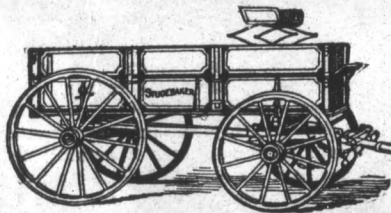
AXLES AIR-DRYING

Every hub, spoke and felloe, every stick of timber that goes into gear or wagon box, is subjected to rigorous inspection at every step of its manufacture.

Studebaker

To make absolutely sure of their weather-resisting qualities, all wood gear parts are immersed in boiled linseed oil. This precaution keeps out moisture, prevents decay and makes an excellent surface for the coats of paint.

Do you wonder Studebaker Wagons are best? Don't take another wagon represented to be "just as good."



STANDARD FARM WAGON

Studebaker Wagons are made in all sizes, for all purposes; with cast or steel skeins, or steel axles, and are guaranteed.

Ask our dealer or send for catalogue.

The Studebaker Corporation
South Bend, Ind.

2 Machines for the Price of 1

FREE LARGE FOUR-COLOR
PICTURE—Write for it.



\$69.50

Cash F. O. B. Stoughton, Wisconsin

A High Grade Spreader and a Splendid Farm Gear. Can be used in combination or separately. Every farmer needs both. Why pay as much for one alone? Why pay more for a combination not nearly so good?

The Moline Wagon Box Spreader and Special Steel Wheel Farm Gear

should not be confused with the ordinary implements offered at about the same price. They are in a class by themselves—Flying Dutchman quality and backed by that same strong guarantee.

Note carefully the following features:

Heavy Steel Wheels	Hickory Axles
Long Reach and Rear Hounds	Mud Lugs
Full Circle Steel Front Hound	Spreader Driven from Both Wheels
Standards Ironed same as Farm Wagon	Roller Bearings on Beater

Unquestioned quality and attractive design at exceptional prices.

Send us your order today. We will ship the outfit immediately—in time for use this spring.

MOLINE PLOW COMPANY

Dept. 26. MOLINE, ILLINOIS



HARRIS' STEEL STALL AND STANCHIONS
Save Time and Money and Make Your Dairy More Profitable.

YOUR COWS will give more and better milk, your cost of labor and production will be materially reduced, and you will make more money from your dairy if you equip your barn with Harris' Patented Steel Stalls and Stanchions and Labor-Saving Litter & Feed Carriers. Write today for our free illustrated catalogue.



THE HARRIS MANUFACTURING COMPANY, 316 Cleveland Ave., SALEM, OHIO

prairie soils of Illinois. Now when we plow down a clover sod or a field of growing clover as green manure, or plow under a good dressing of stable manure, the decomposition of this organic matter acts upon the abundance of inert phosphoric acid in the soil and makes a portion of it available. But, the same process in Illinois does not produce like results because there is a deficiency in the phosphoric acid, and it seems to me that this in all probability explains the reason why they get better results in Illinois than we do here from the use of raw phosphate rock.

Several years ago I became very much interested in this question of raw phosphate rock. I asked Prof. Clinton D. Smith what he thought about it. He said he did not believe there was any business sense in plowing down insoluble plant food when we had plenty of it in the soil. I asked Prof. Frank Kedzie of the Michigan Agricultural College, and he said he could not understand why you could get any particular benefit from the addition of this raw phosphate rock when we had plenty of raw phosphate in the soil. But in spite of this expert warning, as it were, I purchased a carload of phosphate rock. I used it in the stable as an absorbent and put as high as one ton to the acre on a clover and timothy field that had not been harvested for hay but had the entire crop, and then plowed it down in the fall and in the spring planted it to corn. I wasn't able to determine where I put the rock. I will admit that it was a bad year for corn and I had a poor crop, but I couldn't see any difference where I had put the ton of raw phosphate rock. Yet, where I put commercial fertilizer I could see to the row where it was applied. Now my belief is this, that it is nature's way to plow down organic matter and when this decomposes in the soil to set free some of the inert plant food in the soil—phosphoric acid and potash. After the available plant food in the soil is somewhat exhausted it not only pays to make more of this available plant food soluble but at the same time it pays to add a little soluble plant food close to the root of the young growing plant to give it a good thrifty start, and that is the theory in the use of commercial fertilizer.

No one denies the practicability and advisability of plowing down organic matter. No one denies the great importance of stable manure. No one denies but what in almost every locality in the state of Michigan very much of this work needs to be done, but if we have an abundance of inert phosphoric acid and potash in the soil what is the use of applying raw phosphate rock? We might just as well set free some of the abundance that we have as to add some more of the same kind, then after adding the organic matter, after having set free a certain portion of it by the decaying of vegetable matter in the soil, if then, by actual trial we find that a little available plant food put close to the plant increases its growth, gives it new vigor, and produces a profit, why is it not the sensible thing to do?

If our soils had been cropped continuously for a long time and we had neglected to add vegetable matter, we find them in a condition so that it takes several years by natural methods to get them in condition so that they will produce profitable crops. No one denies that it is nature's way, but it is a slow way. We can't afford to wait for it. If, by the addition of soluble plant food we can get enough more vigorous growth of plants so that it is profitable, there can be no objection as long as we do not injure the soil by so doing.

Where one can grow 100 baskets of corn to the acre, his land is in very good condition. There's no question about it. Where one can grow good heavy crops of clover, the land is not suffering, and whether it will pay to use commercial fertilizers with soil in that condition is a question that no one can determine but S. E. B. himself. A hundred baskets of ears to the acre means only about 50 bushels of shelled corn. While this is a splendid crop it is no where near the limit. Some people raise 100 bushels of shelled corn to the acre and 70 and 80 bushels is getting to be a common average with the best farmers. Now if a few dollars in commercial fertilizer would increase the yield of corn so as to make it profitable to use it, then it is a business proposition, and my idea would be to make a careful experiment. Weigh the results carefully. Determine whether it is profitable to use commercial fertilizer on soil in that condition or not. My judgment is that it would pay, and pay well.

COLON C. LILLIE.



KNOWLEDGE THAT PAYS

WHEN prosperous farmers, noted for their shrewdness and foresight, buy I H C harvesting and haying machines and tools year after year, the evidence is conclusive that those machines give satisfactory service, and add to the incomes of the farmers who buy them. The reasons why these machines are investments, why they go into fields of grain and bind it all with the least waste, whether it be tall or short, standing, down, or tangled, why they last and do good work year after year, are reasons you should know. The knowledge of what I H C machines will do for you, is knowledge that pays.

On matters in which there is a community of interest, no business man in this country has a better opportunity of gathering practical knowledge about the details of his business than has the American farmer. There is ample proof that farmers are readers and students, in the constantly growing use of machines for saving time and labor on the farm, for increasing the efficiency of farm help, for conserving the fertility of the soil, and for quickly and cheaply harvesting crops of every description. Knowledge of the uses and value of farm machines leads to close study of those machines. Study and comparisons bring out features of quality. Knowledge of quality leads to the purchase of high grade I H C harvesting and haying machines and tools marked with one of the following names:

Champion Deering

More than half a century of experience is behind the building of these machines. Over fifty years of experimenting and adapting to every known harvest field condition assures you of high efficiency. These machines have been perfected to a point where they meet successfully every known harvesting or haying problem. The organization behind I H C machines secures you from unnecessary trouble and expensive delays after the harvest is begun by providing depots for repair parts so instantly available that your harvest is never delayed even by what in another machine might be a serious accident or break-

McCormick Milwaukee

down. Each part is numbered and lettered plainly to avoid confusion in ordering. Each part is made to gauge so accurately that it fits like new and does the work it was made to do with no more than the usual adjustments. The story of these machines is told in catalogues with which every American farmer should be familiar.

There is need for the exercise of the widest knowledge and most thorough care in the harvesting of grain crops in this country. Population is increasing by leaps and bounds. The good grain growing land is about all taken up. Feeding the increased population from the same number of acres means making the most of each acre. An increasing population means better prices for grain. The profits in view for the farmer grow larger with each succeeding year. Under these conditions it is exceedingly important that there be no loss or waste at harvest time. The best way to prevent it is to purchase I H C harvesting and haying machines.

Besides selling you the most thoroughly proved machines in the world, the I H C local dealer can supply you with binder twine that can be used in those machines without trouble or waste. There are seven brands of this twine; Champion, Deering, McCormick, Milwaukee, Osborne, Plano, and International—all made of four grades: sisal, standard, manila, and pure manila, each perfectly dependable.

Osborne Plano

A visit to the I H C local dealer will put you right on the binder question this season. He knows the conditions you have to meet and will show you why the machines and twine he sells will best meet those conditions. Now is the best time to make up your mind which machine to buy. The more thought and study you give this matter the better you will be satisfied when you buy your binder. If a visit to the dealer is not convenient, a letter or post card will bring you catalogues and literature containing full information.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

CHICAGO

(Incorporated)

U S A

IHC Service Bureau

The purpose of this Bureau is to furnish, free of charge to all, the best information obtainable on better farming. If you have any worthy questions concerning soils, crops, land drainage, irrigation, fertilizer, etc., make your inquiries specific and send them to I H C Service Bureau, Harvester Building, Chicago, U S A



Save Lumber and Labor

YOU can double the life of every piece of lumber on your place—every post, plank, sill or sile—saving dollars in material for every cent of cost, by using

Conservo Wood Preservative

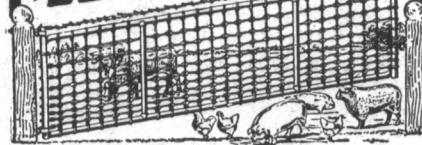
It penetrates the wood and prevents wet or dry rot, or injury by insects. Used inside of stables, sheds, tie-ups or coops, it will preserve the wood, kill foul smells, drive out insects and make the premises sound and wholesome. Send for circular giving full information.

SAMUEL CABOT, Inc., Mfg. Chemists, Boston, Mass.

Michigan Distributors:

THE C. H. LITTLE CO., Detroit. W. P. WILLIAMS, Grand Rapids.

PEERLESS



SELF-RAISING GATES

Gates—if not from your dealer—direct from the factory.

Problem

If a Peerless Gate lasts five times as long as a wooden one and costs less than twice as much, which is the cheapest?

Correct. Peerless Gates last, they are made of indestructible material. Big, high carbon steel frames; heavy all No. 9 wire filling of close-spaced Peerless Fencing. Every part Galvanized.

are easy to operate—they lift themselves—swing over snow, ice, grass or rubbish. You can always get Peerless PEERLESS WIRE FENCE CO., 213 Mich St., Adrian, Mich.

IOWA NEW GALVANIZED GATES

Let me ship the gates you need for 60 days free inspection and trial. Save from \$50 to \$250 on your gate purchase. Iowa Gates are made of high carbon steel tubing and large stiff No. 9 wires. Rust proof—wear proof. Write for my special proposition today. Complete galvanized frame, also painted gates cheaper than ever before. Jos. B. Clay, Manager., IOWA GATE CO., 57 Clay Street, Cedar Falls, Iowa



BROWN FENCE

13 CENTS PER ROD UP

RUSTPROOF: BULLSTRONG: PIGTIGHT Fences for horses, cattle, sheep, hogs, chickens, etc. Special low bargain prices. We pay the freight. Ornamental Lawn Fences and Gates. Send for catalog and sample. Brown Fence & Wire Co. Dept. 49 Cleveland, Ohio

KITSELMAN FENCE

Sold direct to you at factory prices on 30 days trial. Save the dealers profit. Farm, Hog and Poultry Fence at from 11 1/2 CENTS A ROD UP. All wires are heavily galvanized 80 rod spool of ideal galvanized Barbed Wire \$1.40. Write to-day for large free Catalog showing 100 different styles and heights of fencing. Box 278 KITSELMAN BROS. MUNCIE, IND.

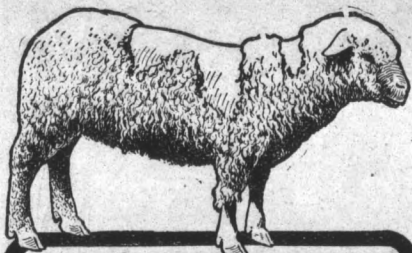
EMPIRE FENCE

Get the genuine EMPIRE big wire fence, direct, at wholesale. Save dealer's profits. Big Factory, Big Sales, 23 Styles. No traveling salesmen, small expense, prices low. Everything guaranteed. Free samples by mail. Prices of leading styles freight prepaid to all points north of the Ohio and east of the Mississippi River:—

Wires	Inches high	Medium Weight	Extra heavy (all No. 9)
9	39	23c per rod	36c per rod
10	47	26c per rod	40c per rod
12	55	32c per rod	48c per rod

Special rates beyond this territory. BOND STEEL POST CO., 16 E. Maunee St., Adrian, Mich.

Kouns Steel Stackers, Rakes and Sheds make good hay. Let me show you. KOUNS MFR. B 414, Salina, Kansas



Kreso Dip No. 1 CURES SCAB

A DIP THAT DOES THE WORK
WITHOUT INJURY

TO THE ANIMAL OR FLEECE
NO BURNING OF THE FIBRES;
NO STAINING; NO POISONING;
NO SICKENING.

WHY USE DIPS THAT HAVE THESE DESTRUCTIVE
AND DANGEROUS QUALITIES? WHY EXPERIMENT
WITH UNKNOWN PREPARATIONS?

KRESO DIP No. 1
STANDARDIZED

INEXPENSIVE, EASY TO USE

PERMITTED BY THE U.S. DEPARTMENT OF
AGRICULTURE FOR THE OFFICIAL DIPPING
OF SHEEP FOR SCAB

FOR SALE BY ALL DRUGGISTS

WE HAVE BOOKLETS GIVING FULL DIRECTIONS
FOR USE ALSO MANY VALUABLE HINTS ON
HANDLING SHEEP. WRITE FOR FREE COPIES.

PARKE, DAVIS & Co.
DEPARTMENT OF ANIMAL INDUSTRY
DETROIT, MICH.



More No Sore Shoulders

Your team will put more heart into their work and
give more service if their collars are properly padded.
VENTIPLEX is the kind to use, because it is made of
ventilated fabric which allows the sweat to evaporate and
keeps the shoulders cool and comfortable.

You can use all your horses all the time, because
VENTIPLEX prevents sore shoulders and
galls. They are worth more than
other pads, but cost no more.
Your dealer should have them, but, if not,
send us his name and we will send sam-
ple promptly. Patented Sept. 20, 1911.
Write for our interesting folder.
We also make the famous "Stay-On"
Blanket.

BURLINGTON BLANKET CO.
Dept. 38 Burlington, Wis.



Self-Loading Hay Rack

ONE MAN
DOES IT ALL.

Works on any wagon
with any make loader.
Let your brains do your
work. Make more hay
with half the help. Also
WIRE REELERS and
ROLLER HARROWS. Write

JAS. G. BAILEY, Delavan, Ill.

DEATH TO HEAVES! NEWTON'S

GUARANTEED
HEAVE, COUGH, DISTEM-
PER AND INDIGESTION CURE.
Cures Heaves by correcting
indigestion. Book explains,
sent free. Cures Coughs,
Colds, Distempers, Prevents
Colic, Staggers, &c. Blood
Purifier. Expels Worms. A
Grand Conditioner. A Veterinary
remedy, 20 years' sale. 50c and \$1.00 per can. Use
large size for Heaves. At dealers or direct prepaid.
THE NEWTON REMEDY COMPANY, Toledo, Ohio.

"JOINTINE"

is a positive cure for Joint Ill,
Blood-poison and Leakage of
Navel in colts, and is guaran-
teed to cure or money refunded.
Jointine should be kept on
hand, as it is harder to cure if
not given in time. It will keep
good for years, put up in tablet
form, easy to give, given inter-
nally. Mailed upon receipt
of price, \$3 per box. Testimo-
nials upon request. Bank ref-
erence: First National Bank,
Albion, Nebr.

T. B. BOWMAN, Boone, Nebr.

PATENTS that pay \$427,530 made by clients.
2 Books—"What & How to Invent—Proof of Fortunes
in Patents"—112-p. Guide Free Report as to pat-
entability. E. E. VROOMAN, Pat. Att'y, 804 F St., Wash. D. C.

LIVE STOCK

RAISE BEETS FOR YOUR STOCK.

The last twelve months have seen prob-
ably the greatest scarcity of roughage
and succulent feed that the majority of
Michigan farmers have ever experienced.
Hay was an unusually short crop, not
only in Michigan but throughout the
country, while even straw, although of
good quality, was short in quantity. The
farmers who raise stock, and most good
farmers do raise stock, have felt this
shortage the most, and have sought every
means to find some feeds to take the
place of those lacking, as far as possible.
Those who were quick to realize the sit-
uation last year built silos, and more in-
tend doing so this coming season; for all
indications point to no surplus of hay
this year. But not all can build silos,
neither is silage capable of taking the
place of all feeds for all animals. A va-
riety of feeds is always desirable; like-
wise is the cost and value of feeds an
important factor.

Too many farmers think corn and tim-
othy hay are sufficient feeds for stock;
they are too prone to follow the old way,
often because it is the easiest or they are
most accustomed to it. But there are
other feeds far cheaper and better, and
among these we have found beets one
of the best. We have not been able to
understand why more farmers do not raise
beets for their stock. They furnish a
succulent feed in winter when stock is
on dry feed, which takes the place of both
roughage and grain to no small extent;
they supply a relish which acts as a con-
ditioner and regulator. They are not
difficult to raise, and all classes of stock
eat and like them. In spring there is
nothing superior to them in increasing
the flow of milk in cows, ewes, or sows;
in fact, we would hardly know how to go
through a spring lambing or farrowing
without beets. Sliced and fed to the ewes
with their grain or separately as one
desires, they come the nearest to taking
the place of green grass in supplying milk
for the little lambs, of anything we know.
Fed whole to the sows after farrowing,
they produce like results and save much
corn in addition to stimulating the flow
of milk.

To those who have not tried raising
them or who think they are too difficult
to handle, our method may be interesting
and of value. We select a piece of good
ground one side of the corn field, give
a good coat of manure, and otherwise
handle with the rest of the field in plow-
ing and fitting for corn. After the corn
is planted we give this plot an extra har-
rowing until the soil is smooth and mel-
low, putting the seed bed in as good
condition as possible. We drill the seed
with a common hand garden drill, in rows
three feet apart, so that the beets can be
cultivated with the one or two-horse cul-
tivators as desired. An ordinary grain
drill can also be used by stopping all but
the necessary spouts. The main thing is
to get the seed thick enough so as to
secure a good stand. About 10 to 12
pounds will sow an acre.

As to variety we prefer what is known
as the feeding sugar mangel. It is not
so large and coarse grained as the regu-
lar mangel wurzels, nor is it rooty like
the genuine sugar beets, and is a better
yielder than the latter. It is medium
size and smooth, with a sweet, juicy fla-
vor that stock likes. If this seed can not
be obtained the common mangels can be
used, while some grow the Golden
Tankard.

When the beets come up they must be
cultivated and kept free from weeds un-
til they get to be good greens' size, say
about three to five inches high, when they
should be thinned. This is the main labor
and should be well done. All plants
should be taken out except a good strong
plant about every 12 to 15 inches. One
plant every foot is about right. If there
is a good stand too many act afraid to
take out enough plants; they leave the
stand too thick and when the beets grow
and mature there is not room. The re-
sult is a lot of small beets, which make
more labor and give less yield to the
acre. In thinning care should be taken
not to disturb the plants that are left.
The best time to do this thinning is after
a rain as soon as the ground is fit to
work. In our experience the beets are
generally ready to thin about haying
time; early in the morning when the dew
is on the hay, or after a shower when it
is not possible to work in the hay, is a
good time to thin the beets. After thin-
ning they should be kept free from weeds

and cultivated just as you would a pota-
to patch or the corn field; and like those
crops, laid away when the beets get siz-
able, which comes about the time you cul-
tivate corn the last time.

The harvesting should come the early
part of October, practically the same as
potatoes. They can be pulled by a regu-
lar beet lifter, be plowed out with an or-
dinary walking plow, or they can be
pulled by hand. When pulled they must
be topped. We pull by hand, top and put
the beets in piles of 10 to 20 bushels,
cover with the tops, and leave to cure
and dry a few days, or until a cold snap
comes, when we draw them into the cel-
lars in the barns, which are made for
that purpose. Those who have no cellars
can put in a pile in a basement barn and
cover with straw and cornstalks to pre-
vent freezing, or they can bury them in
a pit in the ground. Any way so that
they do not freeze nor get frosted. Then,
when it comes winter and no grass you
have something succulent for your stock,
a feed that they relish, keeps them in
good condition, is economical, and a large
amount is produced on a small amount
of land.

Try a few rows across one side of your
corn field this season, and see how much
feed you can raise from a little ground.
It does not take much time nor expense,
and we believe that when you have once
raised them and learned their value you
will not be without beets.

Washtenaw Co. Roscoe Wood.

FEEDERS' PROBLEMS.

Molasses as a Feed for Horses.

I would like to ask about feeding mol-
lasses to horses. I have heard it spoken
of some by dealers but I would like your
views on it. It will cost me about 16c
per gallon. How much less of other
grains can I feed by feeding molasses?
I have mares in foal and colts that I
would feed it to if it is a cheaper or bet-
ter feed than all hay and grain. How
much would be a feed for a 1,200-lb.
horse and for yearling and two-year-old
colts?

Midland Co.

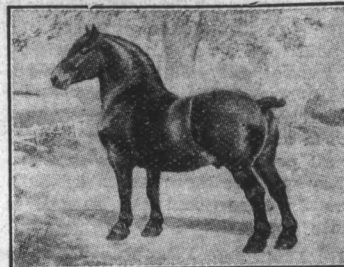
W. P. H.

The value of molasses as a feed for
horses has never been made the subject
of much experimental work in this coun-
try, particularly in the northern states,
since it has been available as a by-pro-
duct only within recent years. Some
years ago molasses was tried out at the
Kansas Experiment Station as a food
for fattening steers, being used in con-
nection with corn, and this combination
was not very highly recommended. Nat-
urally this result would be secured, since
molasses is, like corn, a carbonaceous
feed. Regarding molasses as a horse
feed, the "Agricultural Gazette," of New
South Wales, gives a report of the feed-
ing of cane molasses to 400 working
horses at a sugar plantation in the Fiji
Islands, in which it is stated that "15
pounds can be given to a 1,270-pound
working horse with advantage to the
health of the animal and to the effi-
ciency of its work. It produces no undue
fattening softness nor injury to the
wind; the high proportion of salts in it
has no injurious effect. An albuminoid
ratio as 1:11.8 has proved highly suit-
able for heavy, continuous work when a suf-
ficient quantity of digestible matter is giv-
en." In this experiment the ration fed
was 15 lbs. of molasses, 4 lbs. corn, 3 lbs.
bran, in addition to roughage of sugar
cane tops. The bran was found to be a
valuable aid in counteracting the ten-
dency to constipation caused by the mol-
lasses.

G. H. Berns, in the "American Veteri-
nary Review," gives an interesting report
of the feeding of molasses to 100 horses
at heavy work averaging 1,700 lbs. in
weight, to which reference is made by
Prof. H. R. Smith, in his book on "Profit-
able Stock Feeding." These horses were
each fed night and morning one quart of
molasses diluted with three quarts of
water, mixed with 6 lbs. of hay, 1½ lbs.
of corn meal and 2½ qts. of bran. The
noon meal consisted of five quarts of dry
oats, and the night meal was reinforced
by 11 lbs. of hay. This ration proved to
be remarkably successful in keeping the
horses in excellent health, and they not
only performed heavy work but gained
weight during the trial. Mr. Berns says:
"Molasses of a good quality is a most
nutritious food for horses, easily digested
and assimilated, and will in many cases
correct faulty digestive processes; and
the horse will do fully as much work
and remain as a rule in much better con-
dition than animals fed on dry food while
the cost of feeding is reduced from 25 to
23 per cent." This, of course, presupposes
that one can purchase molasses at a
cheap price. In relative terms he calcu-

HEWO STOCK FARM

The Home of the



BELGIANS

This announcement is for the men
who know a horse, who need a horse,
and who are familiar with values
when they find something suitable.
Have you, Mr. Stallioner, spent dol-
lars uselessly searching for a first-
class Belgian stallion or a No. 1 Bel-
gian mare for a price at which you
could afford to own same? Have you,
Mr. Prospective Purchaser, decided
where you are going to find what you
want?

We want to state here, and to state
most emphatically, that our twenty-
five years' buying experience in Bel-
gium, and our selling system (all
stock sold at the farm), places us in
a position to sell a good stallion or
a good mare at prices beyond com-
petition.

We are talking of good horses, not
the mediocre kind, and we are in
position to sell this good kind at lesser
figures than are demanded by some
firms for the ordinary sort. If you are
in the market for an extra good im-
ported Belgian stallion or mare, come
to Hewo and save all these useless
side trips, secure a horse that repre-
sents every dollar that is demanded
for same, and be a gainer of several
hundred dollars on account of "the
difference in price."

We have a number of home bred colts at
extremely reasonable prices.

"Remember, Nothing but Belgians."

Don't wait to write, visit.

H. & H. WOLF, Wabash, Indiana

"PEER-HO"



Gall
Cure
Collars

Under the
face of the
collar is a
heavy pad of
curled hair
that is smooth
and will not
form lumps.
The result, no
sore shoulders.
Ask your dealer
to show you
Peer-Ho Collars
and Harness.

**Pierson &
Hough Co.,
Detroit, Mich.**

U.S. PAT. NO.
528-136

CASH or CREDIT Will Buy Them.

The Real VALUE of our

STALLIONS

is not expressed by the price.

Buy Now and Secure a Bargain!

Souer's Stallions Make Good.

**GEO. W. SOUERS & SONS,
HUNTINGTON, IND.
(Stallion Service book 10c.)**

JACKS and MULES

Raise mules and get rich. 18
jack and mule farms under
one management, where can
be seen 250 head fine large
jacks, jennets and mules, 14
to 17 hands high. Good ones.
Stock guaranteed. Write
for prices today. Address
**Krekler's Jack Farm
West Elkton, Ohio**
Branch Barn—Clinton, Indiana



PERCHERON

Stallions and Mares of quality.
At Reduced Prices.

A. A. PALMER & SONS, Belding, Ionia Co., Mich.

FOR SALE OR TRADE!

A 4-YEAR-OLD BELGIAN STALLION,
Weights 1980 lbs. right in every way! Also two young
JACKS, one coming two years old and the other
coming three. Right in every way. Address
W. G. HIMMELWRIGHT, Frankfort, Indiana.

Hog Wallow Prevents Disease

THE hot weather is a trying time for hogs. In addition to the heat, they have to stand the attacks of hog cholera, scurvy and lice.

Build a hog wallow and let your hogs wallow in a solution of

Dr. Hess Dip and Disinfectant

It prevents hog cholera, it is a sure lice killer, keeps the skin smooth and purifies the air. Prevents mange and kills lice on dogs. It meets the U. S. Gov. requirements as an official dip for Sheep Scab.

Use it aplenty for disinfecting sewers, stables, barns, henneries, hog pens, sinks. One gallon dip makes 75 to 100 gallons effective solution. Ask your dealer for Dr. Hess Dip and Disinfectant. Send for Free Dip Booklet.

DR. HESS & CLARK
Ashland, Ohio

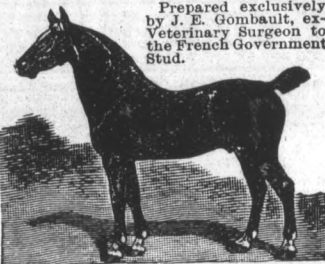


Horse Owners

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

Prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government Stud.



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

KEEP IT HANDY

You can never tell when a horse is going to develop a Curb, Splint, Spavin, Kingbone or lameness. Yet it is bound to happen sooner or later. And you can't afford to keep him in the barn. Keep a bottle of

Kendall's Spavin Cure

handy at all times. John Sayer of 324 Bronson Avenue, Ottawa, Ont., writes: I would not be without Kendall's Spavin Cure at any cost.

It is a priceless liniment for both man and beast. Get Kendall's Spavin Cure at any druggist's. \$1 per bottle—5 for \$5. "Treatise on the Horse"—free—or write to

Dr. B. J. KENDALL CO.,
Enosburg Falls, Vt., U.S.A.



ONE DIPPING KILLS ALL TICKS

Used on 250 million sheep annually. Increases quantity and quality of wool. Improves appearance and condition of flock. If dealer can't supply you send \$1.75 for \$2.00 packet.

Handsome 1912 sheep calendar free—a postcard brings it. Address Dept. D. WILLIAM COOPER & NEPHEWS, CHICAGO, ILLINOIS

lates one quart of molasses the equivalent of three or four quarts of oats.

Other experiments both in this country and in foreign countries, give evidence that molasses is a valuable food for both working and driving horses. It is usually fed as described above, by sprinkling upon dry feed after it has been diluted somewhat with water, although it is sometimes fed with some absorbent, preferably a feed rich in nitrogen. Some object to molasses feed on account of the difficulty in feeding it without daubing up the manger and the feeder's clothing, but by diluting it as above described this difficulty will be reduced to a minimum. Molasses is well worthy of at least an experimental trial when feeds are scarce and high as is the case at present.

Cottonseed Meal as a Horse Feed.

I read an article in the Michigan Farmer of April 13, an inquiry in regard to feeding cottonseed meal and corn. Now, would you kindly give the proportion to feed with oats, and would it be a good feed for working horses?

Oakland Co.

E. F.

In the article above referred to cottonseed meal and corn was advised because these two grains make up a balanced ration, the protein in the cottonseed meal balancing up the carbohydrates in the corn and making a feed which approximates the same proportion of these two elements of nutrition contained in oats. Oats is a well balanced horse feed without the addition of any more protein and it would not be profitable to add cottonseed meal to oats in compounding a grain ration for horses because it would increase its expense without giving any better, or even as good, results, since there could not be as complete digestion and assimilation of the nutriment as a whole contained in the ration.

Cottonseed meal may profitably be fed with corn in the proportion advised and as many oats added as may be desired, thus giving a greater variety of grain in the feed. The writer has used a ration composed of 600 lbs. of corn, 100 lbs. of oil meal and 100 lbs. of bran with as many oats added as may be desired, with excellent results, the oil meal being used in place of cottonseed meal because of its more laxative nature. However, a ration composed of one pound of cottonseed meal mixed with 5½ pounds of corn and as many oats as desired will give approximately the same results, so far as the nutritive ratio of the grain ration is concerned, and will be cheaper than a ration composed entirely of oats.

LIVE STOCK NOTES.

Stockmen say that never in the past has it been so difficult to buy desirable cattle in farming districts for feeding, and everything points to a great scarcity of beef cattle for a long period, farmers having disposed of their cattle during the past winter on account of the dearthness of corn and the lack of roughage. Meanwhile the spring is advancing, and before long farmers are likely to have unusually fine pasturage, for the superabundance of moisture ever since last fall makes this almost certain. As grass becomes nearer the demand for feeder cattle will become extremely large in every western market, and prices are expected to reach extremely high proportions for anything at all desirable in the feeder line. Any farmer who is so fortunate as to own good young cattle will make no mistake in holding them to maturity and making them as choice as possible, for fancy prices for such heaves are practically assured. Furthermore, the time has come when each farmer should raise cattle, and a few head on every farm are needed to bring the aggregate supply of the country up to the needs of the beef requirements. The days of the former enormous cattle ranches are past, and one by one the few remaining ones are disappearing and cut up into small farms for settlers.

The stockmen won a great victory over the railroads recently in defeating the proposed advance on feeder cattle and sheep of 33½ per cent. The live stock exchanges of the country of the several markets worked persistently to defeat the advance and thereby saved large sums of money to farmers and shippers, it being a long fight. Existing rates on feeder cattle are approximately 75 per cent of the rates on fat cattle, and the railroads contended that this rate was a gratuity, which they could withdraw at will, but the Interstate Commerce Commission took the opposite view and won. Should any railroads fail to comply with the orders of the commission, they will be forced to do so.

Boston buyers who secured recently the Cruse wool clip of Fergus county, Montana, at 16 cents per pound, have contracted for about 750,000 lbs. of other clips in the same county at 18 cents. Other Boston buyers have been buying the clips from fed-western lambs in the feed lots near Chicago for 22½@23 cents per lb., as well as the clip from Merino yearling wethers at 15½ cents. Various Montana sheepmen are refusing to sell their wool for 18 cents, demanding 20 cents.

Kansas pastures are the only important source of beef cattle supply west of the Missouri river able to furnish normal numbers this year, Oklahoma and Texas having very limited supplies.



The Pony Express

A Pioneer of the Bell System

FIFTY years ago the Pony Express became the most efficient messenger service ever known.

Pony riders carried messages from Missouri to California, nearly two thousand miles across mountains and deserts, through blizzards and sand storms, constantly in danger of attack by hostile Indians.

Fresh horses were supplied at short intervals, and the messages, relayed from rider to rider, were delivered in the record-breaking time of seven and one-half days.

Railroad and telegraph took

the place of the Pony Express, carrying messages across this western territory. Today the telephone lines of the Bell System have done more, for they have bound together ranch and mine and camp and village.

This network of telephone lines, following the trails of the Indians, connects with the telegraph to carry messages throughout the world.

By means of Universal Bell Service the most remote settler is no longer isolated, but has become a constantly informed citizen of the American Commonwealth.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

This Engine Will Do Your Farm Work the Year 'Round

Do it better, quicker and more economically than by hand. No cumbersome tanks, piping and circulating systems to make trouble in winter. The Novo cooling system is self-contained and guaranteed against frost damage. All working parts are enclosed and perfectly lubricated. The Novo Engine is easy to

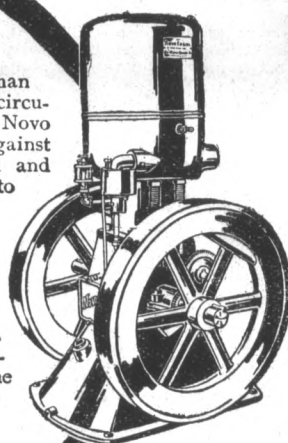
NOVO ENGINE

understand, start and run. It's the lightest engine for power developed and is readily portable. Made in eight sizes—1 to 10 H.P. The Novo costs what you'd expect to pay for an engine worth having. A higher price couldn't buy more engine value—Novo quality couldn't be sold for less.

SEND FOR NOVO CATALOG

and, when you know all the facts, you'll be convinced we are right. Why not send today?

NOVO ENGINE COMPANY
Clarence E. Bement, Sec'y and Gen'l Mgr.
213 Willow St., Lansing, Mich.



NO TANK
NO FAN
NO FREEZING
TROUBLE

Don't Pay for This Sheep Shearing Machine Until You See and Examine it

Most dealers have it. If yours hasn't, ask him to get one for you, and when it comes have it set up and try it. If you are convinced that it is what you want, buy it and try it on your sheep with the distinct understanding that it must do the work O. K. or no sale.

THIS STEWART BALL BEARING MACHINE No. 9

is just the easiest of all shearing machines to turn. A boy can run it all day without tiring. It is ball bearing throughout, including a ball bearing shearing head, shears quick and evenly all over. The price including four sets of knives is only \$11.50. It is really a wonderful machine and you will be agreeably surprised at the work it does.

Get your dealer to send now, or if you prefer send \$2 and we will ship C. O. D. for balance and you may try the machine and if not satisfied we will refund all you paid out.

Send for copy of new 1912 catalogue and Expert Instructions on shearing sheep.

CHICAGO FLEXIBLE SHAFT COMPANY
115 La Salle Ave., CHICAGO



VETERINARY

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

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Partial Paralysis—Cramping of Muscles.—During the last snow storm I found one of my cows down and unable to get up; she calved one week later and her calf is now two weeks old. This cow is still down and unable to get up. Mrs. M. C. A., Holly, Mich.—Give your cow 2 drs. ground nux vomica, 1 oz. ground gentian, 1 oz. bicarbonate soda at a dose in feed three times a day. Her bowels should be kept open and if her kidneys do not act free, give her ½ oz. powdered saltpeter at a dose two or three times a day.

Blocked Udder.—For sometime one-quarter of my heifer's udder has been blocked, making it difficult to draw milk from this part of bag, unless a milking tube is used. N. S., Grand Ledge, Mich.—Continue using milking tube and apply iodine ointment three times a week to quarter.

Cow with Five Teats.—I have a heifer that came fresh last fall which has five teats, two of them are very close together and I have been advised to tie a string tightly around teat and keep it on until it falls off, but before doing so ask your advice. E. R., Holland, Mich.—In my practice I usually cut off teat, stitch wound and apply equal parts powdered alum, oxide zinc and boric acid to the wound twice daily; when the owner prefers to have little trouble with it I clean teat and tie silk string around teat close to bag and allow it to slough off, but apply one part carbolic acid and 3 parts water to teat twice a day. Cutting off teat is best treatment.

Food Infection Resulting in Death of Hogs.—Sometime ago I had a nice bunch of hogs; fed them refuse from camp table, ear corn and they seemed to thrive well up to six weeks ago. First one to show sickness was a sow; she became dumpy, stiff, lost her appetite for food, moped around for two weeks and died. We gave her charcoal, stone coal and wood ashes. Two more soon took sick, showed same symptoms and they died. Another took sick and I killed it, examined it after death, found nothing abnormal except a swelling on neck, but this could not have caused pig's death. Have 16 shoats, some of their legs are swollen, their appetite is not good, but they drink some sweet milk, eat some corn then lie down as if in misery. These pigs root whole lot in refuse from camp. I have not heard of cholera among hogs in this section. B. R. S., Spencer, Mich.—I do not believe your hogs die of disease, but are poisoned with food of some kind. I advise you to keep them away from decomposed foods or garbage and supply them with a good quality of food. Sick ones should be purged with one part castor oil and two parts olive oil, soon as they become dumpy. Clean and disinfect your premises, especially where the hogs reside.

Loss of Power—Grub in the Head.—We have a pig, in good condition except it has poor use of both hind legs. This pig must suffer some pain for he squeals and cripples about when forced to move out of his nest. We also have a sheep that snuffled some for three weeks and when sneezing blew a grub out of nose. I forgot to say this sheep died. Do you suppose all my other sheep are affected in the same way? Mrs. N. G. M., Almont, Mich.—Feed your pig no corn but feed oats, oil meal and some roots. Give 15 grs. salicylate of soda and 10 grs. of ground nux vomica at a dose in feed three times a day.

Weakness.—My ewes seem to be sick and weak before and after lambing, some of the ewes are down for two days, others unable to get up for two weeks. None of the sick ewes appear to have any milk, have fed them clover, corn fodder, ensilage and turnips. W. J. T., Conklin, Mich.—Discontinue feeding ensilage, give each sheep 5 grs. salicylic acid at a dose in feed three times a day. Their bowels should be kept open and this is best done by giving either castor oil or epsom salts.

Azoturia—Elbow Abscess.—After my 3-year-old colt recovered from an attack of azoturia a soft swelling came on back part of elbow, skin became somewhat scaly on opposite side of body and has the appearance of a scald. H. H., Bradley, Mich.—Colt bruised elbow, causing serous abscess, which should be opened to allow serum to escape, then inject one part tincture iodine and ten parts water once every day or two. Remember, such abscesses are usually caused by laying on shoe when horse is stalled in too narrow stall.

Shoulder Stiffness.—I have a mare that travels stiff, her chest is sunken, one shoulder smaller than the other and she toes in when traveling. Her feet are cool and not contracted. S. H. B., Milan, Mich.—Apply one part turpentine, one part aqua ammonia and four parts olive oil to shoulders and chest three times a week. Give her 1 dr. ground nux vomica at a dose in feed two or three times a day.

Crib Biting.—I have a mare that cribs; she is growing thin and I would like to know if she can be cured. E. M. B., Portland, Mich.—Cribbing is an incurable ailment. Feed her off floor and arrange stall without corners so that she cannot crib.



Mayer's

FOR MEN WOMEN AND CHILDREN

HONORBILT SHOES

Built on Honor

Mayer Honorbilt Shoes are leaders. They lead in style and are unexcelled in wearing qualities. The styles are the very latest. These splendid shoes are not equalled by other shoes selling at the same price. The choicest leather, tough soles and the best of everything goes into them. Made with double leather toes. They are "built on honor."

Buy Mayer Honorbilt Shoes and get the greatest shoe values obtainable.

WARNING—Look for the Mayer name and Trade Mark on the sole—if your dealer cannot supply you, write to us.

We make Mayer Honorbilt Shoes for men, women and children, including "Leading Lady" and "Special Merit" brands; also Mayer "Yerma Cushion" and Mayer "Martha Washington Comfort Shoes."

FREE OFFER—Send the name of a dealer who does not handle Mayer Honorbilt Shoes—we will send free a handsome picture of George Washington—size 15x20.

F. MAYER BOOT & SHOE CO., MILWAUKEE, WIS.

Look for the Trade Mark on the sole

MILWAUKEE CUSTOM MADE

Trade Mark

SAVE-THE-HORSE



Read What Our BOOK and Treatment Does For This Man in 4 Days

Westboro, Mass., Feb. 7th, 1912. I am using my first bottle of Save-The-Horse. Last Friday my horse strained his shoulder speeding on ice; it was a task to get him home; and today he jogged as usual and insisted on playing.

From a dead lame horse to a sound jogging one inside four days seems almost unbelievable, yet it certainly is a fact. Where one can have the benefit of your book not one moment of valuable time need be lost. I shall retain the contract certificate, yet am well satisfied. Very truly, Everett L. Smith.

WE Originated the Plan of—Treating Horses by Mail—Under Signed Contract to Return Money if Remedy Fails.

CHARGES ARE MODERATE. But first write describing your case, and we will send out—BOOK—Sample Contract, and Advice—ALL FREE to (Horse Owners and Managers).

Write—As there is nothing so costly as delay.

TROY CHEMICAL CO., 20 Commercial Ave., Binghamton, N. Y.

Druggists Everywhere sell Save-The-Horse with contract, or sent by us Express Prepaid.

Howell Consignment Sale Co.

WILL HOLD THEIR

SECOND ANNUAL SALE

OF REGISTERED

HOLSTEINS

At Howell, Mich.,

May 9, 1912

We are offering 71 head of high class cattle, backed by a long line of A. R. O. stock cows of great size, with records from 18 to 22 lbs., some in the semi-official list, daughters and g-daughters of Sadievale Concordias Paul De Kol 3d, (dam 80.05, g-dam 30.64), some bred to him. Stock from or bred to such sires as Canary Mercedes Royal Climax, King Pieterie Hartog, Sir Pontiac Mechtild, Sir Fayne Johanna Albino. Catalogues April 25. Cattle tuberculosis tested.

R. E. HAEGER, Auctioneer, MARK B. CURDY, Secy, R. No. 6, Howell, Mich.

FOR SALE—One registered Percheron stallion, three years old, a good one. WM. GRAHAM, R. R. No. 42, Ada, Mich.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd, consisting of Trojan Ericas, Blackbirds and Prides, only, is headed by Egerton W. a Trojan Erica, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. A few choice bred young bulls for sale.

WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—One of the foremost dairy and bull calves for sale. Berkshire swine. All pure bred. Michigan School for Deaf, Flint, Mich.

Guernsey Bull Calves sired by half-brother of Rose of Langwater, m. 12,965 lbs.; b. f. 669.89 lbs., 2 yrs., 7 mos. Allan Kelsey, Lakeview, Mich.

HEREFORDS—71 bulls from 2 mos. to 2 years old, all reg. and of the very best breeding. Also big boned Poland China hogs. ALLEN BROS., Paw Paw, Mich.

FOR SALE—A. R. O. HERD BULL

one of the best, kind and gentle; 2 bull calves, 4 cows. Prices right. T. H. JACKSON, R. No. 3, South Bend, Ind.

Holsteins of Quality—Yearling Bull and Bull calf from A. R. O. dams and sires, whose dams have records of 27.38 lbs. (at 3 years) and 30 lbs. Best of breeding. Write for pedigree and prices. W. B. READER, Howell, Mich.

"Top-Notch" Holsteins.

Choice bull calves from 3 to 6 mos. old, of fashionable breeding and from dams with A. R. O. records, at reasonable prices. Also one 2-year-old bull, fit to head a good herd.

MCPHERSON FARMS CO., Howell, Michigan.

HOLSTEIN BULL

Just one more Grand son of

KING SEGIS PONTIAC

Ready for service.

Write for what you want in Holsteins.

REED & KNOWLES, Howell, Mich.

HOLSTEINS

I can please any body with a service bull, bulls from one to ten months old, sired by Johanna Concordia Champion. Also cows and heifers bred to him. Write me for anything you want in Holsteins.

L. E. CONNELL, Fayette, Ohio.

A 24-lb. Bull

Have Bull Calves out of—

13, 20, 23, 24-lb. Cows A. R. O.

By a 24-lb. Bull.

My herd averages 19 lbs.

If you want this kind write

BIGELOW'S HOLSTEIN FARMS,

Breedsville, Michigan.

REGISTERED HOLSTEIN CATTLE—Fine! 7 mos. R. old bull calf for sale from A. R. O. dam.

FLOYD E. JONES, R. F. D. 3, Oak Grove, Mich.

We Have fine grandsons of Pontiac Korndyke in our lot of Holstein bulls ready for service now. Prices right. Gregory & Borden, Howell, Mich.

4 Grade Holstein Cows, \$75 each.—One registered Holstein Bull, son King of the Hengervelds 3 yr., \$150. Vaughan Farm, Homewood, Ill.

Purebred Registered

HOLSTEIN CATTLE

The Greatest Dairy Breed

Send for FREE Illustrated Booklets.

Holstein-Friesian, Assn., Box 164, Brattleboro, Vt.

YPSILAND FARMS BULL CALVES.

Choicest Korndyke, Dekol and Hengerveld breeding, \$50.00 to \$100.00 Official Pedigrees on request.

COLE BROTHERS, Ypsilanti, Michigan.

JERSEYS AND DUROC JERSEYS

FOR SALE.

A few high class boars from such champion boars as Orion Chief, Instructor and King of Illinois. Also a few bred sows, Jersey bulls, cows and heifers.

BROOKWATER FARM, ANN ARBOR, MICH., R. F. D. 7.

Lillie Farmstead JERSEYS

Bulls ready for service, also bull calves and heifer calves. Cows all in yearly test. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Mich.

MARSTON FARM—JERSEY CATTLE.

T. F. MARSTON, Bay City, Michigan.

JERSEY Bull Calves, 2 to 8 mos. old, Sired by a Grand son of J. Imp. Interested Prince and from cows that produce from 400 to 500 lbs. Butter in one year. A. Newman, Marlette, Mich.

Bargain Prices on 3 Jersey Bulls and a few heifer calves.

F. W. NOTTEN, Grass Lake, Michigan.

JERSEY CATTLE and Duroc Swine. Stock for sale. State what is wanted when you write. C. A. TAGGETT, R. No. 1, Caro, Mich.

FOR SALE—Reg. Jersey Bull, 18 mos. old, solid color, from high testing dam. Price \$75. C. A. BRISTOL, Fenton, Mich.

Will Sacrifice My Young Herd Bull, 20 mos. old son of one of King Segis great daughters for \$200. F. S. KENFIELD, Augusta, Michigan.

BUTTER BRED JERSEY BULLS

CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

JERSEY BULLS, Out of Register of Merit cows, heifers, S. B. EASON, STURGIS, MICHIGAN

FOR SALE—3 yearling Holstein-Friesian bulls, also 1 bred heifer \$150 to \$200 each. Bull calves \$40 to \$60. 33 years a breeder. Photos and pedigrees on application. W. C. JACKSON, South Bend, Ind., 719 Rex St.

RED POLLED—Choice lot of females any age, also some bull calves.

J. M. CHASE & SONS, Ionia, Michigan.

Red Polled Bulls & Heifers for sale, all registered, State Fair winners. Write WELLS PARISH & SONS, R. No. 1, Allendale, Mich.

RED POLLED BULLS FOR SALE—from good milking strains. JOHN BERNER & SON, Grand Ledge, Mich.

Dairy Bred Shorthorns—Only one bull left 9 mos. old. Price \$75 cash or good note. J. B. HUMMEL, Mason, Mich.

A Fine Bull Calf For Sale

Dairy Shorthorn, Dairy bred for Generation. The kind our Grandfather had and they made good. Milk records kept of all cows. "Charlotte B" in herd with record of 1540 lbs. milk, 706 lbs. butter in one year. W. W. Knapp, R. No. 4, Watervliet, Mich. Bell Phone.

Milking Strain of Shorthorns—Three young bulls and a few heifers for sale. WARNER BROS., Almont, Michigan.

FOR SALE—10 Reg. Shorthorn Bulls, Reds and Roans, 12 to 24 months old, Scotch and Scotch-topped, \$75 to \$100 each. BIDWELL STOCK FARM, Tecumseh, Mich.

SHEEP.

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

Reg. Rambouillets—Wish to close out both sexes. All ages, low price. Farm—24 pigs E. Morrice, on G.T.R.R. and M. U. R. J. Q. A. COOK.

Oxford Down Sheep—Good Yearling Field Rams and ewes of all ages for sale. I. R. WATERBURY, Highland, Michigan.

HOGS.

Durocs and Victorias—Young sows due Mar. & April. Bred to 1st prize and champion boar. Priced to move them. M. T. STORY, Lowell, Mich.

BERKSHIRES—Two Sept. Boars and 2 Sept. gilts, will do to breed for fall farrowing, at Farmer Prices A. A. PATTULLO, Deckerville, Mich.

HERD BOAR—Probably the best Berkshire shire boar in Michigan. Litter brother to the \$400 Champion boar, Star Value. Pigs by this great boar only \$15 each. Either sex. C. D. WOODBURY, Lansing, Michigan.

Berkshires—Weaned pigs \$15, two for \$25. Boars ready for service \$25. Gilts safe in pig to Handsome Lee Jr., a Mich. State Fair Prize Winner \$35. Registered and transferred. Express prepaid in lower Michigan. C. C. COREY, New Haven, Mich.

O. I. C. Service Boars, Gilts bred for April farrow Glenwood Stock Farm, Zeeland, Mich. Phone 94

O. I. C. SWINE—Males weighing from 175 to 250 lbs. each. Also a very choice lot of gilts. GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

Improved Chester Whites—A few choice young sows, bred for late March & April farrow. Also three young boars, cheap, to close them out. W. O. WILSON, Okemos, Mich. Both phones.

O. I. C's Special Prices on spring pigs and service males, also fall pigs 300 to pick from. Shipped on approval. ROLLING VIEW STOCK FARM, Cass City, Michigan.

O. I. C's—All ages, growthy and large, sows bred. Males ready, 100 to select from. Attractive prices on young stock. H. H. JUMP, Manistee, Mich.

O. I. C. swine and Buff Rock cockerels of right type, best of breeding, price way down for quick sale. G. D. SCOTT, Quimby, Mich.

O. I. C's—I have some very fine and growthy last fall pigs, either sex, males ready for service now, pairs not akin. OTTO B. SCHULZE, Nashville, Mich., half mile west of depot.

UK Imp. Chester Whites and Tamworth swine won 245 1st at Fairs in 1911. Service boars, also sows bred for spring farrow of either breed that will please you in quality and price. Adams Bros., Litchfield, Mich.

O. I. C.—Orders Booked for Spring Pigs. C. J. THOMPSON, Rockford, Michigan.

O. I. C. SWINE—Write me for price on Spring Pigs, pairs and trios, not akin. Have a number of service males of good type. Write me describing of your wants. A. J. GORDEN, R. No. 2, Dor, Mich.

O. I. C's of Superior Quality—Nine high-class fall boars, booked for service for spring pigs. Fred Nickel, R. L. Monroe, Mich.

SERVICE BOARS—Duroc Jerseys for sale and Fall pigs, (either sex) sired by W's Choice Rule No. 30756. Prices reasonable. Write R. G. VIVIAN, R. 4, Monroe, Mich.

DUROC JERSEYS—Both sexes, all ages. Satisfaction guaranteed. Express prepaid. Herd established 1888. J. H. Banghart, Lansing, Mich.

Duroc Jerseys For Sale—Service Boars, bred sows and Spring Pigs either sex. Pairs not akin. M. A. BRAY, Okemos, Mich.

FANCY bred Duroc Jersey sows due to farrow in April. Special prices for March. Also fall pigs, both sexes; reasonable prices. John McNicoll, North Star, Mich.

30 High Class Boars ready for service. Special prices for 30 days. Plenty of growth, style and finish. Satisfaction guaranteed. Come or write. J. C. BARNEY, Coldwater, Mich.

LARGE TYPE P. C.—Largest in Michigan. Pigs sows. Weigh 100 to 175 lbs. at 4 months. My motto—Not how cheap but how good. Will pay expenses of those who come and do not find what I advertise. W. E. LIVINGSTON, Parma, Mich.

Registered Poland China Swine FOR SALE. The kind that make good. NELSON J. WYCKOFF, Summit City, Mich.

CLOSING OUT—Butler's Big Type POLAND CHINAS. Boars—We've about 20 big boned fellows left of fall farrow, weighing 150 lbs. not fat, ready for service, at \$12 and \$15 f. o. b. One big yearling at \$25. 2 Jersey bulls ready for service \$25. J. C. Butler, Portland, Mich.

POLAND CHINAS—Either sex, all ages. Something good at a low price. P. D. LONG, R. No. 3, Grand Rapids, Mich.

Poland Chinas—Bred from large type. Stock all ages, both sexes, at Farmer prices. W. J. HAGELSHAW, Augusta, Michigan.

BIG TYPE Poland China fall and Spring pigs, sows bred, Dairy bred Shorthorn bulls and calves. Prices low. ROBERT NEVE, Pierson, Mich.

15 Poland China Sows bred for spring litters, priced to sell. WM. WAFFLE, Coldwater, Mich.

POLAND CHINAS—Young sows bred for April farrow. Extra good fall pigs, either sex. L. W. BARNES & SON, Byron, Shawansee Co., Mich.

Big Type P. C. Sows bred to Big A. A. WOOD & SON, Saline, Michigan.

MULEFOOT HOGS FOR SALE. I am making list of all mule foot owners in U. S. Send your name now and get free printed matter. G. C. Kreglow, Ada, Ohio.

Lengthen Out Your Hogs—A YORKSHIRE Boar will do it. FOR SALE BY WATERMAN & WATERMAN, Meadow Land Farm, Ann Arbor, Michigan.

Lillie Farmstead YORKSHIRES.

Boars for spring service. A few bred sows. Also sows bred for August and September farrow. Pairs and trios not akin. Satisfaction guaranteed.

COLON C. LILLIE, Coopersville, Mich.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

THE VENTILATION OF STABLES.

Some people seem to think that there is a great deal of mystery about ventilation, yet it is a very simple matter when understood. The problem is not complex, and all stables can be ventilated with very little trouble.

The Philosophy of Ventilation.

When animals breathe air into their lungs they use the oxygen for purifying the blood and expel into the air again, from their lungs, as a residue, carbon dioxide, or carbonic acid gas, CO₂, and a certain amount of organic matter, which contains volatile alkaloids. These are by-products and like all by-products of plants and animals, are not fit to be used again. They have been eliminated from the system as waste products, and the animal is seriously injured if allowed or compelled to take any considerable portion of them back into the system again. While animals take oxygen from the air and expel carbonic acid gas or CO₂ as a by-product, plants take carbon dioxide, use the carbon in their growth and development and expel as a waste product oxygen. Thus the plant assists the animal and the animal assists the plant, which keeps up a balance between the oxygen and the carbon dioxide of the atmosphere.

If animals are confined for any considerable length of time in a close room the oxygen of the air becomes exhausted, and there is a surplus of carbon dioxide, also of waste organic matter containing volatile alkaloids, all of which are poisonous to the animal. Now the process of ventilation simply consists in changing this air, allowing the contaminated air in the stable which contains the waste products of the animal to go out and fresh air from the outside come in. Therefore, ventilation is simply to change the air.

Ventilation is a winter problem, and the problem of the cold climate. In the summer time or in the tropical or semi-tropical countries ventilation is something that the live stock man has little to contend with. When the weather is warm enough so that the windows are open and the doors are open there is a free circulation of air and splendid ventilation, but in the winter time in cold climates where animals have to be confined in order to keep them warm there must be some system of changing the air in the stable, otherwise animals cannot live and thrive.

Years ago people did not keep animals in the stable very much, and if kept in the stable it was not thought necessary to have the stable very warm and very tight, consequently the question of ventilation was not an important one. But as we have advanced in our system of keeping live stock we find that in cold countries it pays to keep them in warm barns. No one would think, now, of keeping horses or dairy cows in cold barns. It costs more to feed them, they are not as comfortable, and hence it pays to provide good, close, warm barns for live stock, and then the husbandman must see to it that the air is changed frequently enough in these barns so that it is kept pure and the health of his live stock maintained. Some people have an idea that a dairy cow is kept in a warm barn because she is a delicate creature, and that she cannot stand cold weather, but this is not correct. A dairy cow can stand the cold weather just as well as any animal if she is only fed a sufficient amount of food. The dairyman has found that it is profitable to keep the dairy cow in a warm barn because she will give a larger amount of milk for the food consumed. She is kept in the warm barn, not because she is delicate but because it is found more practical, and consequently more profitable to keep her and protect her from inclement weather than it is to allow her to run in the open air.

If we keep live stock in a properly constructed barn sufficiently well constructed so that they are kept warm in cold weather, and provide no means for ventilation we shall find on investigation that the coldest and most impure air in the stable is in the lower strata next to the floor, and that the warm and purest air in the stable is next to the ceiling. Cold air is heavier than warm air and consequently settles down near the floor. Carbon dioxide is heavier than air and tends

to settle near the floor. We know that carbon dioxide is heavier than air because it settles into deep wells and cisterns and sometimes into silos. People who have gone down into wells to clean them out have been overcome by carbon dioxide. It is a colorless, odorless gas. It is not safe to go into a well or a cistern to clean it out without first lowering into it a lighted lantern. Carbon dioxide will not support combustion and consequently a lamp or lantern will not burn in a strata of carbon dioxide. If the well or cistern contains carbon dioxide, this gas can be baled out as you would bale out water. Simply lower a bucket into the well and bring it up and empty it. The gas cannot be seen but nevertheless it can be baled out of the well, and it will flow off to a lower level. After it is baled out then, by lowering a lantern into the well it will burn, which shows that the gas has been removed. It also shows that it is heavier than air, or else it would not settle to the bottom of the well.

When air or any gas is heated it expands and becomes lighter and this lighter air tends to rise, consequently we find that the warmer air in the stable is up next to the ceiling. Now the problem in ventilating the stable is to remove the cold, impure air near the floor from the stable and retain the warm air up next to the ceiling because, if we allow the warm air up next to the ceiling to escape we lower the temperature of the stable and it is quite as much of a problem to keep the stable at the proper temperature as it is to change the air.

Some people ventilate their stables by lowering the windows. This allows the warm air to rush out and the pure air from the outside to rush in. This brings about a change of air and consequently ventilation but it is done at the expense of the temperature of the stable. If one does not care anything about the temperature then lowering the windows will furnish very good ventilation. In the ventilation of dwelling houses where we have artificial heat this is not a bad way to ventilate because, if the temperature of the house gets too cold a little better fire can be maintained, which assists in the ventilation, but in the horse stable or in the cow stable we have no artificial heat and it is quite important to save the warm air next to the ceiling.

Other people ventilate their stables by the hay chute which opens from above just through the ceiling of the stable. The air in the stable coming in contact with the bodies of the animals is warmed, becomes lighter and rises and goes through the hay chute out of the building, and cold air comes in around the windows, through cracks, around the doors to take the place of the warm air and thus furnishes a change of air. It gives ventilation to the stable but it is done at the expense of the temperature in the same manner as when we ventilate by lowering the windows.

The King System of Ventilation.

The late Prof. King, of the Wisconsin University, solved the problem of ventilating stables. He knew that if an opening was made near the ceiling of the stable out of doors that the warm air would rush out and the cold air would rush in. To prevent this warm air rushing out he boxed in this opening, as it were, and extended the box down on the outside of the stables to say, within a foot or two of the ground. Now this opening would allow the pure air to come into the stable up next to the ceiling but would not allow the warm air to go out because it had to go down through a column of cold air, and being lighter than cold air it could not pass out. This solved the problem of admitting pure air into a stable. This is called a pure air intake. We should have a number of these distributed all around the barn. They should not be large because if they are large we will have draughts. We want a sufficient number of them so that if the wind blows strongly from one direction these pure air intakes can be closed on that side of the barn for the time being and still have a sufficient number of them on the other sides to furnish pure air. In putting in the King system when the stable is being built, these openings can be made in the hollow wall by building small chimneys, as it were, in the wall and having them open on the inside up next to the ceiling and on the outside down next to the ground.

After solving the problem of admitting pure air without allowing the warm air in the stable to pass out, the next problem was to get rid of the cold impure air

Where Money Is Made



Part of Dr. Chas. Still's great dairy of 220 cows at Kirkeville, Mo., where the Tubular has been in constant use for many years, and has skimmed millions of pounds of milk.

In great dairies, where profits are closely watched and the finest cream is demanded,

SHARPLES

Tubular Cream Separators

Are Used Exclusively



There is good reason why dairymen wanting most money and making most money use Tubulars exclusively. They know by investigation and experience that Tubulars have twice the skimming force and therefore skim twice as clean as others, thus paying a profit no other separator can pay. And they know that dairy Tubulars contain no disks and therefore produce finer, smoother, higher quality cream than others. Many of these men have discarded other separators for Tubulars.

If you value extra profit, or believe successful men are the kind to follow, you will write at once for our FREE and Handsome Catalog No. 152

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA. Branches: Chicago, Ill.
San Francisco, Cal.; Portland, Ore.; Dallas, Tex.
Toronto, Can.; Winnipeg, Can. Agencies Everywhere

\$15.95
AND UPWARD
SENT ON TRIAL.
FULLY
GUARANTEED.

—AMERICAN—

SEPARATOR

A brand new, well made, easy running, easily cleaned, perfect skimming separator for \$15.95. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Thousands in use giving splendid satisfaction. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements. Our richly illustrated catalog tells all about it. Our wonderfully low prices and high quality on all sizes and generous terms of trial will astonish you. Our twenty-year guarantee protects you on every American Separator. Western orders filled from Western points. Whether your dairy is large or small, get our great offer and handsome free catalog. ADDRESS,

AMERICAN SEPARATOR CO., BOX 1061, BAINBRIDGE, N. Y.



Would You Save Your Thresh Bill?

Then Hire a Red River Special

IT'S up to you to say what thresher will thresh your grain this season. It's your grain. You worked hard to grow and harvest it. You pay your thresh bill. You cannot afford to hire an outfit that will waste your grain. You have worked hard for a profit and you should have it. You cannot afford to divide it with the straw pile. Your good business judgment tells you so. Every bushel that goes into your straw pile is money right out of your pocket.

You can save the amount of your thresh bill by hiring a *Red River Special* to do your threshing. It will save more grain for you. It will waste less of your time. It will do your job quicker. It will clean your grain better. It will pay you.

It is the only thresher made which uses the only true and sure method of separation. It beats the grain out of the straw just like you would do with a pitchfork.

The Big Cylinder, the "Man Behind the Gun" and the shakers which toss the straw up and beat it like you do with a pitchfork save all the grain for you whether it be wheat, oats, rye, barley, peas, rice, alfalfa, timothy or any other grass seed.

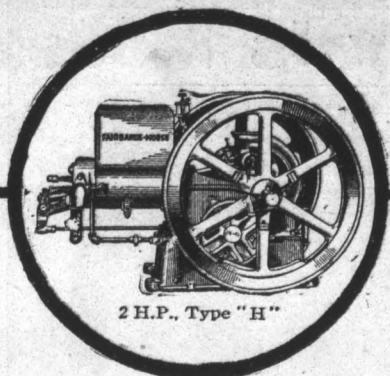
You have seen many straw stacks. They are positive proof of indifferent threshing—sometimes it is the result of careless handling but too often it is the result of work done by an incompetent, out-of-date machine, a machine which hurries the straw to the stack and does not beat the grain out of it.

The *Red River Special* beats it all out.

Have your threshing done this year by a **RED RIVER SPECIAL**. It will Save Your Thresh Bill. Write us for the proof.

NICHOLS & SHEPARD CO. Battle Creek, Mich.
Sole Builders of THE RED RIVER SPECIAL LINE—The Red River Special Thresher, N. & S. Traction
Steam Engine, Oil-Gas Tractor, Wind Stackers, Self Feeders, Weighers, etc.

When writing to advertisers please mention the Michigan Farmer.



2 H.P., Type "H"

A Fairbanks-Morse Engine will give you the kind of service you counted on when you planned to buy an engine. It fulfills every purpose for which you so much need reliable power.

Fairbanks-Morse Engines

do more. They give you years and years of low-cost service. They are absolutely guaranteed as to material, workmanship and power.

The Fairbanks-Morse is a four cycle, long stroke, perfectly balanced, smooth running engine that develops full power at slow speed. There's no racking or pounding; no overstrain to carry the load. It stands up where other engines fall down.

Engines built for operation on gasoline, kerosene, gas or low grade oils. Vertical and horizontal types.

Write for Catalog No. NA 601 and state size you need

Fairbanks, Morse & Co.
Chicago Detroit

THE ROSS SILO

The value of ensilage for dairy or cattle feeding is known to all. To get results care must be taken in selecting a silo. The ROSS SILO is absolutely guaranteed to produce the right kind of ensilage. Why? Because it is **IS THOROUGHLY MANUFACTURED** and has features that are important and found on the Ross Silo only. Trust by our experience and build a ROSS SILO. Catalog explains all.

Agents Wanted
The E. W. Ross Co. (Est. 1880)
Box 14 SPRINGFIELD, OHIO

All Metal Silos
(PATENTED)

Direct from Factory. A permanent structure adds value to your farm—not a liability, but an asset. A clean, safe container of silage. All sizes. Guaranteed for durability. You know the troubles with the other kinds. FREE CATALOG. Address nearest factory. **H. W. HARRY MFG. CO., Dept. F.** KANSAS CITY, MO., AND MASSILLON, OHIO

SILOS

EARLY BUYERS SAVE MONEY
EARN IT COST BEFORE MONEY IS PAID

HOW? KALAMAZOO LAMCO MICHIGAN

Hard Milking PLUG

For hard-milking cows or leaky teats. Prevents leakage where teat opening is relaxed and cures hard milking where due to an obstruction in the canal. Our price 35c each, or \$1.00 for a set of four. Send orders to

THE MICHIGAN FARMER, Detroit.

next to the floor. He accomplished this by building a chimney, nothing more nor less, at any convenient location in the barn, having it open at the bottom like a fireplace and extending up through the stable, up through the storage part of the barn and out through the roof, and the higher above the roof the better, because the taller a chimney is the better it will draw. This chimney is called a ventilating shaft. It should be made tight and can be made so by double boarding with tar paper between. Anyone knows who has had experience in fireplaces that if there are loose bricks or cracks in the chimney it does not draw well, and so it is with a ventilating shaft. Now, this chimney, or that portion of it in the stable is warmer than the cold air outdoors and warmer up next to the ceiling than the cold impure air near the floor, and besides, the whole of the air in the stable is warmer than the air outdoors and it therefore tends to rise and go up the ventilating shaft, and this air passing up the ventilating shaft causes an influx of pure air through the pure air intakes, making a circulation of air in the stable.

By knowing the number of animals kept in the stable and the capacity of the stable in cubic feet it can be accurately figured out how large this ventilating shaft should be. A ventilating shaft of 2½ feet square is sufficient to ventilate a stable containing 50 head of animals.

In order to have this system work the stables should be well constructed. If you have openings around the windows or the walls are not tightly built it does not work well. One must control the air currents. When the stable door is open in the day time the ventilating shaft does not work as well as when the door is closed. Some people have claimed that this system did not work for them when the only trouble was that their barn was not properly constructed, it was not tight, there was ventilation without this system, air could pass in and pass out by other means. But if the stable is tightly celled above, if the walls are tight and the windows well fitted this system does work, and there is a constant change of air. I have seen stables with this system installed where, during the coldest weather when the thermometer was down below zero, and a fierce wind blowing, the temperature of the stable was not below 40 degrees and yet there was a constant change of air and perfect ventilation.

Some have an idea that this will work all right in a modern constructed barn but that it cannot be adapted to old barns. This is a mistake. If the old stable is not warm, if it is not properly constructed, it can be papered and sided and made tight and then the ventilating shaft and the pure air intakes can be installed just as well as in a new barn.

It is better to have one large ventilating shaft in a stable than to have two for the very same reason that it is better to have one fireplace chimney in a room than two, for if there are two chimneys then sometimes we get a counter current and have the cold air coming down one ventilating shaft and out the other. While this may assist somewhat in ventilation it takes the warmth out of the stable. Then, too, the ventilating shaft should not be too large. If it is we may have counter currents in the same ventilating shaft, the cold air coming down on one side of the shaft and the warm air of the stable going up the other side. The size of the ventilating shaft should be in proportion to the work required of it. It should be well above the roof so as to have a good draw.

Friendly Warning To Silo Buyers

Facts You Should Know About the Harder Patent Before You Invest in a Silo

In response to the hundreds of inquiries received regarding the Harder Patent, and to remove all doubt and avoid misunderstanding, we make this announcement to give you the plain facts so you can settle the silo problem in a safe legitimate manner and not innocently invest your money in a silo that infringes this patent and makes you liable.

The United States Courts

Namely, the United States Circuit Court of Appeals, which is the Court of last resort in Patent Cases in the case of Ryders vs. Schlichter; The United States Circuit Court, Southern District of New York in the case of Ryders vs. Townsend, a user of an Economy Silo; The United States District Court for the Eastern District of Wisconsin, United States Silo Company vs. Beaver Silo and Box Manufacturing Company; have held the Harder patent good and valid and enjoined the manufacture of the infringing silo in these suits, thereby establishing our right to the Harder patent, as well as the right to stop by injunction all infringement, by prosecuting the manufacturers as well as the users of infringing silos.

What The Harder Patent Is

To clearly explain this, we herewith quote from the original Harder patent, the claim on which the United States Government granted the patent and which the Courts have upheld in every case which has been brought under this patent.

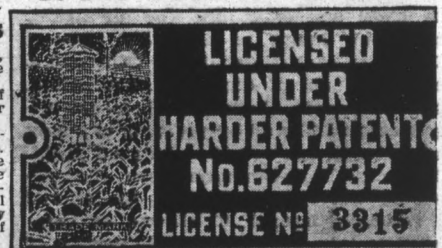
The Harder patent covers: "A silo or tank having a continuous opening from top to bottom, braces between the edges of the walls forming the opening, door-sections for closing the opening and reinforcing strips for the door sections substantially as described."

The Patent Law Says

That not only the manufacturers of patented articles are liable—but the innocent purchaser as well, and as we shall have to protect our property against infringers, we must prosecute all manufacturers who infringe, and if they are not financially responsible we must exercise the right the law gives us to obtain satisfaction from the

owners or users of the infringing silos, as we are giving all silo purchasers fair notice by fully explaining the situation to them.

This Harder License Plate Is For Your Protection



We have licensed under the Harder patent only the best and most reliable silo manufacturers in the country and for the protection of the Harder patent and these manufacturers, as well as to protect silo purchasers, we have supplied all such manufacturers with license plates like that shown herewith. All licensed manufacturers give a license plate to purchasers of their silos, thereby insuring the purchaser absolute safety against any possible infringement proceedings.

Who The Licensed Manufacturers Are

Lack of space prevents us from giving the names of all licensed manufacturers, but in order that you may get this information if you desire it, together with all facts about the Harder patent, including Court decisions, etc., we have published a special **Patent Bulletin** which gives all the facts, and this bulletin you can get free of charge by addressing

United States Silo Company,

Anderson, Indiana,

or

Lincoln, Nebraska.

You get a Quadruple Guarantee with J-M ASBESTOS ROOFING

Briarcliff Farms, Pine Plains, N. Y., Robt. W. Gardner, Architect. Buildings covered with J-M Asbestos Roofing.

It is guaranteed, by its *all-mineral* (Asbestos and Trinidad Lake Asphalt) construction, to be fire-proof, unaffected by gases, acid fumes, salt air, heat or cold, and to never need coating, gravel or other protection.

It is guaranteed, by the wonderful insulating quality of the Asbestos, to make buildings cooler in Summer and warmer in Winter.

It is guaranteed, by its record of over a quarter century of wear on buildings in all parts of the country, without coating, to cost less per year of service than any other roofing.

And it is guaranteed to give entire satisfaction by our half century of experience in the manufacture of roofings and our reputation to never break a promise or shirk an honorable obligation.

J-M Asbestos Roofing is suitable for any kind of building, anywhere. If your dealer doesn't sell it, send your order to our nearest branch.

Write for illustrated Book No. 1540 and we'll also send you a piece of the curious Asbestos rock from which we make this roofing, theatre curtains, etc.

H. W. JOHNS-MANVILLE CO.

Baltimore	Chicago	Detroit	Milwaukee	Omaha	San Francisco
Boston	Cleveland	Indianapolis	Minneapolis	Philadelphia	Seattle
Buffalo	Dallas	Kansas City	New Orleans	Pittsburgh	St. Louis
		Los Angeles	New York		

For Canada—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED.
Toronto, Ont. Montreal, Que. Winnipeg, Man. Vancouver, B. C. 1614

CALVES WITHOUT MILK

Write for Free Booklet

"How to Raise Calves Cheaply and Successfully Without Milk"

Contains full information and complete feeding directions for using

Blatchford's Calf Meal—The Perfect Milk Substitute

Three or four calves can be raised on it at the cost of one where milk is fed.

No mill feed. The only calf meal manufactured in an exclusive Calf Meal Factory

Established at Leicester, England, in 1800.

BARTLETT & CO., Jackson, Michigan.

DE LAVAL CREAM SEPARATORS

The Best of all dairy investments
Save \$10. to \$15. per cow every year

The De Laval Separator Co.

NEW YORK CHICAGO SAN FRANCISCO
SEATTLE MONTREAL WINNIPEG

POULTRY AND BEES

CONVERTING EARLY COCKERELS INTO BROILERS.

For those who hatched chicks early, the marketing of the cockerels and culls can be made very profitable if they are properly fattened and sold as broilers. Some chicks, if confined in small space, will put on fat readily while others will gain practically nothing in weight, caused by their constant worry and restlessness from being confined. This applies particularly to those that have had free range. Up to this time, however, few have had such range, but if there are any, let them have the run of a small yard. They must not have large runs, as too much exercise will tend to develop muscle and not fat, consequently, the flesh will be hard and not soft and tender as it should be.

The feed for fattening should consist wholly of soft, ground feed. This is more easily digested, and weight will be put on more quickly and with a smaller amount of feed. A good fattening ration consists of equal parts by weight of ground oats, corn meal and middlings, with about 10 per cent of beef scraps added. Whole milk or skim-milk is preferred to use for mixing, but in the absence of these water may be used. Moistened until the mixture, when pressed together, will form in balls but will readily fall apart. Feed twice a day all they will eat. They should be stuffed on this fattening ration until they show an inclination to take less, when they should be marketed, as they will gain very little after this.

Crate fattening may be resorted to if the chicks have previously been confined in small runs, as they will not mind the confinement in crates as much as free range chicks do. The soft feed should be given in troughs placed outside the coops, as the small space in which the

and the runs must be kept as clean as possible. Keep their houses clean and dry. Although ducks are fond of water, they must have dry quarters at night. Use plenty of straw in the roosting houses, and change it often.

When hot weather arrives shade and plenty of clean drinking water must be provided. The hot rays of the sun will claim many a promising duckling if there is not abundant shade in the yards. Don't keep ducks, either young or old, with other poultry if separate yards can possibly be provided. Ducks always thrive best when they can have a yard to themselves.

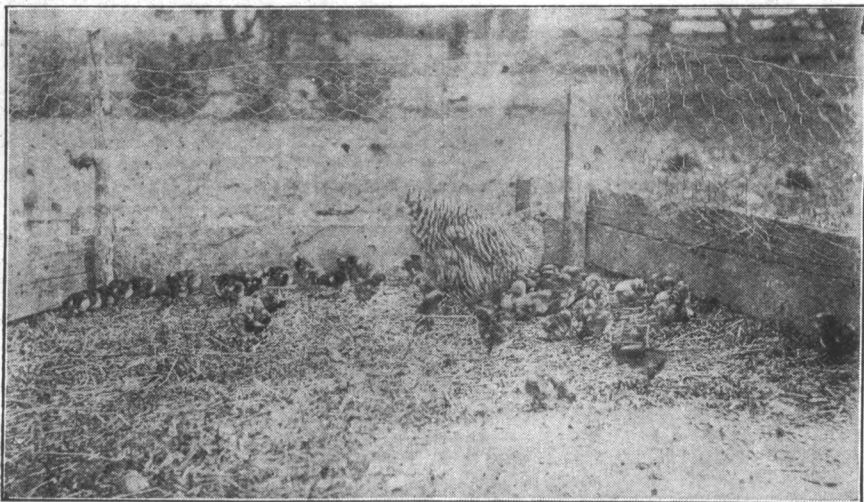
Indiana.

W. F. PURDUE.

HANDLING AND QUIETING BEES.

Bee-keeping would be much more general, and many persons would be glad to start keeping bees, were it not for the natural dread of the sting. The power of stinging is the means of defence, and the only one given to bees for the protection of their stores. They are seldom inclined to use their weapons unless danger appears imminent but when it so looks to them they become fierce combatants. Bees under and circumstances find it impossible to resist temptation to feed greedily on liquid sweets if at all within reach, and when their honey bags are full they seldom sting, unless they are hurt. They also, when frightened, make at once for their stores of honey and fill themselves. It will therefore be understood that to make bees comparatively harmless we have only to alarm them into gorging themselves with honey.

In many harmless ways we can so frighten them. The most usual and useful way is to drive a few puffs of smoke into the hive. Brown paper or old rags answer the purpose, but the best smoke for bees is that from decayed ash wood. Care must be taken not to overdo the operation by using too much smoke and so stupefying the little creatures. A good bee smoker is most necessary, in fact it is



First Incubator Hatch of 70 Chicks, made by Mrs. S. S. Farrell, of Barry County, and their Natural Outdoor Brooder.

chicks are confined will not permit of the troughs being inside. The coops are preferably covered to keep the chicks in the dark, where they will remain more quiet. The cover should be thrown back when they are fed, three times a day, at which times they should be allowed to have all the feed they will eat in about a half-hour.

When ready for market the broilers may be sold alive or dressed as is most profitable and convenient to the grower.

Indiana. O. E. HACHMAN.

MORE ABOUT FEEDING YOUNG DUCKS.

As the ducklings grow, cooked vegetables, bran, corn meal, middlings, etc., may all be used in the feed. For best results vary the ration as much as possible and don't confine them to one kind of feed for long periods. Ground grain should always be moistened with milk or water, and a plentiful supply of drinking water ought to be within reach. In rearing ducklings much depends upon the water, for it sometimes seems that a bucket of water is more essential than feed, as they drink frequently while eating and at other times also. Supply fresh water several times each day.

Ducklings cannot be raised upon whole wheat, cracked corn or chick feeds which may give excellent results when fed to chicks. If any of these are used they should be thoroughly cooked.

Give all feed in troughs and don't allow any to remain from one meal to another. Sour feed will usually have a disastrous effect. The feed troughs, drinking vessels

indispensable. Having driven a few puffs into the hive, allow the bees some seconds in which to fill themselves from their stores. Then the hive can be opened. If desirous of removing frames and examining them closely, blow a little more smoke into the hive. Then move the division board on one side so that frames can be taken out. Take hold of the first frame by the shoulders and carefully lift it out. Bring it to the level of the face and examine it. When turning the frame to look at its other side, lower your right hand and raise the left until the top bar of the frame is perpendicular. Now give the frame a half turn to the right, lower the left hand and raise the right so as to bring the top bar into a horizontal position. Be very careful to keep the comb perpendicular, for it may, by its weight, fall out of the frame. The first frame can now be hung on the comb stand, a most handy and useful appliance, and the other frames examined in the same manner. In replacing frames, do it slowly so as to permit bees, upon feeling the slightest pressure, to creep from under them before they are hurt. When frames and division boards have been returned to their proper places, blow a little smoke on the top, and close the hive. During the examination give the bees smoke now and then to preserve order and quiet.

Canada.

W. R. GILBERT.

Market or otherwise remove the males from the flock as soon as no more eggs for hatching are wanted. They have no influence on the number of eggs produced, and infertile eggs keep much the best, especially in warm weather.

Look for This Jeweler

The sign shown here is usually displayed where SOUTH BEND WATCHES are sold. You'll see it only in high-class retail jewelers' stores. Its significance is this—

A South Bend Watch will keep accurate time even when frozen in a cake of ice. This ability is built into the South Bend by the highest-priced watch skill in the world.

A full year is often spent in the making of one South Bend Watch. Each is inspected 411 times. Each runs accurately for 700 hours before it leaves the factory. No watch can be more carefully prepared for your pocket.

Yet that doesn't satisfy us.

We Sell Only Through Retail Jewelers

These men are alone able to properly regulate a watch to the buyer's personality. And that is necessary, as good watches run differently for different people.

This is a fact, but it's a long story to tell in an ad, so we'll leave that to the jeweler himself.

Ask your jeweler to explain it. Ask him to show you a South Bend Watch.

"The South Bend" Watch

You can get a South Bend Watch at prices ranging up to \$75 (in solid gold case).

Write for the free book, "How Good Watches Are Made." It is interesting from cover to cover.

Glennwood, Iowa, Sept. 13, 1911. South Bend Watch Co., South Bend, Ind. Gentlemen: This is to certify that some four years ago, while in business at Ackley, Iowa, I sold a 15J 18S South Bend Watch to Wm. Johns of that place, which ran so close to time that after fourteen months it was impossible to detect a second's variation in its rate. Mr. Johns will verify my statement.

Yours truly, F. C. MACMANUS.

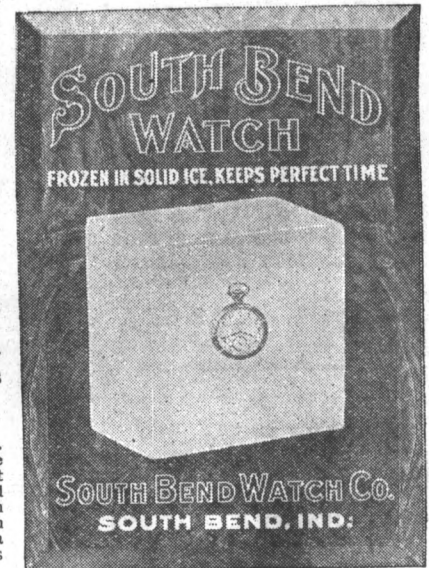
The South Bend Watch Company

41 Market Street

(95)

South Bend, Indiana

Ask to see South Bend Watch Cases in which we mark the amount of gold they contain.



BROWN SEAL PAINT.
Ready-Mixed House & Barn
Highest Quality
over sold direct to the consumer. All middlemen's profits saved.
Write for FREE Color Card, Price List and Booklet which tells the whole story.
YUMA PAINT CO.
834 E. Monument Ave., Dayton, O.

\$7.55 Buys Best 140-Egg Incubator
Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water brooder. \$4.95. Best ordered together. \$11.50. Freight prepaid (E. of Rockies). No machine. at any price. We ship quick from St. Paul, Buffalo, Kansas City or Racine.
are better. Satisfaction guaranteed. Write for book today or send price now and save time.
Belle City Incubator Company, Box 14 Racine, Wisconsin

Indian Runner Duck Eggs. Flock of 28, average 205 each order. Also S. C. W. Leghorns. Price for each \$1 per 13; \$3 per 50; \$5 per 100. Wm. P. Booth, R. 3, Orland, Ind.

INDIAN Runner Duck Eggs \$1.25 per 13; \$6 per 100; S. C. Rhode Island Reds, \$1.50 per 13; \$5 per 100. Montreux Poultry Farm, R. 4, Blissfield, Mich.

BLUE BELLE BARRED ROCK pullets and hens \$1.50 and \$2. Eggs \$1.50, \$2 & \$3 a setting. Send orders for baby chicks. LAKE RIDGE FARM, Levering, Mich.

Barred Rock Eggs—Great Laying Strain and prize winners. In eggs, \$1.50; \$3; \$5 per 100. 100, \$7. W. C. Coffman, R. 6, Benton Harbor, Mich.

CHOICE S. C. B. ORPINGTONS—Cockerels all sold. Eggs after March 15th, \$2 per 15. Otis Greenman, R. 4, Bellevue, Mich.

Crystal White Orpingtons—KELLERSTRASS strain direct, prize winners, bargains in breeding stock, eggs half-price after May 15th. Send for mating list. Order now. Mrs. Willis Hough, Pinecrest Farm, Royal Oak, Mich.

EGGS—Prize Winner Stock—S. C. Buff & White Orpingtons, 15 for \$3; Pekin Ducks and Pearl Guinea II for \$1. J. E. BACON, Boyne City, Mich.

EGGS—Light Brahma, Barred Rock, and White Wyandotte, \$1 per setting, \$1.50 for two settings. E. D. BISHOP, Route 38, Lake Odessa, Mich.

Eggs for Hatching from Standard Silver, Golden and W. Wyandottes, 15 for \$3; \$2; \$3.45. Browning's Wyandotte Farm, R. 30, Portland, Mich.

For Sale—S. C. Buff Orpington Eggs, Fine Stock. 15, \$2; 30, \$3.50; 50, \$5. A few last fall cockerels, not full grown. Weight about 6 lbs. H. B. ATWOOD, Lansingburg Michigan.

HARTFORD POULTRY YARDS, HARTFORD, MICH. S. C. White Orpington Cockerels, \$3.00 to \$10.00. Pure bred S. O. Blk. Minorca incubator eggs, \$5.00 per 100.

Prize Winning Barred Rocks, R. I. Reds, Mammoth Pekin and L. Runner ducks. Stock for sale. Eggs \$1.50 per set. Utility \$5 per 100. EMWOOD FARM, R. R. No. 13, Grand Rapids, Mich.

R. C. R. I. REDS—Beautiful large dark birds. Fine S. C. W. Leghorns. Eggs 15, \$1.25; 50, \$3. 100, \$5. Stock for sale. MRS. L. H. MIER, Paris, Mich.

MOTTLED ANCONAS, Beautiful, nonsetting, persistent layers of large eggs. \$1.00 for 15 eggs. WILL W. FISHER, Watervliet, Mich.

EGGS Buff & White Orpingtons, Buff & White Leghorns, Barred & White Rocks, R. I. Reds and Black Minorcas. Circular ready. H. H. KING, Willis, Michigan. **EGGS**

R. C. & S. C. RHODE ISLAND REDS—Eggs \$1 per 15, and cockerels. BUELL BROS., Ann Arbor, Mich.

R. C. B. Leghorns—Kulps strain. Eggs \$4. 100. MRS. EMMA MASON, Gobleville, Mich.

LILLIE FARMSTEAD POULTRY B. P. Rocks, R. I. Reds, and S. C. W. Leghorn eggs for sale. 15 for \$1; 25 for \$1.50; 50 for \$2.50. COLON C. LILLIE, Coopersville, Mich.

R. C. Br Leghorns Mammoth Pekin Ducks, won at Detroit 1911. Eggs \$1 per setting. CLAUDIA BETTS, Hillsdale, Mich.

S. C. White Leghorn Cockerels—Finest utility fowls strain. Good, strong, vigorous fowls, \$1.50-\$2.50. GEORGE E. LAPHAM, Rt. No. 3, St. Johns, Mich.

S. C. Buff Orpington Eggs and baby chicks at reasonable prices. Write for price list. T. D. CONRAD, Grabbill, Ind.

STANDARD Bred R. I. Reds, Rose & Single Combs, 30 eggs \$1.50. Wonderful layers. Red Turkey and Afr. geese. W. T. FRENCH, Ludington, Mich.

WHITE WYANDOTTE EGGS from prize winners. S. C. White Orpingtons; quality the best \$3 for 15. J. D. ST. JOHN, HAYDEN, INDIANA.

White Rock, S. C. White Orpington and Indian Runner Duck eggs at farmers' prices. Circular free. G. N. BURT, Box B, Oakwood, Ohio.

R. C. R. I. R. eggs, \$5, \$2 and \$1. Pencil Indian Runner Duck eggs, pure white egg strain, \$1 for 13. COY G. BRUMM, Nashville, Michigan.

S. C. Rhode Island Reds of quality. Eggs from first pen headed by Red Cloud \$2 per 15; Range \$1 per 15; \$5 per 100. E. J. MATHEWSON, Nottawa, Mich.

Single Comb Black Minorcas. R. W. MILLS, Salline, Mich.

SINGLE COMB BROWN LEGHORNS. Six grand exhibition matings, two utility pens. Eggs and stock. Send for catalogue. My motto—a satisfied customer. Charles Ruff, Box M. F., St. Clair, Mich.

WYCOFF STRAIN S. C. White Leghorn Eggs and day old chicks. Write for circular. MAPLE CITY POULTRY PLANT, Charlotte, Mich.

WHITE Wyandottes—The most beautiful and useful of American breeds. Send for 1912 circular. A. FRANKLIN SMITH, R. F. D. 9, Ann Arbor, Mich.

DOGS.

30 Pure Bred Fox Hound Pups ready to ship in May hounds. Send stamp. W. E. Lecky, Holmesville, Ohio.

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

You Spend Two-Thirds of Your Life in Shoes. Why not have them Comfortable, Pleasing in Appearance and Serviceable?



Rouge Rex Elkskin Shoes

are made of the best leather by skilled workmen, over full, roomy lasts, insuring durability, comfort and satisfaction.

"Get into a Pair and See How they Wear"

The quality, style and fit of "Rouge Rex" Elkskin Shoes make them the most popular summer footwear on the market for the man who works. Ask your dealer for "ROUGE REX," made from Wolverine Leather, well put together. Look for the Indian Head Trademark on the sole of the shoes and in colors on the box.



HIRTH-KRAUSE CO.

Hide to Shoe
Tanners & Shoe
Manufacturers
Grand Rapids
Michigan

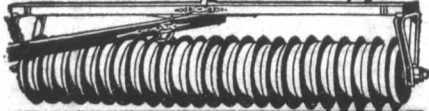
Free Book Tells How to Cut Your Barn Work In Half

SEND name on postal! Let us prove up! Read how the work and time of barn cleaning are cut in half! See what the James Carrier means to you in extra profits, healthier stock, all the manure value! Get the **BIG PROFITS**—don't waste money. Read astounding facts that put money in your pocket—all in our free book! If you're planning to build or remodel write personally to Mr. James. He will give you free barn plan service. Mail postal for two free books and we'll also tell you how to get a free copy of "Helpful Hints for Barn Builders." Address postal to **NOW** James Mfg. Co., 6831 Cane St., Ft. Atkinson, Wis. (Formerly Kent Mfg. Co.)



Write!

DUNHAM Pulverizer



SEND FOR FREE CATALOG Dunham Pulverizers, Packers and Rollers are made suitable to every soil formation. Single and double gang pulverizers. Flexible and jointed-frame pulverizers. Combination surface and sub-surface packers. All steel land rollers. Pipe and T Bar Rollers. An average increase of 5 1/2 bushels per acre by using the Dunham. On sale near you. Shall we tell you where? **THE DUNHAM CO.,** 20-00 First Ave., Berea, Ohio, U.S.A.

FARMERS' CLUBS

THE FARMERS' CLUB AS A UNIT FOR CO-OPERATIVE ENTERPRISES.

In the last issue appeared a brief history of the Farmers' Club movement in Minnesota. The extension bulletin from which this history was taken also gives some interesting information regarding different phases of the work done by these Clubs. One of these organizations, numbering among its numbers a far-sighted leader who took the initiative in the movement for local co-operation, arrived at the conclusion that before a million, or even a thousand, farmers could agree to stand together it was first necessary to teach the farmer to get along and agree with his neighbor just across the road, and before it was possible to get a township or a county to organize and maintain an organization, it was first necessary to get a neighborhood to co-operate in an organized manner. In this effort toward co-operative organization an attempt was made to begin at the bottom and work up, instead of undertaking to begin at the top as is common with other co-operative enterprises.

As the foundation to the movement a neighborhood organization, consisting of but four members, took the initiative. It grew in a few weeks to its limit of twelve members or twelve families. This organization meets once each month at the home of some member, and having but twelve members this means one meeting each year for each family. There is an average attendance of from 30 to 50 people, as many as the average farm home can conveniently accommodate at once, which is the reason for limiting the membership to twelve. These meetings are much the same in character as those of the average Michigan Farmers' Club, being largely practical in character, with the usual social feature of such Club meetings.

The practical side of the work is emphasized. A list of "wanted," and "for sale" articles is read at each meeting, thus affording an opportunity to purchase and dispose of many commodities. Another line of practical work is the keeping on file of a list of varieties of grains, fruits and vegetables found best adapted to the locality. Also the products of the farms of the members have been largely standardized. For instance, the members have agreed to breed Guernsey cattle, Yorkshire hogs and Leghorn hens, and to grow Carman No. 3 potatoes, thus hoping to make the township famous for these special products.

Other evidence of the practical work done by the Club was the calling of the first good roads meeting held in the section. It was also instrumental in getting a local Farmers' Institute. The Club also took an exhibit to the county fair, capturing the first prize for two successive years and in addition it proved of great benefit to the members in an educational way.

Thus, while no large co-operative enterprises have been undertaken by the organization, the members have co-operated to their mutual benefit in a small way by directing their energies along similar lines in a united way, and it is entirely probable that this community will prove to be a center of larger co-operative enterprises in future years. This line of work, while not dissimilar to that taken up by many Farmers' Clubs in Michigan, yet contains a lesson for many Clubs which have not done much in a practical way toward the betterment of farm conditions, other than social, in their respective communities, for which reason the work of this organization has been given publicity in this department.

CLUB DISCUSSIONS.

Discuss Practical Topics.—The North Shade Farmers' Club met in March at the home of Solomon Spiece. The Club was called to order by President Wm. T. Hill. After a song by the Club and the transaction of routine business the Club adjourned for dinner. The afternoon session opened with a song by the Club and invocation by Rev. Clapp. "General or Special Farming" was the first subject; discussion opened by J. H. Stonebrook and James Cusic, and was followed by general discussion. "How to Interest Children in Home Duties." Discussion was opened by Mrs. Nettie Todd in the absence of Mrs. Bond, who was assigned the topic. Reading, "The Quail as the Farmer's Friend," by Mrs. Salisbury, was followed by a discussion. It was moved that the Club go on record as favoring more stringent laws for their protection. An interesting paper on "Our Nation, its Problems and Progress," was read by Valois Todd.

GRANGE

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

A GRANGE FLY CAMPAIGN.

How astonished the Founders of the Grange would be if they could see certain of the tasks that are being undertaken in the name of the organization which they promoted! They would have demonstrated to them that "times change and we change with them" and realize something of the audacity of human courage! These are the thoughts occasioned by receipt of a postal from a bright Lecturer of one of our best Granges, which reads:

"I am much interested in the crusade against the house fly and will try to have Grange and our local schools assist in the extermination of the fly. But I realize how very inadequate one Grange and a few schools would be. Now, could you not urge this matter upon all the Granges? A price of three or four cents per cupful would furnish spending money for many school children. I wish to start it here before the fly comes."

Very glad, indeed, am I to pass the word of this plan along through the Michigan Farmer. It is not so visionary a scheme as we may think before we apply our thinkers to it in earnest. Besides, there are practical suggestions in this plan. This Lecturer proposes a union of local organized forces and she also suggests enlistment of children as individual fighters through payment of a slight sum for their work. A Grange may hope to accomplish considerable in its locality. The educational feature of such a campaign alone is worth while.

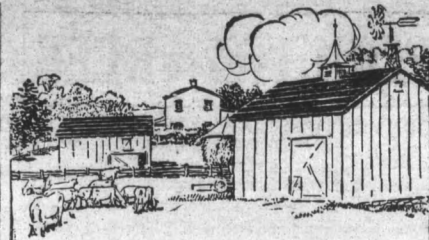
In the April Woman's Home Companion is an account of how one village, by co-operative enthusiasm and effort, captured 100,000 flies in one day. "There was no effort made, of course, to absolutely exterminate the fly, because such a result was realized to be out of the question, but * * * to give the people an idea of how far they could go in solving the fly problem if they got together and worked to that one end."

The educational result of a fly campaign will be its best result always. People will come to see how to avoid unconscious encouragement of flies. Our regular papers, besides bulletins and leaflets to be had for the asking, afford plenty of hints and results of other fly campaigns that will stimulate such effort. There is no reason in the world why even a single Grange should not accomplish much in this direction in one season. The abolishment of breeding spots; the capture of flies outside of houses; the screening of enterways, and the keeping of poison for those that do get in, these four things, if ingrained into our farm and home regulations, will go a long way toward ridding us of the fly menace.

This is a splendidly practical and feasible undertaking for a Grange to champion. All honor to the Grange that has begun early and bids others to follow suit. Last spring we did a good deal of work under the head of the "one improvement plan." Why not start a fly campaign in each Grange neighborhood as the special "improvement" for 1912?

JENNIE BUELL.

Calhoun County Pomona met at Athens, April 11. An exceedingly interesting program was given and everyone felt that the day had been most profitably spent, though the weather was perfect for work on the farm. The principal speaker of the afternoon was John C. Ketcham, of Hastings, who in a very inspiring, forceful address gave his audience many things to think about. He said the farmer should face the questions, "Does farming as a business pay for the amount of capital invested, and for the work and time spent?" If the farmer deals fairly with figures, he wants to estimate his own living as a great point in his favor. Mr. Ketcham urged the co-operative plan of buying and selling, and the labeling of farm products with the producer's own mark. He urged the enrichment of community life by the improvement of surroundings and the broadening of the institutional interest in the school, the Grange and the church. Mrs. Inez Adams, of Battle Creek Nature Club, gave a very interesting talk on "Birds and their value to agriculture." Colored life-sized plates of the birds mentioned were shown, and the value of birds as destroyers of insects and obnoxious weeds, rodents and other farm pests were points brought out. She also told interesting facts concerning their migrations and nesting habits, and urged the protection of the birds by better game laws, and by the provision of nesting places and food supplies in winter. Recitations were given by O. Adams, P. M. Voyce and Mrs. C. D. Kellogg, and musical numbers by members of Athens Grange. During the morning session a brief report of the State Round-Up Institute was given by A. W. Russell.



Know the make-up of roofing you buy

On the make-up depends how long it will last, and how little it costs you in the end.

Genasco

THE TRINIDAD-LAKE-ASPHALT

Ready Roofing

is made of genuine asphalt, produced by Nature in Nature's slow sure way. It has the lasting life that gives it greatest resistance to weather.

Genasco costs about the same as ordinary roofings in the beginning, and costs less in the end, because it lasts so long.

Comes in rolls with either mineral or smooth surface. Ready and easy to lay. Ask your dealer for Genasco. Write us for the valuable Good Roof Guide Book and samples—free.

The Kant-leak Kleet, for smooth-surface roofings, does away with cement and prevents nail-leaks.

The Barber Asphalt Paving Company

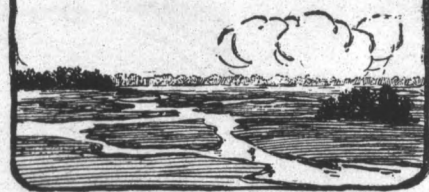
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

Philadelphia

New York

San Francisco

Chicago



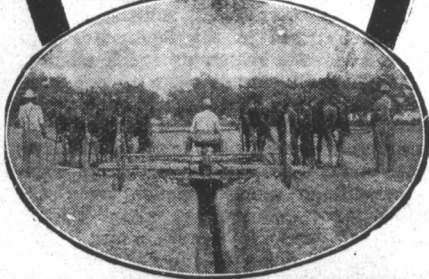
Drain Your Land for 4 cents a Rod

We guarantee this horse power Cyclone Tile Ditching Machine cuts tile ditch, 10 inches wide, 24 inches deep, at rate of 300 rods a day. Finished ditch cut, tile laid and covered, for 3 or 4 cents a rod in average soil. Read our free book giving information from U.S. Govt. authorities on Drainage.

Cyclone Tile Ditching Machine

pays for itself in first 20 to 40 acres you drain, according to spacing of laterals. Increased crops all profit. Make hundreds of dollars on your own ditching, and cutting ditches for neighbors. Anyone who can plow can operate successfully. Write for free book showing The Money Making Way of Draining Land.

Jeaschke Manufacturing Co.
Box 117 Bellevue, Ohio



A ROOF THAT IS PROOF AGAINST WIND LIGHTNING RAIN

We manufacture the world's best Steel Roofing in Roll Cap. Pressed standing seam and V crimp. Galvanized Conductor Pipe, Eave Trough and Pittings. It will pay you to send for catalog and prices. Free.

THE NILES IRON & STEEL ROOFING CO., Niles, O.

Please mention the Michigan Farmer when writing to advertisers.

PRACTICAL SCIENCE.

THE COMPOUNDS PRINCIPALLY CONCERNED IN ANIMAL NUTRITION.

BY FLOYD W. ROBISON.

The organic compounds of greatest importance in animal nutrition are: First, the proteins; second, the carbohydrates, and third, the fats, stated as above, in the order of their prime importance.

Protein.

As nitrogen is the element most essential to plant growth, so protein is the compound most essential to animal life. The peculiarity of protein lies chiefly in the fact that it is the compound in plant substances which contains this element nitrogen which has been shown to be so essential to plant growth. The analysis of typical proteins from different sources has proven its composition to consist approximately in every case, of 16 per cent of the element nitrogen. In other words, in every pound of protein from whatever source it may come, we find approximately .16 of a pound of nitrogen. This fact has been the basis upon which chemists have estimated the amount of protein present in the various food materials. By ascertaining upon analysis the percentage of nitrogen present and then by multiplying this factor by 6.25, the total weight of the compound protein has been thus ascertained.

Protein the Essential Constituent of Protoplasm.

Protein is of first importance because it seems to be the essential constituent of protoplasm which is the vital portion of the cell itself. There is no movement of the body which is not associated with the destruction of protein. Consequently with every vital effort, demand is made upon the supply of protein in the body. This indicates at first hand why protein is absolutely necessary in the diet of the animal. The substance protein contains all of the constituents which are necessary for the support of life, consequently an animal may live indefinitely with no other food supply than pure protein material. This is evidenced from the fact that certain carnivorous animals, such as the dog, have been known to live almost indefinitely on lean meat, which is a typical protein body. The gluten of flour is likewise a protein body and in appearance and other physical characteristics at least is very similar indeed to the principal protein body of the blood, fibrin. Gluten being therefore a protein body existing in wheat flour, is characterized by the element nitrogen which is one of the elements which go to make up the compound ration. Associated with nitrogen in protein are carbon, hydrogen, oxygen and sometimes sulphur and phosphorus.

All Compounds of Nitrogen Have Not the Same Food Value.

There are a great many different compounds containing nitrogen which come under the general classification of protein but which vary materially in their food properties. The gluten of flour we have said is a typical protein body. In addition to its being classed as a protein body it is one of the protein bodies of greatest importance in that it, itself, is the direct source of nourishment to the animal body. Associated with gluten in flour are other bodies containing nitrogen which are not directly of value in furnishing nutriment to the body. This class of compounds is called the amino bodies. They are of less complex structure than are such compounds as gluten, and seem to represent the intermediate stage between the elements which furnish food for plants and the complex compounds which furnish food for animals.

Amino Bodies Not so Valuable as True Proteins.

For sake of clearness we may characterize these amino bodies as being organic compounds which have not been completely built into the complex protein bodies. For sake of clearness, let us illustrate. A house is not suitable as a dwelling until it is completely built, which means generally that the skeleton or framework has been concealed and the finishing touches which go to make it habitable in a large degree have been put on. We may compare the gluten of flour, lean meat, the white of an egg, and other bodies of like nature to this completed building. The amino body which we have attempted to describe may be compared to the structure half built with the skeleton or framework plainly visible and clearly in an uninhabitable condition. In the amino body,

therefore, the elemental structure is more plainly discernible than in the complex protein or proteid body and being only partly built, if you will, it is of limited value as a food material. Consequently when a plant or a food material is analyzed, it is desirable for the feeder to know whether the protein that is contained in the feed consists in whole of the completely built protein body, such as gluten, or the only partly built protein body such as the amino group, because its food value depends in a large degree upon the relationship existing between these two.

In Henry's Feeds and Feeding, the distinction among these different groups is emphasized by calling the total nitrogen the protein group, crude protein, and the other two groups are called, first, proteins; second, amids. Let us bear in mind then that in speaking of protein bodies whether under the term crude protein or proteins, or amids, we refer to that group of compounds which are characterized by the presence of the element nitrogen.

The Carbohydrates.

Carbohydrates are so named because they consist of the compounds of carbon, hydrogen and oxygen. No other element enters into their structure and the peculiarity of carbohydrates consists in the fact that the hydrogen and oxygen present are always in the exact proportion in which they are found in water, so that we would not be far from the truth if we should say that the carbohydrates consist essentially of the union chemically of various percentages of the element carbon with the compound of water. It would seem at first glance that they must therefore be very simple in structure, but this is far from being the case, for one ordinarily has little conception of the almost innumerable possible combinations which may exist between carbon and water and which, as a matter of fact, do exist in the various compounds which come under this heading.

Sugars, Starches, Fibre, Etc., are Carbohydrates.

It may be sufficient for comparison here, however, to say that this group is characterized by the sugars, such as grape sugar, cane sugar, milk sugar, malt sugar, starch, gums and cellulose which last is the fibre portion of the food. The carbohydrates exist in the plant chiefly in the form of starch. Starch is a product which is insoluble ordinarily in water and therefore before it can be transferred from one portion of the plant to another it must be made soluble, which condition is brought about by means of a ferment which changes the starch into sugar. The resultant sugar is soluble in the plant juices and can then be taken from one portion of the plant to another. We are entirely familiar with this change because it is brought to our attention generally during the early spring when the sap begins to run in the trees. Every one is more or less familiar with the sugar-making possibilities of the juice of the maple tree, which sugar has been produced by fermentation in the tree produced from the starch which was stored up the previous season. The principal role of carbohydrates in the animal body seems to be to serve as a fuel for maintaining the temperature of the body. It does not appear to be associated with the body activities except insofar as the carbohydrates may be associated with protein.

The difference between the various groups coming under the heading, carbohydrates, is a difference in arrangements of the elements. For instance, it seems probable that nature may change from one form to another the different sugars, starches, cellulose, and with this change we are concerned chiefly in our study of animal nutrition, in its effect upon the digestibility of food, which will be considered later.

(To be continued).

BOOK NOTICE.

"The Horse, His Breeding, Care and Use," by David Buffum, is illustrated by diagrams. This book contains chapters on the qualifications of good horse breeding and principles in breeding, the cure of vices, stabling and feeding, training and education of the colt, treating when ill, shoeing, etc., as well as chapters on draft, carriage and trotting horses. This is a book of 160 pages, price 70 cents, published by the Outing Publishing Company, of New York, and is one of the most useful of the Outing handbooks. Same may be ordered through the Michigan Farmer.



Why not try them?

Inasmuch as you have no positive proof that United States Tires are not stronger and more durable than the kind you are using why not try them?

You might make an interesting—and profitable—discovery respecting the amount of mileage service it is possible to build into motor tires when made by a rigid four-factory-test method.

The experiment (if such you care to call it) would at least be made with tires that have a country-wide reputation for excellence. (United States Tires are without question the most-used tires in America.)

You would scarcely call the purchase of a Chickering piano an "experiment" or a "gamble," would you?—especially if you could buy it at the same price asked for ordinary pianos!

No more would you "run a risk" if you should try one or two United States Tires—

For United States Tires are made as no other tires in the world are made.

They are the product of the most scientific tire knowledge, the greatest tire skill, and the combined tire experience of four immense factory organizations, each of which formerly produced a tire that was recognized a leader in the tire field.

Today these same organizations, working with the most modern tire machinery known to the industry, are operating as a unit to produce a grade of tires that actually combines every element of strength and every secret of manufacture known to the experts of these four organizations.

So, in buying one or two of these tires as a "trial," you are in reality giving these four organizations, working as a unit, an opportunity to show you why tires made as only United States Tires are made are entitled to sell as only United States Tires sell.

Keep this in mind: The first cost is the same to you as though you continue to use tires made in the ordinary way. You are not asked to "take a chance"—not even in the matter of price.

Perhaps your tire experience has been satisfactory—or passably so. We hope it has been. But it may be that tires made as United

States Tires are made—by co-operative skill—would prove even more satisfactory. Possibly far more satisfactory.

The possibility is certainly worth considering—especially so when several thousand motorists who are today using these tires exclusively, were in all probability at one time or another "on the fence" as to whether they would give them so much as a trial.

Making good is by odds the best method of making friends.

We repeat, that you might make a highly profitable discovery by the use of one or more United States Tires.

Why not try them?

United States Tires

All styles of fastenings and treads

Sold Everywhere

United States Tire Company, New York

Better Farm Implements and How to Use Them
JOHN DEERE PLOW CO.

You Should Have This New John Deere Book
Illustrates and describes the most complete line of farm implements. Tells how to adjust and use them under varying conditions. It is a practical encyclopedia for the farmer. It is worth dollars to you.

Mailed Free to Farmers
If you have not already received your copy of this new book, be sure to ask us for it now.

Get Quality and Service
John Deere Dealers Give Both

Davenport Roller Bearing Steel Wagons

Buy Your Wagon Once For All

There is a wagon made that is stronger, more durable and of lighter draft than any other. This wagon is

Built Like a Bridge

Entirely of steel I-Beams, Channels and Angles, solidly held together with large steel rivets, put in hot under great pressure. Like the steel railway bridge, it is constructed for hardest lifetime service. Strong and durable. Each front gear and each rear gear is practically one solid piece that cannot come loose or apart.

Steel Wheels

This wagon has steel wheels that are trussed and made with a tension,

the strongest known wheel construction. Every spoke is staggered and forged hot into the tire. Regardless as to whether the spoke is at the top, side or bottom of the wheel, it always carries its share of the load.

Roller Bearings

That roller bearings reduce draft is generally conceded. Of the various styles, the straight roller bearing is the simplest and most successful.

For this wagon the straight roller bearing is especially adapted. The spindles and hubs are straight. Consequently, as this wagon is equipped with straight roller bearings it is of light draft.

A little book we'll be pleased to send free, tells of a good many more superior features this wagon has.



The Roller Bearing

Be sure to tell us whether you want your copy of "Better Farm Implements and How to Use Them" and in order to get the "Wagon Book" containing full information regarding the above described wagon, ask for Package No. B5

JOHN DEERE PLOW COMPANY, MOLINE, ILLINOIS

The Michigan Farmer

ESTABLISHED 1843.

THE LAWRENCE PUBLISHING CO.
 EDITORS AND PROPRIETORS.

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

 NEW YORK OFFICE—41 Park Row.
 CHICAGO OFFICE—600 First Nat'l Bank Building.
 CLEVELAND OFFICE—1011-1015 Oregon Ave., N. E.
 GRAND RAPIDS OFFICE—5 & 6 New Hawkins Building.

 M. J. LAWRENCE.....President.
 M. L. LAWRENCE.....Vice-President.
 E. H. HOUGHTON.....Sec. Treas.

 I. R. WATERBURY.....Associate
 O. E. YOUNG.....Editors.
 BURT WERMUTH.....
 ALTA LAWSON LITTELL.....

E. H. HOUGHTON.....Business Manager

TERMS OF SUBSCRIPTION:

Five Years 260 COPIES	POSTPAID	\$2.75
Three Years 156 copies, Postpaid		\$2.00
One Year 52 Copies, Postpaid		1.00
Six Months 26 copies, Postpaid		.60 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 reasonable discount on orders amounting to \$24 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 1912

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 Publishing Co.,
 Detroit, Mich.

DETROIT, APRIL 27, 1912.

CURRENT COMMENT.

Someone has said that "man's worst vice is advice." That "advice is cheap." is

a still more trite and commonly repeated expression, and yet advice is a much sought and highly important commodity. Professional advisers, so long as they are highly trained specialists, are able to command big fees for their opinions and their services are much sought after by those who recognize their need of special advice upon special subjects.

The giving of advice upon technical matters relating to agriculture is one of the functions of an up-to-date agricultural journal, one which is productive of much good so long as the advice given comes from expert sources. But it is impossible to give general advice which will properly fit special cases and there is a crying need for more initiative on the part of the average farmer. A great many men, and particularly young men, make the mistake of seeking advice from other than expert sources upon the proper business course for them to pursue. It may be in the matter of a purchase of a farm; it may relate to purchasing the foundation stock for a pure-bred flock or herd; it may be in connection with the advisability of attempting to establish some special crop, such as alfalfa, upon their farms; it may be any one of a thousand business propositions which come up for consideration upon every farm and which must be decided with a proper regard for local conditions and environments. But all too often advice is sought and accepted from an incompetent and disinterested source and opportunities are allowed to pass unimproved which the man's initiative prompts him to accept with alacrity.

Initiative is an important factor of one's character or personality, and is a quality which can be acquired, to some degree at least, by any man who recognizes his need of it. It will perhaps lead its possessor into some unprofitable ventures, but in the end a well developed faculty of initiative in any man, be he business man or farmer is bound to be a factor which will make for his ultimate success. "Nothing ventured, nothing gained" is a truism which marks the limitations of many a man's business success. The seeking and accepting of expert advice will save many disastrous failures which one's initiative might

prompt him to make, but the lack of initiative or the acceptance of advice, which is conservative because of incompetency or the fixed habit of the giver, as opposed to one's own well defined initiative is a great handicap to success.

Every young man should develop his faculty for personal initiative to the limit of his capabilities and learn to temper his inclinations by well considered advice of the right sort, rather than to be forever distrustful of his own judgment and prone to accept the advice of others whose mediocre success or lack of success does not afford an alluring example.

The South for Co-operative Rural Credit.

During the first week in April the Southern Commercial Congress, then in session at Nashville, Tenn., held a general conference on co-operative farm finance at which more than one-half the sates were represented by delegates or were heard from favorably as to the proposition involved. This conference considered the plans for co-operative rural credit upon which reports have been made by the International Institute of Agriculture at Rome, and with which Michigan Farmer readers are thoroughly familiar through frequent mention of the various plans of co-operative credit in successful operation in Europe through these columns. This conference was presided over by Hon. David Lubin, delegate from this country to the International Institute of Agriculture, who is thoroughly familiar with the various systems of agricultural credit as exemplified by the European institutions, of which he has made a thorough personal study and which he was able to explain to the members of this conference in detail.

After several days' consideration of the proposition, this conference determined on a plan of action which should have a great educational influence in promoting the establishment of rural credit organizations in this country. As a means to this end the conference favored broadening the Farmers' National Co-operative Credit Commission, provided for in H. R. joint resolution 282, introduced by Representative Norris, of Nebraska, the provisions of which were explained in an editorial comment in a recent issue of this paper, by the addition of three commissioners at large appointed by the President with the consent of the Senate, and also by not more than two additional commissioners from each state to be appointed by the President from a list of eligible persons suggested by the agricultural interests of their respective states. The conference favored the raising of a fund by subscriptions in the various states to defray the expenses of commissioners who would be asked to serve without compensation, and estimated that \$1,500 would be required for each delegate. An additional appropriation of \$50,000 will be asked from Congress to provide for stenographic reports, printing, etc., in order that the work accomplished by the commission might be placed in the most efficient shape to enlighten the people of the country with regard to their findings. It is planned to have this commission make a personal investigation of conditions in foreign countries, where these plans of co-operative credit are in successful operation, during the summer, making a report to Congress and through the various state commissioners to the various states before the close of the year in ample time for legislative action by Congress or the legislatures of the various states to enable the formation of agricultural credit organizations on a plan which will be best adapted to the needs and conditions existing in this country.

As before noted in these columns, any plan which will best promote the distribution of general information regarding the possibilities of co-operative agricultural credit will be most beneficial. If our farmers are to profit by the example of their European contemporaries they must become interested in its possibilities and benefits and act for themselves and in conjunction with each other. As stated in previous editorial comments, these European agricultural credit associations grew out of the necessity of the farmers of those countries for additional capital to tide them over a period of unfavorable conditions.

The same incentive has perhaps led to a united effort in this direction by the people of the southern states, particularly in the cotton growing states. It is difficult for Michigan farmers to appreciate the need of southern cotton growers in this connection, but cotton is the universal collateral for bank loans in many sections of the south, and cotton has been cheap in recent years while unfav-

orable seasons have shortened production in other lines, thus increasing the necessary purchases of farmers as well as reducing the stable income of the cotton growers and at the same time reducing their credit to a corresponding degree.

It is true that Michigan is more fortunate than many sections of the country in having a greater variety of staple agricultural products and being less dependent upon single crops, but as before noted, Michigan farmers should be as greatly interested in the possibilities of co-operative credit as are the farmers of less favored sections of the country in this regard. There is no reason why we should wait for necessity to drive us to the adoption of the best business methods in the conduct of our farms. Even in Michigan the average farmer is often handicapped for capital and there is a marked disinclination among our farmers to hire money for emergency needs, a fact which leads to extravagant and expensive economies which are a handicap to immediate success as well as to the progressive tendencies of the farmer.

We need a system of co-operative rural credit which will help the farmer, the country merchant and all our smaller industries, as well as make a more elastic currency and a ready outlet for idle funds for people of large or small means, all of which desirable ends may be accomplished through a general interest in and enthusiasm for, this movement to establish a system of co-operative rural credit in this country.

No catastrophe in recent history has so startled the world as the loss of the great ocean liner, Titanic, as the result of a collision with an iceberg, and the resulting loss of life and suffering of the survivors. This horrible accident has at once disillusioned man that he can build a ship so strong that it is impregnable and unsinkable, or, indeed, sufficiently stable so that the ordinary precautions against such accidents are unnecessary. The more than 1,600 lives that were lost on the Titanic, were, in the judgment of the world, sacrificed to the modern mania for speed. But of course, final judgment should be suspended until the conclusion of the official investigation which is being conducted by a sub-committee of the United States Senate, of which Senator Smith, of Michigan, is chairman. This investigation will doubtless shed all the light upon the cause of this disaster and the inefficiency in the equipment of the ship which resulted in the great loss of life, so far as it is possible for a human inquiry to accomplish this desirable end.

But whatever the contributory causes, the great sacrifice of human life will not be wholly in vain, since steps will undoubtedly be taken to prevent a repetition of the disaster from similar causes. This incident is but a repetition of history in that great sacrifices of human life are made to serve the ultimate interest of the human race through a betterment of conditions under which men live and move about in the pursuit of business or pleasure. It is the price of progress in the great developments which have occurred within the lifetime of the older generation of the present day.

But in addition to a warning for those "who go down to the sea in ships," this great catastrophe holds a wholesome lesson for all of us who have been attacked with the speed mania, which is a very general complaint among all classes of people at the present time. We not only desire to travel fast, like the sometime millionaire, "Scotty," who, when making a record run across the continent on a special train chartered for the purpose, said he was "buying speed," but the speed mania as well possesses us in all our undertakings. It is far better not to forget the element of safety in any of our undertakings whether in pursuit of material wealth or fleeting pleasure, and this is a truth which we may well pause to consider in connection with this fateful tragedy.

The crusade against the house fly, which has gained considerable impetus in many quarters during recent years, is too often made the subject of ridicule by people who refuse to be impressed with the danger from germs of many kinds, which may be spread broadcast by the ever present house fly. Such will refer with a showing of pride to the conditions which existed in the pioneer days before the screen door and the window screen were common appurtenances of the country home, and when the house fly had unrestricted liberty within as well as about the house. But, while many

persist in denying the existence of a danger which they cannot see, yet all will agree that the house fly is a nuisance, and that his extermination, if that were possible, would be well worth while as a matter of personal comfort, to say nothing of the advantages of such a course from the standpoint of sanitation and preservation of health.

But the extermination of the house fly is impracticable under present conditions. The pest can, however, be greatly reduced in numbers by a little concerted effort on the part of country people as well as city dwellers. Few realize the rapidity with which the species multiply, and the consequent fact that the destruction of a single fly in the spring season will lessen the later insect population by thousands. Also the restriction of breeding places for flies will accomplish much in this direction. Keeping the stables and barn yards well cleaned during the spring and summer; keeping a covered garbage pail or can at the back door instead of the open "swill barrel" or pails, and taking pains and trouble to kill as many flies as possible in the spring and early summer will tend to reduce the number about the home materially. Then their exclusion from the home by the use of good doors and screens, and the trapping or poisoning of such as find an entrance will complete the necessary precautions for abating the fly nuisance. And it will be worth while in every instance where it is made the object of a special effort. Try it this year, and begin now.

HAPPENINGS OF THE WEEK.

National.

The great steamship Titanic of the White Star Line struck an iceberg off the Grand Banks of Newfoundland, on Sunday night, April 14, and went down within four hours. Of the 2,340 persons aboard the vessel only 743 were saved. These escaped in life boats and were picked up by the steamer Carpathia early the following morning. Had the Titanic been provided with a sufficient number of life boats all persons aboard could have been saved from a watery grave. Many stories are abroad with regard to the cause of the accident and the conduct of the officers of the boat and crew. It is anticipated that the great toll of life will bring about more stringent regulations for ocean going steamships. It appears that the present regulations do not require sufficient life saving paraphernalia to accommodate all passengers regularly carried upon the boats, the amount of life boats, etc., depending upon the tonnage of the ship rather than upon her passenger capacity. The United States Senate has ordered that an investigation be made of the accident, for which a committee has been appointed. A number of the officers, crew and passengers of the ill-fated boat is now before the Senate committee at Washington giving testimony regarding the accident.

One hundred and eight persons are reported to have been killed and 285 injured in a series of tornadoes which swept over Illinois, Indiana, Wisconsin, Georgia and Alabama last Sunday afternoon and Monday. Property loss will run far into the millions of dollars.

A limited train on the Rock Island railroad was held up by highwaymen near Moline, Ill., and \$700 was secured.

The Stanley investigating committee of the lower house of congress stated in its report of the steel trust investigation that over one-half of the railroads of the country are under the control of that large concern through stock ownership and positions on the directorates of the railroad companies. It is further declared that 23 of the directors of the steel corporation sit on boards of directors of banks, insurance companies, express companies, and various industrial corporations with an aggregate capitalization of \$7,388,099,416.

The total building contracts for March in 74 of the leading cities of the country aggregated \$74,590,324, compared with \$71,527,664 for the same months in 1911, showing an increase of four per cent.

A national commercial body is being organized in Washington this week. There is expected present 750 delegates representing 250 local associations. President Taft issued the call for forming a national organization.

Misses Josephine and Cecil Richardson were drowned while canoeing in the Grand River at Lansing on the morning of April 21.

Troops stationed along the Mississippi river are providing food for 83,000 persons who have been rendered homeless by the floods during the past couple of weeks. The engineers are also repairing the breaks in the levees and strengthening them, and campaigns are also being conducted for cleaning up the flooded areas to prevent outbreaks of disease.

The general managers of 50 railroads east of the Mississippi and north of the Potomac, where the engineers have voted to go on strike unless a demand for increased wages is allowed, has assembled in New York City for the purpose of considering the demands made. The engineers through their representatives have agreed to leave the matter of differences with Judge Knapp and Commissioner Neill for arbitration.

The United States Senate has passed a measure which provides for the issuing of patents on homesteads covered by irrigation projects. The government, however, retains a lien for the unpaid portions of the purchase price of the land.

It is estimated that the first boats from

No More Punctures, Blowouts, Cuts—Get Protection Pleasure



With No Protection

No longer need your tires be fit only for discard after a few months' service—and trouble—some service, at that. Here is protection that will keep them good as new after thousands of miles traveled on the worst roads—with never a stop for trouble, never a dollar paid for repairs. You can go to town and know you will get back without a moment's roadside delay, and your pleasure rides will be full of uninterrupted enjoyment—when you protect your tires with

Standard Tire Protectors

Easily applied anywhere—no mechanical attachments—and held tight simply by inflation pressure. They will stop nails, glass and all other tire dangers. Prices 20 per cent lower than last year. You get skidding protection as well as tire protection—both at the cost of one, with our famous non-skid tread. Sand or gravel cannot get between the Protector and the tire. Standard Tire Protectors pay for themselves—and earn you a big profit besides.

Free Book on Tire Protection

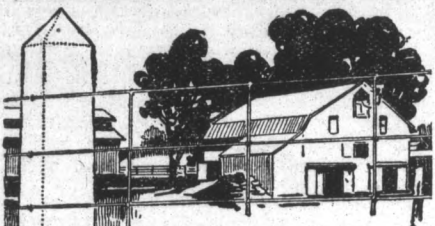
It proves the way for you to end your tire troubles, save all your tire repair expense, and make one set of tires wear years instead of months. Write for this book today—and if we have a local dealer near you, we will give you his name—so you can actually see how Standard Tire Protectors will save your tires.

The Standard Tire Protector Co.,
420 E. Market St., Akron, O.

Dealers: Lower Prices—Larger Discounts—Bigger Business than last year. Write at once for particulars.



With Sure Protection



Concrete Fence Posts

Build your fence posts of concrete and they will last forever, never requiring repairs. Select the best cement. Insist on

LEHIGH PORTLAND CEMENT

Insist on Lehigh. Chosen by the country's greatest engineers for big contract jobs. Uniform in color and strength—strongest and best for practical farm use.

Get Your Free Copy of "The Modern Farmer"

a book chock full of practical information—showing 20 uses of concrete on the farm. Every progressive farmer should read it. Send your name and address now.

Lehigh Portland Cement Company
(11 mills—11,000,000 barrels capacity)
3864 Peoples Gas Bldg.,
Chicago, Ill. (64)



WANTED—A man or woman to act as our information reporter. All or spare time. No experience necessary. \$50 to \$300 per month, nothing to sell. Send stamp for particulars. Address Sales Association, 914 Association Bldg., Indianapolis, Ind.

Duluth will bring to the Buffalo market about 5,000,000 bushels of wheat which are stored in the elevators at that point.

The International Congress of Navigation is to be held in Philadelphia in May, when delegates from a large number of the countries of Europe and America will be present to discuss matters pertaining to commerce between the nations.

An inventory taken of ten of the principal Trans-Atlantic steamers shows that the number of persons which the boats carry that are not provided with live-saving accommodations, ranges from 1,475 to 3,070.

The new baseball field of the American League at Detroit was opened last Saturday, when over 24,000 people witnessed the game between the Detroit "Tigers" and the Cleveland "Naps."

Foreign.

The steamers Denver and El Sud collided in a fog in the Gulf of Mexico, but while considerable damage to the two ships resulted, they were able to reach Galveston under their own steam.

A special dispatch indicates that an agreement has been reached between Russia and Turkey, whereby Turkey will recognize Russia's policy in the Balkans for which Russia will recognize Italian sovereignty in Tripoli.

Mobs in Fez are reported to have killed over 50 Jews. Of the French troops engaged in putting down the riots 68 were killed.

The Saikio, a Japanese steamship, ran ashore near Shanghai, China, during a fog.

George Lane, of Calgary, says that western Canada is greatly short on live stock, and the rapid growth in its population renders it extremely difficult for breeders and stock feeders to bring the supply up to the fast increasing trade needs.

CROP AND MARKET NOTES.

Lapeer Co., April 20.—Spring very late. Weather cold. Ground so water-soaked that very little plowing has been done. Not very much wheat, but what there is looks good. Many bean fields that were intended for wheat and rye could not be sowed on account of the wet fall. There will be a larger amount of spring plowing than usual. There is some clover seed to thresh. The deep snow prevented the moving of the threshing machines during the winter. Not much clover seed sowed. Snow banks prevented early sowing, and since they melted the ground has been too wet. It has been a very poor sugar year. Very much less maple syrup than usual. Peach growers report most of their trees killed.

Grafton Co., April 18.—To date there have been but few warm spring days, and only one heavy rain. Snow has fallen all day today. So far as is known to the writer, no oats are sown. Only a few have sown grass seed as the ground has not been in condition. Wheat came out from under the snow looking good. However, the frost came out so slowly that the water from the melting snow has damaged the crop to quite an extent. New seedlings of clover are showing 90 to 100 per cent fine. Potatoes are scarce and expensive, ranging from \$1.35 to \$1.50 per bu. All farm produce is in good demand and sells high at auction.

Ogemaw Co., April 20.—Spring seems to be here at last and farmers are busy plowing. If conditions remain favorable many will be sowing oats by Monday. Grass is just beginning to start, for which we are duly thankful, as most barns are about empty of roughage. Potatoes are down a little, buyers now offering 90¢@\$. Butter and eggs have not changed for some time; butter, 25¢; eggs, 16¢. The creamery also is paying about the same as two weeks ago. Hay is sold here at \$20; straw, \$10@12; wheat, \$1; oats, 68¢. Wheat on the ground looks well and farmers in general have not much to complain of.

Ohio.

Wayne Co., April 22.—The weather has been very wet and pretty cold. But very little spring plowing has been done yet. New seedlings are showing good. Wheat is looking very poor. There was not much wheat sown last fall in this part of the county, and what was sown is going backward. There will be more than the average acreage of oats sown this season on land prepared for wheat but not sown last fall. On many fields that were sown there is nothing and these will be plowed and put to oats. Pasture is coming slowly. Hay high and scarce. Butter, 26¢; eggs, 17¢.

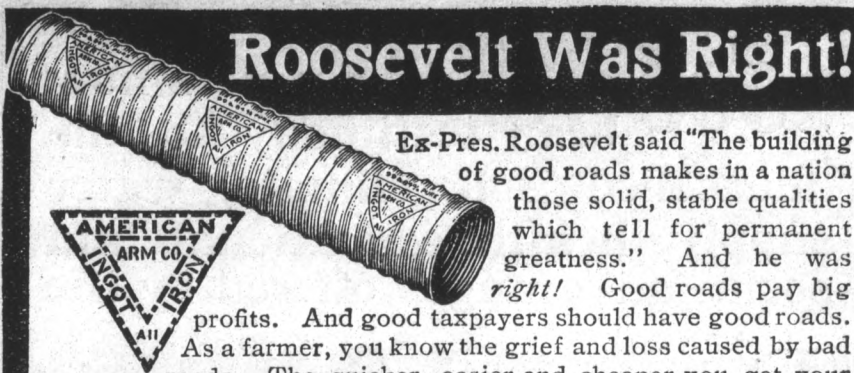
Carroll Co., April 15.—We are having fair weather and farmers started to plow last week. Nearly all are running short of feed. We had a few nice showers lately and the grass is growing nicely. Rye and wheat look poor in most places. Work horses are rather scarce and high in price. Farmers are very busy as this has been a very backward spring and nearly all the spring work came at once. Eggs, 16¢; butter, 24¢; corn, 75¢; oats, 55¢; wheat, \$1.10; No. 1 timothy hay, \$20 per ton.

Indiana.

Laporte Co., April 22.—Fine and pleasant so far this month, with only two cold storms. Wheat has not come forward as hoped for and is mostly being sown with oats. Spring opened very late and farmers could not work in the fields. Grass has started and stock has been in pasture for a week. Some few potatoes planted. Wheat will not average a tenth of a crop and is considered a failure. Corn acreage promises about the average. Fruit buds are showing some, only gardens plowed yet. Late planting. Stock all right but feed short.

Successful Advertising Campaign.

W. Smith Grubber Co., La Crescent, Minn., who have been advertising a stump puller, under date of April 9, write us as follows: "We are now working on copy for next fall advertising campaign, when we will be with you again. The results of the past season have been most flattering."



Roosevelt Was Right!

Ex-Pres. Roosevelt said "The building of good roads makes in a nation those solid, stable qualities which tell for permanent greatness." And he was right! Good roads pay big

profits. And good taxpayers should have good roads. As a farmer, you know the grief and loss caused by bad roads. The quicker, easier and cheaper you get your farm products to market the more money you will save and make—the faster your land will increase in value. Good roads are impossible with culverts which crack, break and wash out without warning.

Use American Ingot Iron Culverts

They outlast all others. Frost will not injure them. They will not sag or buckle under the heaviest fill or traffic, and they will resist rust. Not made of ordinary galvanized steel, which rusts quickly when out in the ground, but of pure iron (much like the iron of our forefathers, which resisted corrosion). Railroads will not use steel pipe—they specify

AMERICAN INGOT IRON Guaranteed CULVERTS 99.84% Pure Iron

This staunch and durable culvert is rapidly displacing concrete, stone, tile and cast iron in railroad construction. Easily handled. First cost low—maintenance nothing. Nothing to break or wear out. Good for a lifetime.

Get Expert Advice

Write to any manufacturer named here if you have any road troubles or plans. They will gladly send you expert advice. Look for the triangle trademark on every section—it is proof that it is genuine American Ingot Iron. American Ingot Iron Culverts can be obtained only from the manufacturers named here.

Write to Nearest Manufacturer

Dixie Culvert & Metal Co., Little Rock, Ark.; Atlanta, Ga.
California Corrugated Culvert Co., Los Angeles, Cal.; West
Berkeley, Cal.; Reno, Nev.
Colorado Ingot Iron Pipe & Flume Co., Colorado Springs,
Colo.
Delaware Metal Culvert Co., Clayton, Del.
Illinois Corrugated Metal Co., Bloomington, Ill.
W. Q. O'Neill Company, Crawfordsville, Ind.
Princeton Sheet Metal Company, Princeton, Ind.
Fort Dodge Culvert Company, Fort Dodge, Iowa.
Independence Corrugated Culvert Co., Independence, Ia.
The Road Supply & Metal Co., Topeka, Kan.
Kentucky Culvert Company, Buechel, Ky.
New England Metal Culvert Co., Palmer, Mass.
J. N. Spencer, Havre de Grace, Md.
Michigan Bridge & Pipe Company, Lansing, Mich.
Bark River Bridge & Culvert Co., Bark River, Mich.
Eau Claire, Wis.
Lyle Corrugated Culvert Company, Lyle, Minn.; Minn-
neapolis, Minn.
Corrugated Culvert Company, Moberly, Mo.
Montana Culvert Company, Missoula, Mont.
North Carolina Metal Culvert Co., Greensboro, N. C.
Northwestern Sheet & Iron Works, Wahpeton, N. D.
North-East Metal Culvert Co., Nashua, N. H.
Pennsylvania Metal Culvert Company, Flomington,
N. J.; Warren, Pa.
Economy Culvert Company, Auburn, N. Y.
Nebraska Culvert & Mfg. Co., Lincoln, Neb.; Wahoo,
Neb.

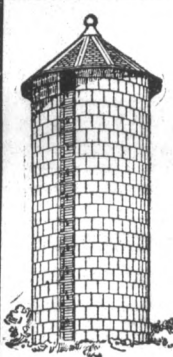
CULVERT COUPON

Please send me your book, "Culverts"—also send full particulars and prices.

Name _____

Address _____

American Ingot Iron May Be Had in
Sheets, Plates, Roofing and Fence Wire



Make your Silo a true economic factor—not a constant expense.

Examine the merits of

THE IMPERISHABLE SILO

DECAY-PROOF—STORM-PROOF—EXPENSE-PROOF

The Imperishable doesn't cost a cent beyond its original price. It never needs repairs. It's made of Patented Vitrified Clay Blocks, fire proof and moisture proof. Simple to construct and lasts forever. A perfect silage-preserver. Keeps the silage perfectly clear up to the wall.

You owe it to the economic management of your farm to send for our free catalog and consider the matter. The first cost of this silo is the last. No hooping, no painting. Everlasting. Write for free catalog today. The Imperishable Silo is Guaranteed

NATIONAL FIRE PROOFING COMPANY

Agricultural Department A,
Huntington, Indiana.

15 YEAR
GUARANTEE
Reference

OLD NATIONAL BANK
Battle Creek.

PLACE X BEFORE
QUALITY WANTED

1 PLY. ☐ \$1.10

2 " ☐ \$1.30

3 " ☐ \$1.50

FREIGHT
PREPAID

SAVES

25%

FROM FACTORY TO CONSUMER

STERLING

RUBBER
ROOFING

BATTLE CREEK

ROOFING & MFG. CO.

10 W. STATE ST.

BATTLE CREEK MICH.

BOYS and GIRLS

If you want a genuine Shetland Pony and Outfit, write me today for my new and the easiest plan you ever heard of. Don't send any money, just a postal, and say you want a pony. I will be glad to help you. Address F. YOUNG, Agent Pony Farm, Box No. 755 Springfield, Ohio



The New York World 3-a-week and the Michigan Farmer Both 1 year for \$1.65.

You get practically a New York daily and the best farm paper at an extremely low rate. Send all orders to

THE MICHIGAN FARMER,

Detroit, Mich.

1500 successful farmers now bear testimony to the unexcelled soil, climate, water supply, health, educational and social advantages offered by the

Pecos Valley

New Mexico-Texas.

There is room for other thousands on the land where water has been developed. Take advantage of this opportunity.

Go down at once and buy before the normal increase in population sends the price of land up.

Get this profit for yourself.

The soil and climate are all that can be desired, water for irrigation is assured and abundant, the home market, *i. e.*, New Mexico and Texas, takes all the crops produced at good prices. The schools are unexcelled anywhere, while clubs, churches, etc., are there for your enjoyment.

Wouldn't such a prospect please you?

I believe that it would.

You and your family will be richer, healthier and happier. You will have friends, an assured income, a bank account and a chance to make a place in the world for the young folks.

Let me send you our new book-folder.

C. L. Seagraves, Gen. Colonization Agent,
2293 Railway Exchange, Chicago.

SPRAY

The IRON AGE

Traction

Way

If you grow field crops in rows, you need this traction sprayer. We claim that our Iron Age Traction Sprayers are equipped with the best single or double acting pumps of any field sprayers made. They have less slippage than any other. The solution is always kept thoroughly mixed and delivered at high pressure in a fine spray, regulated by our adjustable relief valve.

IRON AGE Traction Sprayers have 55 and 100 gallon tanks, 4 or 6 row sprayer equipment, special rigs for grain, pickles and other crops, wind shift attachment, adjustment for different width rows, pressure gauge and center drive from both wheels. See this sprayer on your dealer's floor. Write us at once for special booklet. You owe it to yourself to know all about this machine. A post card will bring the information. We make a complete line of potato machinery, garden wheel hoes and drills, etc.
BATEMAN MFG CO., Box 1049 Grenloch, N. J.



Less than 2½c per day

for five years will not only buy an 8' Goodhue Windmill and 80' Steel Tower, but will pay for all your pumping, buy all your repairs, and furnish you with a new mill and tower if yours is destroyed within five years by cyclone, tornado, run-away teams or any other cause except willful abuse or neglect.

You cannot even pump your water for that sum in any other way. The time you lose starting and stopping your engine will amount to more than that. You simply cannot afford to use any other power for pumping.

Goodhue Windmills are strong, durable and safe, are self-oiling, close governing and will get the most power out of any wind. Write us today for our catalogue and the details of our really remarkable proposition. Delays are expensive. Do not delay.

APPLETON MFG. CO., 320 Fargo St., Batavia, Ill.

"NEW IDEA" Manure Spreader

Full of New Ideas

Yes, sir, full of them—24 points of exclusive merit over any other spreader. Note these—carries twice the load—lighter draft—wider, even spreading—no choking—yet it tracks with standard wagon.

Write for full information

Our catalogue is a book you ought to read to find out how the New Idea Spreader has gone ahead while others stand still. Ever hear of the great Hartman contest? You never will—from others. Let us tell you. Write for complete literature today.

NEW IDEA SPREADER CO.
116 Sycamore Street, Coldwater, Ohio.

When writing to advertisers mention The Michigan Farmer.

HORTICULTURE

THE SPACE BETWEEN THE TREES.

HOW to bring a young orchard into profitable bearing is the paramount question in the minds of many prospective fruit growers. It is strictly a business proposition. Thousands of farmers do not plant orchards because of the cost of caring for them until they begin to bear crops of fruit. On the other hand, many farmers have failed to give their young orchards proper care because they lacked the necessary capital to properly develop the enterprise after the trees were started. The outlook for fruit growing was never more promising than today. Many men are willing to pay liberal prices for young orchards that have reached a bearing age and with this knowledge farmers should plant more fruit trees and give them better care. It will be my purpose to discuss some of the successful methods of developing young orchards at a minimum cash outlay.

In starting a young orchard we should grow the very best trees at the lowest cost. Expensive methods of tree planting and culture are not practical on the average farm. There has been a tendency among fruit growers to look more upon the aesthetic side of the question than the practical. The growing of crops between fruit trees is a secondary matter and should not be practiced if it interferes with the growth and development of the trees. Many of the best fruit growers protest against inter-cropping, however, it is not difficult to cite numerous instances where the plan has worked out with excellent results. Growing crops among the trees is intensive crop growing and the soil must be supplied with liberal amounts of plant food. By choosing the right kind of crops and giving them the right kind of tillage and plenty of plant food, the trees will not suffer from lack of tillage and fertility. Not all men can make a success of gardening in connection with fruit growing on a large scale, but few men are so situated that they cannot find considerable profit in growing certain truck crops in the space between their fruit trees.

Inter-cropping requires considerable extra labor, but if the grower possesses sufficient ability to grow such highly organized market crops as sweet corn, strawberries, peas, tomatoes, early cabbage and early potatoes he can well afford to hire extra labor and buy additional plant food. Such crops do not require a large outlay for special machinery. Practically all farms have the tools necessary for the growing and harvesting of these crops when the business is conducted along conservative lines. Another important factor in growing truck crops is the proximity to good markets, but it is presumed that the orchard is within a reasonable distance of good markets. On most farms potatoes, cabbage and tomatoes are the best crops to grow in young orchards. They need an abundant supply of readily available plant food during the short period of their growth and by supplying them with larger amounts than they need, what is left in the soil goes to nourish the growing trees. Location is an important factor that must be considered in determining what crops to grow in the orchard. Soil adaptability is another important matter. Some crops may be successfully grown on a variety of soils while others are more exacting in their demands. Potatoes are more exacting in their demands than cabbage. Some of the best limestone soils produce very inferior potatoes. Early cabbages may be grown on most soils that will grow good fruit trees. This crop needs an abundance of nitrogen and a soil rich in humus. Early tomatoes grow smoother and more uniform on higher soils.

As a rule it is preferable to select crops that need about the same methods of tillage and the same kinds of plant food as the young trees. Crops that require a large amount of nitrogen should not be grown among peach trees, because if we feed the soil with enough nitrogen to give profitable yields the peach will be stimulated to make too heavy a growth of wood. On the other hand, cabbage may be profitably grown among apple trees. Crops that make their growth and require cultivation early in the season are the most suitable for the orchard. This gives the grower time to harvest his inter-crops in season to sow cover crops in time to cover the ground before winter sets in. Another point in selecting inter-crops is to select

those that require cultivation about as late in the season as is best for the health of the trees. All of these problems must be worked out by the individual according to his location, soil, kinds of fruit grown and the demands of the markets of his locality for certain special crops.

In many localities in close proximity to large cities or canning factories sweet corn may be grown without detriment to the trees. By planting varieties that mature early and using plenty of fertilizer the crop may be harvested in time to sow winter cover crops. Late varieties may be grown but the crop will be harvested too late to sow cover crops.

Some small fruits may be grown in the orchard, but as a rule they are less desirable on account of requiring late cultivation. I can see no reason why strawberries and some of the smaller bush fruits should not prove good companion crops among fruit trees, if we use legumes and other cover crops to maintain the supply of organic matter in the soil.

Peas not only add nitrogen and humus to the soil, but they do not make a heavy demand upon the supply of mineral plant food in the soil. Field beans are another crop that do exceedingly well when the trees are quite young, the only objection being that the crop is harvested rather late to sow suitable cover crops.

Early potatoes are one of the best crops to grow in a young orchard. It does not require a large outlay for special farm machinery to handle this crop and there is always a good demand for early potatoes. This crop requires about the same methods of tillage and fertilizing that are needed by the growing trees. To make a success with early potatoes the soil should be prepared early as possible in the spring and the crop planted as early as the weather and soil conditions will permit. The potatoes should be dug and marketed as soon as they have reached a marketable size.

Early cabbage may be grown without detriment to the trees, provided the crop is fertilized as liberally as possible to make it a success and furnish the trees with plenty of nourishment. The profits from this crop are large when it is properly handled.

Early tomatoes are another profitable crop to grow in an orchard. It is very important to grow early varieties if we secure the best price and get it out of the way in time to sow winter crops. In some cases nitrate of soda may be used to hasten the growth of the tomato plants and to supply the trees with nourishment. No matter what crops we grow in the orchard, judgment must be used in cultivating and fertilizing if we raise profitable crops and secure a maximum growth of the young trees. We cannot grow two crops on the same land without practicing liberal methods of soil feeding.

New York.

W. MILTON KELLY.

GROWING PEARS.

Experience teaches that pear trees are more difficult to maintain in a healthy, productive condition than apple trees and cannot be grown with the same degree of success over so wide an area of country. Such has been the uncertainty of success in growing pears in many parts of the United States that few farmers have the needed confidence to plant even the few trees necessary to provide fruit for home use. This lack of confidence too often leads to neglect, which in many instances becomes the prime cause of ultimate failure.

The consciousness of increased chances for success from smaller but better tilted farms is causing practical men to see value in the subordinate crops of their farms, and so long strides have been made on the general farms of Michigan in giving old orchards better care and in planting new ones and giving them a line of treatment far more consistent with the work of our best fruit growers than has usually been given by the general farmer before. The fruit they are obtaining is encouraging to them and further improvement is certain. Thus with this change we can hope for better results from pear orchards.

The following information is a brief summary of advice contained in a farmers bulletin just published by the department of agriculture on how to grow the pear. A gentle eastern or northeastern slope, as a rule, is preferable for an orchard site, but this feature may vary according to conditions. Soils such as are found in timbered regions are best suited for the pear. Stimulating fertilizers are conducive to pear blight; care should be taken to guard against the



DAIN VERTICAL LIFT MOWER

Is a Clean Cutter

Its compensating gears and cutter bar re-aligning device are successful examples of the wonderful inventive genius of Mr. Joseph Dain. The gears are so mounted in relation to each other that perfect balance and true mesh are permanently insured and the crank shaft is relieved of all end thrust, preventing lost motion, reducing draft and multiplying cutting power. That is why the Dain Mower runs lightly and cuts where others fail.

It is the only mower you can realign, yourself, right in the field with your wrench. This practical adjustment for maintaining the cutter bar in line with the pitman, means added efficiency and years of extra service.

A Real Vertical Lift

Notice the spade handle on the lever. Easy to grasp, no twisting. One movement of one lever raises the bar, knife throws in and out of gear automatically as bar is raised and lowered. The large-coil, flexible spring floats the cutter bar, does practically all the work in lifting with the foot at corners and helps in raising the bar vertically.

Consult the nearest John Deere dealer, learn all about this greatest of all Mowers, and about the entire line of Dain Hay Tools, Loaders, Side Delivery Rakes, Stacks, Sweep Rakes, Presses; every one the best of its kind.

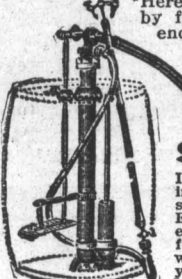
Dain makes the best hay tools. They have been specializing on them for over a quarter of a century.

Send for full particulars and a free copy of "Better Farm Implements and How to Use Them," the most complete and practical book ever written. Write today. Ask for package No. R 5.

John Deere Plow Co.
Moline, Illinois

"Get Quality and Service, John Deere Dealers Give Both"

Bigger Fruit Profits



Here is a spray pump invented by fruit growers. It was our endeavor to secure the best spray pump to use on our 300 acre fruit farm that produced the

ECLIPSE SPRAY PUMP

It overcomes every defect found in other makes—it has proved itself best in actual work. Put an Eclipse to work on your trees and earn bigger profits. Write for our fully illustrated catalogue. It tells why you should spray—and why you should do it with an Eclipse. It's free. Write to-day.

MORRILL & MORLEY MFG. CO., Benton Harbor, Mich.

200 lbs. Pulverized Lime Rock Sacked f. o. b. Muskegon, Mich., \$1

Our special offer gives you the opportunity to make a comparative test of the value of magnesian lime rock in correcting soils that test acid. Its use greatly increases the yield of all farm and fruit crops. Write us for ton and car lot prices.

Lake Shore Stone Co., Milwaukee, Wis.

Don't Let Last Year's Drouth Ruin This Year's Crops

by failing to supply your soil with Phosphoric Acid.

It Isn't Too Late To Use Ground Phosphate

for this year's crops if you get it finely ground, 95% through 100 mesh screen, 80% through 200 mesh screen.

If you have our quotation, wire your order.

FEDERAL CHEMICAL CO.
Ground Rock Dept. Columbia, Tenn.

Vegetable and Flower Plants By Mail or Express. True to name. Finest grown. Catalog free. E. J. Sheap & Co., Jackson, Mich.

Seed Potatoes For Sale

A. E. ORAMTON, 494 18th. St. Detroit, Michigan.

DYNAMITE DIRECT—CHEAPEST and best way to remove stumps, rocks, etc. We employ no salesmen. Established 30 years. Ship from magazine in Michigan. BRUNS POWDER CO., Terre Haute, Ind.

disease. One-year-old trees with well-developed root systems are considered best, and at time of planting they should be cut back to the height at which the main branches for the future top are to be formed. All broken and bruised roots should be cut back to sound tissue. For easy planting, open a deep furrow with a two-horse plow along the line where the rows are to be made and cross check at the distance apart at which trees are to stand. At the crosses level off the bottom of the furrow to receive the tree with its roots in natural position; fill in among the roots and trample down the soil, leaning the tree slightly to the southwest.

Prune each year while the tree is in a dormant state; remove interfering cross branches and thin out where too densely grown; balance the top so as to afford free air circulation and admit sunlight to all parts of the tree. Picking and sorting, as well as packing the fruit should be done carefully so as to avoid bruising or puncturing the skin. Summer and autumn varieties, if for market and unless placed in cold storage where they may be held for a time during a glut in the market, require immediate attention and disposition.

A GOOD GARDEN PLAN.

The farm garden should be one of the leading features of the farm home, and essentially as important as the cows, the pigs, the poultry or the orchard. But many farmers fail to appreciate the value of the garden and seem to treat it as an incidental, or secondary to the general interests of the farm.

With this view the garden is often neglected or turned over to the women folk or others of the family. This view and practice is short of economy and deprives the family of many luxuries as well as of necessities. Under the old plan the garden was a little plot of ground, usually paved in, and on account of the limits of its extent, the labor was usually done with hand tools as there was not room enough to make horse labor efficient. Under these antiquated customs there was a reason for the busy farmer to lose interest in the garden. But with the now prevalent custom of making the garden oblong and not being hampered with a fence, making horse labor more efficient, there is less excuse for the plea of time, and the garden should have a place among the most important things of the farm.

In the garden may be grown vegetables, fruits and flowers. The garden is usually arranged so that the fruits, strawberries, raspberries, blackberries, currants, and gooseberries, occupy one side of the plot. Our garden is 125 feet long, running north and south. Beginning on the west side, we have a row of grapevines. Next is a row of asparagus and rhubarb. Then a row evenly divided of currants and gooseberries. Three rows of Cuthbert raspberries come next and two rows of blackberries. The raspberries and blackberries are five feet between the rows. Next we have three rows of strawberries. This places all of the most permanent fruits at one side of the garden. The strawberries are reset every alternate year, as they are usually small the third year. Next to the strawberries are two rows of lima bean (pole). We place poles in four hills, two in each row, and bring the tops together, where they are fastened with a piece of wire. This holds them securely, as single poles sometimes blow down with the high wind. Next to these, we have a row of bush beans, then two rows of Early Wakefield cabbage and two rows of early potatoes. A row, one-third each, beets, carrots and parsnips. Three rows of sweet corn, Golden Bantam. A row or ridge of sweet potatoes and then a row of tomatoes, set 18 inches apart, trained to one shoot and tied up to stakes. Then we have a row, half each, of peppers and eggplant. The rest of the space is planted, at one end with melons and the other with squash. Planted in this way there is a systematic arrangement. The grapes, asparagus, currants, raspberries and blackberries continue from year to year, the strawberries are changed every two years and the vegetable garden is rotated from year to year, the above being the order for last year. The cane berries are kept well mulched with refuse of the garden, such as cornstalks, vines and whatever will answer the purpose, and we find this a great advantage in a dry season such as we had last year. Barnyard manure is principally relied on, supplemented with wood ashes and some commercial fertilizer. In this garden we have abundance for our own use and have much to sell or give to our neighbors. As

there is no fence at either end, it takes but a short time to run through it with the horse cultivator and the time spent, mostly morning and evening, is scarcely missed, while the abundance of fresh vegetables and luscious fruits many times repay the cost of labor.

New York.

B. F. MACK.

LATE SPRAYING FOR SCALE.

The late arrival of spring and the quickness with which the buds are swelling and bursting will leave many growers with their scale spraying undone and the trees past the dormant stage when such spraying should be done.

With scale in the orchard and trees budding it makes many a grower scratch his head in deciding the question of spraying or not spraying for scale. It is generally a debate with oneself as to whether scale injury or spray injury are preferable.

During the last few years the writer has tried using the full winter strength of lime-sulphur (one to nine of a 33 degree Baume test), just before blossoming. The object in doing this was to see whether the scale spray could not be applied when the spraying for fungus troubles just before the blossoms was most efficient and in that way make one spraying do the work of two.

Our experience has shown us that the amount of injury done varies some with the season but mostly with the method of application. It seems that the young leaves and buds are more immune from the caustic effects of lime-sulphur than they are when the growth is farther advanced.

Most of the injury done at this time is caused by using too coarse a spray and holding the rod in one place too long.

When a high pressure is used and where the hole in the disc of the nozzle is not too large and the spray rod is kept on the move the tree can be thoroughly covered and a minimum amount of injury done. The writer has sprayed apples, pears, plums and cherries in this way, just before blossoms without serious injury to tree or crop.

Of course, maximum results in the control of the scale cannot be obtained at this time as the leaves interfere with getting the limbs and branches thoroughly covered with spray nor can the tree be sprayed as heavily as is desirable in spraying for scale. The winter strength of one to nine should only be used after the leaf buds have burst when it has not been possible to do it before.

Van Buren Co.

F. A. WILKEN.

USE FERTILIZERS LIBERALLY IN GARDEN.

We farm the garden intensely. The yields of garden crops are enormous as compared with the ordinary field crops. The amount of labor for the space of land is also large; consequently we should not stint in providing food elements for these crops. The truck gardener is not stingy when he feeds his land. Fertilizer is cheaper to him than labor and land. By its liberal use he gets crops that would require more acres and therefore more labor to grow. Also, the rapidly growing crops are of superior quality. Using nitrate of soda at the rate of 150 to 300 pounds per acre, muriate of potash at the rate of 200 to 400 pounds per acre and acid phosphate at the rate of 200 to 400 pounds per acre will furnish the plants with a good supply of food elements. Nitrate of soda can be added at times during the growing season. The element of nitrogen in it is readily available to the plants. If three applications are made at intervals of ten days or two weeks after the plants are established, the results will be surprising to those who have not witnessed the response of garden plants to such treatment. We can afford to make these expensive applications on plots that are intensively cultivated when we would not be justified in doing it on lands that are less intensely worked.

USE RAW LINSEED OIL FOR GRAFTING.

Should I use raw or boiled linseed oil for making grafting wax?

Wayne Co.

SUBSCRIBER.

The raw linseed oil should always be used. Never use the boiled oil. Care should also be taken to get oil free from cottonseed oil.

Apples at \$7.50 per barrel this season were some apples. Many who sprayed with Pyrox realized this price, however. Wise growers are ordering early. Ask the Bowker Insecticide Co., Boston, for book.

Every Crisp, Little Flake of Post Toasties

has a flavour all its own.

"Toasties" are made of selected white Indian corn; first cooked, then rolled into wafer-like bits and toasted to an appetizing golden brown.

A favorite food for breakfast, lunch or supper in thousands upon thousands of homes where people are particular.

"The Memory Lingers"

Sold by Grocers

Postum Cereal Company, Limited,
Battle Creek, Michigan.



HURST Sprayers

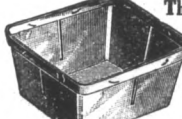
ON FREE TRIAL. No money in advance. Doubles your crop. Prevents blight, scab, rot, bugs. Spray FIRST, then pay us out of Extra Profit. Powerful pressure, Cyclone agitation. Strong and durable. Brass valves, plunger, strainer, etc. Guaranteed 5 years. Wholesale prices. We pay freight. Write us which machine you prefer, and get free Spraying Guide, Catalog, and free Sprayer. Offer to best in your locality. H. L. HURST MFG. CO., 2410 North St., Canton, O.

"Improved Sunshine" Sprayer

Simplest and most effective made. Any one can use it. Solid brass upper and lower cylinders. All brass plunger. Brass valve seat and extra large air chamber. Guaranteed. Only Agitator Made Having Four Paddles. All others have but two. Makes the work easy. Simple to operate and produces a constant uniform spray. Send for descriptive circular. CRESTLINE MFG. COMPANY DEPT. 15 CRESTLINE, OHIO

What Sprayer?

Use the sprayer that does the most work most thoroughly at the lowest cost. **Brown's Auto Spray** No. 1 fitted with upto Pop Nozzle—most powerful and efficient hand outfit. Capacity 4 gallons. For large sprayers—Brown's Non-clog Atomic Spray. Write for low prices and free Spraying Guide. The E. C. Brown Co., 32 Jay St., Rochester, N. Y.



The Berlin Quart Our Specialty

A WHITE package which insures highest prices for your fruit. Write for 1912 catalog showing our complete line, and secure your BASKETS, CRATES, etc. at WINTER DISCOUNTS. The BERLIN FRUIT BOX CO., Berlin Heights, Ohio

CALL'S NURSERIES, PERRY, OHIO.

Have a large stock of the finest Fruit, Shade and Ornamental Trees, Spray Pumps, Spraying Solutions and Gasoline Engines. Deal Direct. Prices low. Send for price list.

BEST STOCK and BEST FRUITS!

Buy Direct and Save Money at our low prices! Peach trees, fine at 4c and up. Apple and Cherry, 8c and up. All kinds of fruit and shade trees, Berry plants, etc. Catalogue free. ERNST NURSERIES, Box 2, Moscow, Ohio

CATALPA spec. (guaranteed true.) Choice 1 yr. trees 90c per 100, \$3.50 per 500, \$7.00. Cat. Forest. Fruit, Shade trees, etc. Brosius Nurseries, Tiffin, O.

2 year No. 1 Concord Grape Vines \$15 per 1000; Strawberry Plants \$3 per 1000; Peach Trees 3 cents and up; 20000 Apple, Plum, Cherry and Pear. Catalog free. W. A. ALLEN & SONS, Geneva, Ohio.

Seed Corn: Early yellow and white dent \$1.50 Bu. shelled (56 lbs.) Bags, 20 cents. PLEASANT VIEW FARM, Camden, Mich.

For Sale Niagara Gas Sprayer, 200 gallon, nearly new. Seventy-Five Dollars. SUNNY SLOPE FRUIT FARM, Ludington, Mich.



Anty Drudge talks to Mammy

Old Mammy—"Law, Missus! Marse Charlie done gone and got his shirt covered wid dat red mud down yonder in de cotton field and I'se powerful sho' it won't wash out."

Anty Drudge—"Never mind, Mammy, just get a cake of Fels-Naptha Soap and use it. Clay stains can't stay on when Fels-Naptha Soap is used."

Have you ever stopped, in the midst of a big wash, to sit down for a moment and rest your tired arms and back and feet? And have you ever felt that you just could not go on? If you never felt that way, either you are unusually strong and healthy—or you've found out the easy way to wash—the Fels-Naptha way.

It's the only way that saves your strength and takes away the drudgery of washday. If you haven't tried Fels-Naptha Soap, do so next washday. You won't need a hot fire and a wash boiler. That sounds good, doesn't it? And it's true. Prove it to yourself. Buy a cake of Fels-Naptha Soap and follow the directions on the *red and green wrapper*.

For full particulars, write Fels-Naptha, Philadelphia



All the Hard Work Taken Out of Scrubbing

Mop the floor—sprinkle on Old Dutch Cleanser and scrub well. Dirt and spots go flying; for the fine particles of Old Dutch Cleanser get down into the cracks and crevices, that are so hard to get at ordinarily, and take out all the dirt.

Old Dutch Cleanser

Many other uses and full directions on large Sifter-Can 10c.

When Writing to advertisers mention the Michigan Farmer.

Woman and Her Needs

At Home and Elsewhere.

Co-operative Trouble.

"There is no form of wrong doing of which a man can bear the punishment alone."—George Eliot.

I've forgotten which one of Eliot's creations it was who had done the wrong which called forth this moralizing. But it doesn't matter. All we have to do is to look about us and we can see plenty of people doing wrong, and not suffering half so much in consequence as someone else who is entirely innocent. "The soul that sinneth, it shall die," says the Bible, but in the meantime many souls are suffering living death over the sins of a dear one.

There is the young boy who gets in wrong, helps himself to his employer's cash, we will say, and is detected. He suffers imprisonment, perhaps. Perhaps his father buys him off. In either case is his suffering half so agonizing as that of his mother? Perhaps he doesn't steal, just staggers home drunk in the early morning hours. When he sobers up he is ashamed, remorseful and full of promises. But in a week he has forgotten his disgrace and mental twinges. But how about his mother? A lifetime will never efface what she felt when her baby returned to her intoxicated. For to her he is never anything else but a pure-hearted, laughing-lipped baby.

A girl is wayward and deceitful. She becomes infatuated with a man who, if he had his just deserts, would be in jail or on the gallows, but somehow or other he keeps clear of the law. Her friends and parents argue, counsel, advise and plead with her to have nothing to do with him. But she dramatically declares she will marry him or die with him. Well, she marries him, and inside of a year wishes she had chosen the other course. He abuses and neglects her, starves her perhaps. Children come to add to her burdens, and finally the parents, who have all along had to support her, take her and her little ones home. She suffers, of course, but it is as often

as not only pride that hurts. But the parents who should be enjoying a well-earned rest, must now turn in and work to support another growing family. They not only suffer through their sympathy for their daughter, but must deny themselves comforts and luxuries and rest to provide necessities for the children another man should support.

A capitalist wrecks a bank. He is thrown into prison and buys his way out. But the hundreds of small depositors whose money he stole do not get over it so easily. They must begin at the bottom again, this time without the hope and anticipations that cheered them when they made their first start. A widow who had enough to keep her modestly for life must now take in washings for a living. A young couple who had saved enough for a home must wait five or ten years longer before their dream is realized. Who suffers most because of this wrong doing?

A doctor treating an infectious case is careless. The disease spreads, the neighborhood is contaminated, people die of the sickness, but the doctor reaps a fat harvest. It is consoling to think, though, that his punishment is only postponed.

A boy or girl disregards warnings about taking off heavy clothes and rubbers too early in the spring. At school, out of the mother's watchful care, they disobey. A heavy cold, perhaps a long sickness, is the result. The child suffers from the illness, but the mother suffers from anxiety and overwork in her care of them, and father and mother go without clothes to pay the doctor bills.

In disobedience as in all else we are co-operative. Nothing we do hurts ourselves alone, no matter how grandly we declare we will do as we please and suffer the consequences ourselves. We cannot suffer alone, however few friends we have. Someone is bound to suffer with us. It would be well for all of us to remember this when next we determine to have our own way in spite of what follows.

DEBORAH.

THE PROBLEM OF HOUSECLEANING IN OUR COUNTRY HOMES.

BY MARY MASON WRIGHT.

The housecleaning problem is not the same in the country as it is in the city. April and May, which are generally considered the regular housecleaning months, are the very busiest ones on the farm, for it is the season of beginnings. The vegetable and flower gardens must be made, the litter and leaves removed that have been used to protect plants, vines and shrubs during the winter, the lawn must be put into good condition, and the flower-beds planned; then, if poultry is raised there will be little chicks to be looked after, and new milch cows will be coming in. Even if the country housewife has none of these manifold duties to perform herself, she will nevertheless want to help plan and direct, and have an active interest in the productive industry going on upon the farm. Besides all this, this is the most beautiful time of all the year in the country when everything outdoors is fresh and green, with the air filled with the fragrance and beauty of the blossoming trees, and it does not seem right that one should remain in the house during these months battling with dust and dirt.

A good idea is to clean in the fall of the year all the rooms that will not be used throughout the winter—if you have any such—and then in the spring all the cleaning that will be necessary is to open the windows wide, give the room a thorough airing and dusting, and then wipe the woodwork off with a damp cloth, and polish up the furniture. Of course, rooms that have been in use during the winter will require a more thorough cleaning since the rugs or carpets will have to be lifted; but a regular systematic cleaning of the house through the winter will lessen the labor of housecleaning a great deal. If the regular weekly cleaning is done with a thoroughness, the furniture and pictures dusted both back and front, mirrors, windows and brasses kept clean, not much dirt will have accumulated except that which has sifted through the

carpets. The best plan we have found for country houses is to make a preliminary cleaning and "stock-taking" before the rush of work begins. After this preliminary work has been done, then there should be no more housecleaning until after the April rush is over, at least.

Some of the work that can easily be done early is the taking down of curtains and laundering them, having them all ready to put up when the regular cleaning has been done. The cleaning and replacing and sorting over the contents of closet shelves and drawers. The cleaning of beds and mattresses and such like. The attic and cellar ought to receive some attention during March. Of course, the cellar should have had an inspection at least once a week for the sake of health and convenience, and once a day would be none too often; but it can be given a more thorough going over and any necessary whitewashing done. The attic should be treated like any closet since it is a place for keeping things needed, not for storing trash that one is sure to never find any practical use for. If attics were kept in order like closets the task of housecleaning would be much lightened, as far as that part of the house goes, at least. Have a place for everything in its place in the attic as well as in other parts of the house.

The "stock-taking" is one of the most important parts of this preliminary housecleaning. With note book in hand go through all the rooms, not hurriedly but taking plenty of time for a good survey of each room in turn, and jot down in the book the condition of wall-paper, carpets, furniture, hangings, and such like. Note what will need replacing, what can be made to do awhile longer by repairing, what changes can be made in the rooms to improve them, the best arrangement of furniture, pictures and such like, or what little conveniences can be added. A little thinking and planning before the actual housecleaning begins will work wonders in many ways, and will undoubtedly save much time and strength when the rush is on, and there will not be the unnecessary delays that might result by discovering something that needed to be done

when you were in the midst of the cleaning. In going through the rooms remember that even cheap paint and paper will often revolutionize a room. Study the color scheme that would be suited best for each room. The numbers of the windows and how they face, has a great deal to do in the effect produced by certain colors. If the room faces the north then some cheerful bright colors should be selected, such as yellow, red, warm shades of brown, rose or pink; while on the south side use restful cool colors, such as light green, blue, or delicate grayish olive. Have the carpets, or rugs, harmonize with the wall-paper. In our own experience we have found nothing more satisfactory than rugs for floor coverings. Matting rugs can now be obtained that look as well as carpet rugs for bedrooms. Rugs woven out of ingrain carpet or rags are good for the dining-room, and ingrain, Brussels or Axminster rugs for the other rooms.

After this preliminary work has been done then the regular cleaning need not be done until May or June. There are several advantages in this late cleaning. One is the fact that you will have comfortable rooms to rest in during the rush season, and there will not be the temptation to do without fires too soon, for April weather is generally very uncertain, and a little fire in the evening especially will add to the comfort of the entire family. Then, if one has no help there is an opportunity to get the assistance of the men to help with the carpets and rugs, and the moving of heavy furniture and such like, since after the rush of planting is over they can usually take a few hours off now and then to help out. Clean one room at a time, and take your time. If your strength can only stand one room a week, only clean one room a week. It is bad economy, however we look at it, to exhaust ourselves and grow prematurely old in trying to undertake too much at a time, by working beyond our endurance. Easy housekeeping, and easy housecleaning, is dependent on good management, or we might say, intelligent management, whether we do all our own work or whether we have helpers. Lay in a good supply of substantial food, and prepare as much beforehand as possible and have your meals at regular hours and you will find that not only yourself but the family, will not think housecleaning such a bugbear as some people would have us believe. Do not stint yourselves with tools and cleansing materials, such as ammonia, washing compounds, furniture polish, brooms, brushes and things needed in cleaning. Lay in these supplies before beginning. We believe every country house should have a vacuum cleaner, which will not only lighten the housecleaning but the weekly cleanings as well. Then there should be good carpet stretchers, tack pullers and all the other necessary tools, for no one can do proper work either indoors or out without proper tools. By good management housekeeping on the farm can be made just as pleasant and as interesting an occupation as in the city, and we believe more so, for the city dweller does not have the same pleasant surroundings.

THE OUNCE OF PREVENTION.

BY PEARLE WHITE M'COWAN.

A child on the seat of a wagon, horses (usually trustworthy), left untied while the father hastily entered a store for just a moment's shopping. A run-a-way, and a little life crushed out. When just one minute's work, in tying the horses and taking the child under his own sheltering care, would have prevented it all.

A barn floor with a rotten plank across it. A broken limb and weeks of enforced idleness—when a new plank would have rendered it perfectly safe.

A sloping icy porch—an injured back that will never hold its owner straight and painless again. And just a few handfuls of salt or a bit of roughening of the ice, and that would have been prevented.

A foolish prank indulged in by thoughtless persons—and a child, through extreme fright, rendered dumb for life. And it could all have been avoided so easily.

A gun going off accidentally. A boy lying white and stiff and still, and another with a terrible memory to carry with him through life. Where were the parents—and the law-makers—who allowed minors to handle and carry such weapons?

A baby poisoned when the bottle could so easily have been locked in the cupboard, instead of left for a moment on a window ledge.

Economical people just moved into brand new house, chamber not quite finished. No bannister around the stairs, that could

come later. But one night their child, rising in his sleep, stepped off the opening and fell to the floor below. He will never walk again. They could afford a new rug for the parlor, but the stair railing could wait—and with that terrible result.

A cistern with a faulty covering—a promising toddling youngster drowned. Yet so easily preventable.

When we think of it, what a large per cent of accidents are preventable—and all by just a little forethought and work.

And the pity of it all is that the negligent persons are seldom the ones to suffer, while the results of their carelessness are almost always borne by innocent victims—helpless little children, old people perhaps, or some loved one, who must bear the burden and pain of somebody else's negligence, perhaps through life.

HUMAN WELFARE QUERIES.

Household Editor:—How often should I feed my baby in the night? She is eight months old and I have been feeding her twice.—Mrs. M.

No baby above six months old should be fed after ten o'clock at night. If you feed her regularly in the day time she will not be hungry at night, provided, of course, she is a healthy baby.

Household Editor:—Should salt be added to vegetables when they are put over to cook or after they are done?—Up-to-date.

Young, tender green vegetables are better salted when put over, as salt helps to keep the color in the vegetable, though it tends to toughen the vegetable fibre. Young spinach, asparagus and fresh green peas are better salted while cooking, but older vegetables which are inclined to be tough are better salted last. They will not have so good a color, but will be more tender.

Can anyone tell me what will take stains out of a white enameled sink?—Mrs. J. G. R.

Nothing is better than Javelle water. To make, mix one pound of sal soda, or pearl ash, one-fourth pound chloride of lime and two quarts cold water. Let stand several hours, then pour off clear liquid, bottle and keep in a dark, cool place. Do not put the hands in this but pour on the stains and scrub with a brush.

Make a small penwiper, a heart-shaped one, about two inches wide fits well, fasten a cord or ribbon to the middle of the top and tie to the neck of the ink bottle. Men who will not touch the usual ones will use these because they are always at hand.—V. H. K.

MICHIGAN FARMER PATTERNS.

These patterns may be obtained from the Michigan Farmer office at the prices named. Be sure to give pattern number and the size wanted.



No. 5727, Ladies' Waist Closed at Back with Removable Chemisette. Six sizes, 32 to 42 inches bust. Size 36 requires 2 1/4 yards 36-inch goods, with 1/2 yard 18-inch all-over, 1/4 yard 24-inch satin and 2 3/4 yards braid. Price, 10 cents.

No. 5735, Ladies' House Dress, with Body and Sleeves in One; Four-gored Skirt. Six sizes, 32 to 42 inches bust. Size 36 requires 5 1/2 yards 36-inch material, 3/4 yard 27-inch contrasting goods. Price, 10 cents.

No. 5775, Ladies' Waist, having Deep Armholes and Empire or Regulation Waistline. Six sizes, 32 to 42 inches bust. Size 36 requires 2 1/4 yards 36-inch material. Price, 10 cents.

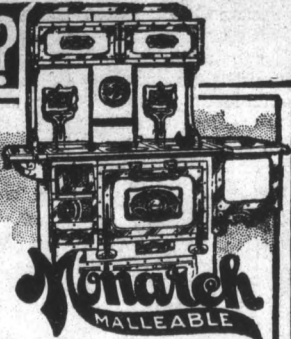
No. 5753, Children's Yoke Dress, Closed at Front. Sizes 2, 4, 6 and 8 years. Age 8 requires 3 yards 36-inch goods. Price, 10 cents.

No. 5748, Ladies' Six-gored Skirt, Closed at Left Side of Front. Five sizes, 22 to 30 inches waist. Size 24 measures 2 3/4 yards around lower edge and requires 3 yards 44-inch goods. Price, 10 cents.

Why Work So Hard?

EVERY TIRED HOUSEWIFE has looked forward to a new range, hoping that it will banish the drudgery from her kitchen.

The Monarch Malleable Range does the work in one-half the time—because it heats quickly—needs no blacking—is easily kept clean and bright—uses less fuel—and behaves just like a new range every day, year after year.



Monarch Malleable Ranges

are different—malleable iron and steel—riveted to stay tight—no bolts or putty—Asbestos and steel linings prevent rust or corrosion. No blacking—no smutty kettles to clean—abundance of hot water all the time,—as quick to respond and as easy to control as a gas range.

There is no secret—Our Malleable Foundry makes only range castings—The Monarch is made complete in our immense plant—we make nothing else. Our workmen are trained specialists—making one thing and making it right. The result is a range without comparison at a price little, if any, higher than ordinary ranges.



Thousands of Dealers Sell Monarch Ranges

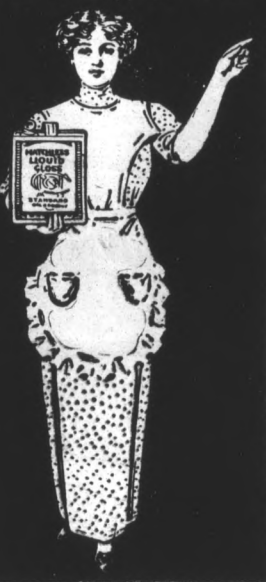
Investigate the Monarch. No matter if you do think your old range is good enough. The Monarch will save enough in fuel, time and work the first year to pay back all your old stove is worth.

FREE Two valuable books. "The Range Problem," a handsome 32-page book that tells how to avoid mistakes in selecting a range. "Cash in on the Old Stove"—an 8-page book about kitchen economy and satisfaction. Write for them today, giving name of cook stove you now have and how long you have had it.

Malleable Iron Range Co., 1106 Lake St., Beaver Dam, Wis.

Make Your Cooking a Daily Pleasure

Use It On Your Dusting Cloth



Just pour a few drops of Matchless Liquid Gloss on your dusting cloth, then wipe off the furniture, woodwork, hardwood floors (not wax finished) and linoleum and then polish with dry cloth—the same way you do regularly. But instead of brushing dust off one article only to see it settle on another—

Matchless Liquid Gloss

takes up every speck of dust, and disinfects every inch of wood it touches.

Keeps the whole house clean, polished like new, and thoroughly disinfected every day in the year—without a step of extra work.

Makes the body of the automobile like new.

Use it today.

For sale everywhere by all reputable dealers.

Standard Oil Company

(An Indiana Corporation)

(35)

Use POLARINE, the Oil for Your Motor Car and Motor Boat



BEE SUPPLIES AND BERRY BASKETS

Bee hives, Sections, Foundation, Smokers etc. Send for 64-page catalog of bee supplies, BERRY BASKETS and CRATES. Send for special Berry Basket catalog.

M. H. HUNT & SON, 400 Condit St., LANSING, MICH.



NO STALE BREAD

in your home if you buy a Home Comfort Bread and Cake Cabinet.

It keeps bread fresh for 2 weeks. Proof against rust, insects, mice, etc. Easily taken apart. All sold under a guarantee of Satisfaction or Money Back.

30 days trial. If dealer does not have the HOME COMFORT CABINET, write us direct. Price for family size, 17 inches wide, 28 inches high, 13 1/2 inches deep, only \$3.00 prepaid. Address HOME COMFORT BREAD AND CAKE CABINET CO., ST. PAUL, MINNESOTA.



Everybody's Wearing Them Now



THE LATEST NOVELTY

Silk Lined Crochet Hand Bag

Yours for \$1.

To popularize the Schmidt Knit Brand we will send you prepaid one of these

BEAUTIFUL BAGS on RECEIPT of \$1 and inclose name of your nearest dealer.

THE STANDARD KNITTING CO., 2202 Superior Ave., Dept. B, Cleveland, O.

SPLENDID CROPS

In Saskatchewan (Western Canada) 800 Bushels from 20 Acres

of wheat was the thresher's return from a Lloydminster farm during one season. Many fields in that as well as other districts yielded from 25 to 35 bushels of wheat to the acre. Other grains in proportion.

Large Profits are thus derived from the FREE HOMESTEAD LANDS of Western Canada.

This excellent showing causes prices to advance. Land values should double in two years' time.

Grain growing, mixed farming, cattle raising and dairying are all profitable. Free Homesteads of 160 acres are to be had in the very best districts; 160-acre pre-emption at \$3.00 per acre within certain areas. Schools and churches in every settlement, climate unexcelled, soil the richest; wood, water and building material plentiful.

For settlers' low railway rates and illustrated pamphlet, "Last Best West," and other information, write to Supt. Immigration, Ottawa, Can., or Can. Gov. Agt.

W. C. McINNES, 136 Jefferson Ave., Detroit, Mich. C. A. LAURIER, Marquette, Mich.

SINCE 1795 FAVORITE FOR INFLAMED AND WEAK EYES

DR. ISAAC THOMPSON'S EYE WATER

Gives almost instant relief and is easily applied. For bathing the eyes it is indispensable. Booklet free 25c SOLD EVERYWHERE.

JOHN L. THOMPSON SONS & CO., 161-5 River St., Troy, N. Y.

Acme Quality Interior Enamel
Gives furniture or
woodwork a hand-
some, lasting finish.
Pure white, tints or
rich colors.



Acme Quality House Paint
Made with great
care, from finest ma-
terials. Wears for
years. Will not
fade, scale or crack.

Acme Quality Paints Give Long Service

Mutilate the bark of a tree and you shorten its life. The bark is there for a purpose—to protect. Cover your buildings with paint that blisters, peels and cracks, and you greatly shorten their period of usefulness. The Acme Quality label removes every element of doubt. It assures you that every drop of Acme Quality Paint gives uniformly good results. It holds its brilliancy. Better still, it is sure armor against dampness and consequent decay.

ACME QUALITY

**Paints, Enamels, Stains
and Varnishes**

are easy to apply—look the best. Economical because of their remarkable surface-covering capacity and endurance.

Get Our Painting Guide Book

It's free, postpaid. Tells everything you should know about paints and their application. Send now.

Tell your dealer you must have Acme Quality Paints. If he can't supply you, address

**ACME WHITE LEAD
AND COLOR WORKS**
Dept. AA, Detroit, Mich.

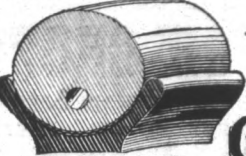


The Rubber Tires That Most Carriage Owners Want

For 13 years carriage owners have been using Goodyear Rubber Tires and comparing them with others. As a result of these tests, most carriage owners now prefer "Goodyears."

Nearly four million have already been sold. 24% more were sold last season than the season before and it looks now as if nearly twice as many "Goodyears" will be used this season as last.

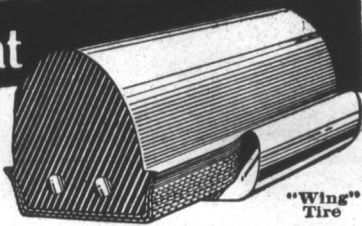
And three-fourths of all carriage builders, knowing the public's preference for "Goodyears," have adopted these tires. Nor do you find any other tire that's sold by so many retail dealers. Is not this great public recognition of Goodyear superiority your safest guide in buying tires for your carriage?



"Eccentric" Tire

Our Eccentric Cushion Tire

Is especially designed for lighter vehicles—runabouts, etc. Note the wire hole is below the center. This increases the wearing depth of the tire one-half. Saves you that much money. This tire stays firm in the channel. The high-grade, springy rubber used in the "Eccentric" makes it remarkably easy-riding. Always gives satisfaction.



"Wing" Tire

Our "Wing" Tire

Note this patented "wing"—how it presses against the channel, thus preventing mud, grit or water from getting in and quickly destroying the tire base. This tire remains sound. It won't creep or get loose. Gives utmost wear. Will protect your carriage and greatly lengthen its life. Being of tough, springy rubber, it is exceptionally easy-riding.

Free Tire Book Now Ready

Send us your name on a postal today for our latest Carriage Tire Circular and name of dealer in your town who sells Goodyear Tires. You'll pay no more for Goodyear Tires than for commonplace tires.

The Goodyear Tire & Rubber Co.
Akron, Ohio
Branches and Agencies in 103 Principal Cities

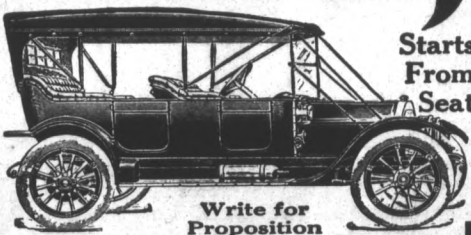
1912 Pratt "30" and Pratt "40"

List Prices \$1400 and \$2000
Fully Equipped

Pratt Cars have self-starter. Fully equipped. Thirty has 114 in. wheel base, 34 x 3 1/2 in. tires. Forty has 120 in. wheel base, 36 x 4 in. tires.

There are localities where we have no agent. If you are thinking of buying, write us. We will send catalog and interesting price on a car for your own use.

ELKHART CARRIAGE & HARNESS MFG. CO., ELKHART, INDIANA



Write for
Proposition

Starts
From
Seat

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

HOME AND YOUTH

A DAUGHTER OF THE GULF.

BY JANE WINSTON.

Chapter III.

Charlie Masters was full of a new project.

"The band will have to give an entertainment to raise funds," he told Curtis. "The Whitewave dramatic company will help us, and my idea is to divide the entertainment into two parts; have a short musical program for the first division, with all the band on the stage, in their new uniforms; then clear the stage, and have a short play. We have presented several plays a year by local talent for sometime and this time it must be something entirely different from anything we have ever had. I have been manager of the dramatic company for two years, and I think I know our public; at least, we have always pleased them, and I am sure we will this time." He dashed a hand through his wavy hair, his eyes glowing with enthusiasm. "I have the play all picked out. Guess what it is."

"You will have to tell me."

"What do you think of Romeo and Juliet?"

"You mean Shakespeare?"

"Sure. I have wanted to put it on ever since I saw it played in Houston. The minute Juliet came on I thought what a hit Sallie, Miss Roscoe, you know, could make in that part. The costuming will be great, too. Oh, we could get it up. Even if we did not do it quite so well, it will be new to the folks here, a sensation, and that always catches them. Of course, I would cut out bits here and there, and, here is my biggest idea, end it with the death of Mercutio. We do not want too much dying around on the stage, and Whitewave people do not like sad endings, such as it would seem if Romeo and Juliet both died. But if Mercutio died, they would like him all the more, and they might suppose, those who had not read the play, for example, that the hero and heroine got married after that. Between the acts, then, we might have a little comedy to brighten things up; people like to go from one extreme to the other. Put on a comic song or two, and let Bob have a black-face monologue. He is good at that sort of thing. I should think we could get it all up in six weeks. It will not really be any more expensive than a modern play. We will have to change the scenery at the opera house a bit, but Haines, who belongs to the band, is a painter, and can do it well enough. Then there are the costumes, but the girls can make theirs, and most of the boys have mothers and sisters."

Curtis was too astounded to protest. Then, after all, Charlie knew the Whitewave public, so his plan prevailed. But, like the course of true love, it met with obstacles from the first. Haines wanted pay for painting the scenery. Some of the costumes were beyond the skill of the Whitewave needlewomen. The language of late spring was upon land and sea and it was a weary little crowd that met for rehearsal night after night in the stuffy little opera house. Charlie had taken the part of Romeo.

"First time I ever played a hero," he confided to Curtis. "But, when I saw that fellow do it in Houston, I told myself that some day I was going to. If we only had a good Mercutio. Bob is such a stick. And Sallie will giggle, in spite of the world."

Meanwhile, Curtis had been duly installed in the shell shop for some time. People were still curious about him and brought him no end of lame watches and broken jewelry. Some of these were past his skill to mend, and he pigeon-holed them with many excuses. The charm of Linden Gray still held him. Though he saw her every day, he felt that he understood her no more than at first. She lived with her Aunt Jane, a thin, faded blonde, in two little rooms at the rear of the shell shop. Miss Gray was endlessly busy, but reposefully quiet. She spoke little, but somehow she was a very pleasant companion. She listened with amusement to humorous accounts of his wanderings. In the evenings, they went together to the rehearsals of the approaching entertainment.

"Mercutio has the measles," Charlie burst in upon Curtis one morning. "Now, isn't that the limit? And the performance booked for tomorrow night. Why could not he take them two weeks ago? He

has been a disappointment all the way through. We shall be compelled to put the thing off. It was so well advertised, too. People always lose interest in a postponed play."

In the afternoon Charlie was back again. "We can have the performance on schedule time after all," he announced, though not as cheerfully as might have been expected. "Sallie has just been telling me that Garlington, of all people, has offered to help us. It seems that he once played Mercutio at an amateur performance, and thinks that he remembers the lines. We can try him tonight, anyway."

That night the dramatic company was all expectation. Garlington dragged wearily through his part, but he made few mistakes, and his enunciation was distinct.

"He is no worse than Bob, anyway," Charlie decided. "We will have the play tomorrow, rain or shine."

The following day was hot and sultry. The feminine members of the dramatic company worked hard, transforming the Whitewave opera house into an imitation of Verona. Curtis arrived early, to find it deathly sweet with the odor of cape jasmines. On account of its length, the performance was announced to begin at eight o'clock. But the people of Whitewave knew how idle was this threat. By nine the house was two-thirds full of a laughing chattering crowd that applauded vigorously whenever one of the actors or musicians appeared. At ten minutes after nine proceedings could be delayed no longer, and the opening march began. People entered all along through its execution, and continued to do so until the performance was half over. When the perspiring musicians had finished their part of the program it took a long time to clear the stage for the play. The crowd was beginning to grow restless, and the play was evidently not exactly what they had anticipated. Curtis stood near a window at the side of the hall, noting everything. In spite of Charlie Master's efforts, the play dragged. The audience was unaccustomed to the wording of the play, and the actors rushed over the long lines, rendering them almost unintelligible. Charlie was nervous, his mind evidently wandering. The crowd began to yawn, whisper, and grow restless and uninterested. Then came Scene Four, and Mercutio appeared. The first words that Garlington uttered went ringing to the back of the house, commanding attention from the most listless. By the end of the scene the house was thrilling with interest. Whitewave did not need to be told that this was acting; Garlington was Mercutio. The rest of the company could scarcely recall their lines for listening to him. He interested, fascinated, thrilled them, and died—the real hero of as much of the play as they had presented. Curtis scanned the faces of the company in the last scene; he saw Romeo equally divided between rage and pleasure; he saw Juliet peeping from the wings, her eyes like twin stars, and he felt that this night's work might change both their lives. Nor was he far wrong, for, from that day forth, it was plainly to be seen that Charlie Masters was out of favor with the fair Juliet, and that Garlington reigned in his stead.

Chapter IV.

"People here have such odd ideas about being responsible for each other," Curtis remarked to Linden Gray. "They are always trying to play Providence." He had discussed this subject with her before, but today it had a real interest for him. That morning, Curtis had heard from what he considered a reliable source, that Miss Roscoe and Garlington were soon to be married, and something within was telling him that he ought to interfere.

"If you saw a man about to jump into the sea, you would stop him," declared Linden. Curtis laughed.

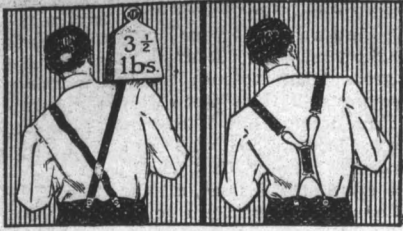
"I might," he returned, "and then, again, I might consider that he knew his own business better than I."

"You would stop him," she repeated, "though you might think you would not."

"But you people carry your kindness and good intentions to the point of absurdity. You shut gates left open on purpose, and cause one another no end of trouble."

"But you must admit the principle is good," she laughed, "and, if people do not do that way out in the big world, why, the more shame to them, that is all."

That evening, after band practice, Cur-



How Many Tons Do You Lift a Day?

With ordinary suspenders when you raise your shoulder two or three inches you lift three or four pounds.

With Shirley President Suspenders, when you raise a shoulder, the back cord gives with the motion. You get free shoulder movements and a new sense of comfort. No lift. No pull. See figure on right.

By removing the strain from the shoulders, Shirley Presidents make any kind of farm work less tiresome.

SHIRLEY PRESIDENT SUSPENDERS

Extra heavy for farm work, medium and light weights for dress. Extra lengths for tall men. Signed guarantee on every pair. Price 50c, from dealers or factory.

Wear a pair for a month. If not convinced that they are the best and most comfortable you ever wore we will buy them back at the full price you paid.

THE C. A. EDGARTON MFG. CO.
5 Main Street, Shirley, Mass.

Down-
and
off!

**TOWER'S
FISH BRAND
REFLEX
SLICKER**

THAT'S WHERE ALL
THE WATER GOES

Even the front of this slicker is WATERPROOF, our Reflex edges (Pat'd) guide every drop to the bottom. Made for good hard service yet looks like an ordinary overcoat.

YOU CAN'T GET WET

TOWER'S SATISFACTION
GUARANTEED
A-J-TOWER CO.
BOSTON
TOWER CANADIAN LTD.
TORONTO

\$3.00
EVERYWHERE



I WILL MAKE YOU PROSPEROUS

If you are honest and ambitious write me today. No matter where you live or what your occupation, I will teach you the Real Estate business by mail; appoint you Special Representative of my Company in your town; start you in a profitable business of your own, and help you make big money at once.

Unusual opportunity for men without capital to become independent for life. Valuable Book and full particulars FREE. Write today.

NATIONAL CO-OPERATIVE REALTY CO.

1612 Marden Building
Washington, D. C.

LIGHTNING RODS 8 1/2c PER FOOT

Best Quality Copper—Extra Heavy Cable. Don't do a thing about buying Lightning Rods until you get my Proposition. I have an entirely New Plan—a complete System direct to you with full instructions for installing. Easy to put up.

Buy Direct—On Trial—Freight Prepaid. System guaranteed satisfactory or your money back. Just write me a postal personally for my Proposition and FREE Catalog which makes every thing plain.

J. A. SCOTT, President

The J. A. Scott Company
Dept. J, Detroit, Mich.

AGENTS! BIG PROFITS

The only stropper that stops any razor diagonally. Guaranteed for life.

Brand's patented Automatic Razor Stropper Automatically puts a perfect edge on any razor, old style or safety. Big seller. Every man wants one. Write quick for terms, prices and territory. G. G. Brandt Cutlery Co., 42 Hudson St., N. Y.

tis strolled down the street towards Roscoe Brothers' place of business. A dim light burned within; something impelled Curtis to enter. The building seemed deserted, except for Garlington, who crouched over a desk in the rear. He had avoided this man, but the sight of him now awakened old memories to such an extent that he felt that there was but one course for him to pursue and he was anxious to get it over as soon as possible. Walking up to the desk he began without preliminary. "I hear that you and Miss Roscoe are to be married soon."

Curtis felt himself breathing quickly as he met the gaze of the amber eyes. They burned slowly into his, and it seemed an age before Garlington breathed a measured and non-committal, "Well."

"You must stop it, that is all," declared Curtis. "You must know as well as I that you could not marry her legally."

Garlington smiled with his strange eyes. "We know a great deal, don't we, Red Harmon?" he said carelessly.

The effect of his words upon Curtis was electrical. "Don't call me Harmon," he cried, fiercely.

Garlington smiled again. "Did you

think I did not know you?" he queried. "I never saw you many times, but I remember you as well as I do John and Wright and old Nell herself. Where is Mother Harmon now?"

"I have not seen any of them in years," replied the other, composing himself with an effort. "But I did not come here to talk about them."

"No, you came to protect Miss Roscoe from a wrong that you thought I was about to do her. But, my dear fellow, you were sadly mistaken. I am legally free. Molly is dead; Mother Nell took the child. I wanted to support it, but she had always hated me, and she was so eager to be rid of me, that, in spite of her meager circumstances, she would not accept a cent."

Curtis was at a loss; it was all so natural. But then back of this story was his own hasty admission that he had not seen the Harmons for years. Back of that, again, was the check Garlington had written.

"At least," he declared, "you ought to marry her under your own name."

Garlington's face did not change. "Garlington is my real name," he asserted, "the other was assumed."

(To be continued.)

THE BACHELOR UNCLE

BY EVERITT McNEIL.

The moment my back touched the ground I caught Rodney with my feet in the pit of the stomach, and he went over my head as if shot out of a gun, tearing loose his hold on my throat, and landing with a thud on the hard boards of the bridge.

We both got to our feet at the same instant and faced each other. For a moment Rodney crouched, his eyes glaring; and then, with a tigerish snarl, he rushed at me, insane with the fury of his rage. But I was now ready for him, and, jumping quickly to one side, I thrust out my foot as he plunged by, and tripped him up. He fell violently, face downward. Almost before the mud had ceased flying and before he could offer any resistance, I was upon him, with my knees pressing down upon his back and my hands gripping his two wrists. A quick jerk of his arms backward and upwards and he was at my mercy, exactly where I wanted him, for I had no intention of doing him the honor of fighting him. His contemptible villainy had placed him beneath the blow of an honest man's fist. Besides there were certain things I wished to say to him, for my soul's satisfaction; and, in the present frenzied condition of his mind, this could only be done by compelling him to keep quiet.

For some minutes Rodney squirmed and twisted and struggled violently, but, in the end, he lay still, panting and cursing and demanding an opportunity for a fair fight.

"I do not fight with scoundrels like you, Harry Rodney," I answered. "There is another and a better way of dealing with them, as you very shortly will find out, when I have said certain things that I think it needful for you to hear. Now, keep quiet, or I will twist your arms loose from your shoulders! I've got you exactly where I want you, and I am going to keep you there until I am through with you; and that won't be until I have given you clearly to understand that there are at least two persons in the world who know what a contemptible scoundrel you are. Harry Rodney," and, as I spoke, my grip on his wrists tightened. "Red Murdock died yesterday afternoon in my presence. His was an awful death. He died cursing you, accusing you. His last words were: 'Stop that wedding, John Delvin, stop that wedding,' and, thank God! Harry Rodney, that wedding is stopped."

"He confessed that you hired him to fire that shot at me in Black Man's Hollow, that you gave him one thousand dollars to give Belle, his own daughter, an overdose of opium to keep her from telling how you had deceived Elsie Lamont, and declared that it was your money that had hired the thugs who had killed him. Quiet, man, quiet! I'm not through with you yet; and I have no time to listen to a word from you, not a word!" and I pulled his arms upward, until the agony of the movement choked his words.

"Red Murdock's death is murder number one to your account, Harry Rodney," I continued grimly, "and this morning I learned of murder number two." He gave a violent start, but an upward jerk of his arms instantly quieted him. "Rod-

ney, Belle Murdock died this morning. The overdose of opium did its work at last; but not until she had sent for Elsie Lamont, and confessed everything to her, everything, Harry Rodney. Miss Lamont now knows what a contemptible cowardly, murderous villain you are; and she never wants to set eyes on you again."

"Now, I might kill you, even as you have tried to kill me; but I won't. I might surrender you to the authorities and tell them all that I know; but you have been cunning, Harry Rodney. The proofs against you are not definite enough, now that Red Murdock and Belle Murdock are both dead; and the law has many loopholes through which the wealthy and the cunning can escape. No, it would not be wise to leave your punishment to the law. The law has no fitting punishments for crimes such as yours. There is but one fitting punishment, Harry Rodney; and I am going to give you that, right here and now. Stand up on your feet, you contemptible cur, and take a cur's licking!" and, suddenly letting go of his wrists, I gripped him strongly by the back of his coat collar with my left hand and jerked him to his feet. At the same moment I seized the heavy rawhide horsewhip, which had fallen to the ground and lay within hand-reach, in my right hand, and, swinging it aloft, brought it down with all my strength across Harry Rodney's back. The lash of the whip cut through the cloth of his thin coat like a knife and bit into his back. Rodney screamed in agony and attempted to defend himself; but, quickly letting go of his collar, I leaped back out of reach of his hands and brought the whip down again and again, across his shoulders, his back, around his neck, his legs, every part of his writhing body.

Rodney cursed and screamed, and screamed, and again, and again sprang at me, but I met his every leap with a cut from the whip, merciless as the judgments of God, which I verily believe I was executing. He fell on his knees, shielding his face with his hands and arms, shrieking with pain and fear, and begging, imploring, crying for mercy. But I had no mercy. I saw the dead face of Belle Murdock, his murdered accomplice. I heard the crack of the rifle in Black Man's Hollow and felt the sting of the bullet across the top of my head. His whip lash burned again in my cheek. I remembered the six men sent to kidnap possibly to kill me. I thought of the two years of agony I had gone through, and, above all, of Elsie and the great wrong he had done her and me; and I had no mercy.

When I stopped striking with the whip Rodney lay huddled up on the ground, face downward, moaning and mumbling, cursing and praying, his body a mass of cuts and welts from the lash of my whip.

"Rodney," I said standing grimly over him, "get on your feet."

He obeyed abjectly, cringing, like the whipped cur that he was.

"I'll give you until sundown to get out of this part of the world; and if you come back, I'll wear out another rawhide on you just as sure as I am a living man. I am done with you. Go!" and I

THANKSGIVING PSALM

A Rhythmical and Grateful Chant.

A teacher in a Terre Haute public school joins in the chorus:

"Teaching is a business which requires a great deal of brain and nerve force. Unless this force is renewed as fast as expended the teacher is exhausted before the close of the year. Many resort to stimulating tonics for relief."

"For 3 years I struggled against almost complete exhaustion, getting what relief I could from doctors' tonics. Then in the spring of 1903 I had an attack of la grippe and malaria which left me too weak to continue my work. Medicine failed to give me any relief, a change of climate failed. I thought I should never be able to go back in school again."

"I ate enough food, (the ordinary meals—white bread, vegetables, etc.), but was hungry after meals."

"I happened at this time to read an article giving the experience of another teacher who had been helped by Grape-Nuts food. I decided to try Grape-Nuts and cream, as an experiment. It was a delightful experience, and continues so after a year and a half of constant use."

"First, I noticed that I was not hungry after meals."

"In a few days that tired feeling left me, and I felt fresh and bright, instead of dull and sleepy."

"In three months, more than my usual strength returned, and I had gained 15 pounds in weight."

"I finished the year's work without any kind of tonics—was not absent from duty even half a day."

"Am still in the best of health, with all who know me wondering at the improvement."

"I tell them all, 'Try Grape-Nuts!'" Name given by Postum Co., Battle Creek, Mich. "There's a reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.



Where Thousands of the Well Dressed Men, Who Wish to Save Money, Come From

Thousands of alert men look to us for their clothes, knowing that we are abreast the times, and that although they live a thousand miles away, they can have the same styles, the same perfect fit and pleasing fabric as the man in New York or Chicago.

Why not join the ranks of these satisfied, well dressed thousands? For the coming spring and summer seasons, blues and grays have attained a wide-spread popularity, while the browns, blacks and mixtures are still much in demand. Let us make your new suit in our custom clothing department. High priced designers, cutters and tailors will see that you get a perfect fit, and we will guarantee the material to give satisfaction in wear and appearance. Our prices are one-half that of merchant tailors.

Perhaps you desire your clothes "ready-to-wear." If so, we have a mammoth division at your service, to offer you a variety of smart styles, new, cleverly designed fabrics, at prices that will astonish you when compared to the high prices charged by retailers.

Remember our guarantee—every suit of clothes must fit perfectly and give complete satisfaction in every way, or your money refunded.

We have two free books of interest to you: Men's Made-to-Order Clothing. Men's and Boys' Ready-to-Wear Clothing. Write today for either one or both.

MONTGOMERY WARD & CO.
Chicago Avenue Bridge, 19th and Campbell Sts.
CHICAGO KANSAS CITY



"RANGER" BICYCLES

Have imported roller chains, sprockets and pedals; New Departure Coaster-Brakes and Hubs; Puncture Proof Tires; highest grade equipment and many advanced features possessed by no other wheels. Guaranteed for 5 years.

FACTORY PRICES direct to you are less than others ask for cheap wheels. Other reliable models from \$12 up. A few good second-hand machines \$3 to \$8.

10 DAYS' FREE TRIAL. We ship on approval, freight prepaid, anywhere in U.S. without a cent in advance. DO NOT BUY a bicycle or a pair of tires from anyone at any price until you get our big new catalog and special prices and a marvelous new offer. A postal brings everything. Write it now.

COASTER-BRAKE REAR WHEELS, lamps, parts and sundries half usual prices. Rider Agents everywhere are coining money selling our bicycles, tires and sundries. Write today.

MEAD CYCLE CO. DEPT. A-77 CHICAGO

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 the English language. For information apply to Recruiting Office, 212 Griswold St., Detroit, Mich.; Heavenrich Block, Saginaw, Mich.; Corner 1st & Saginaw Sts., Flint, Mich.; 144 West Main St., Jackson, Mich.; Huron and Quay Sts., Port Huron, Mich.

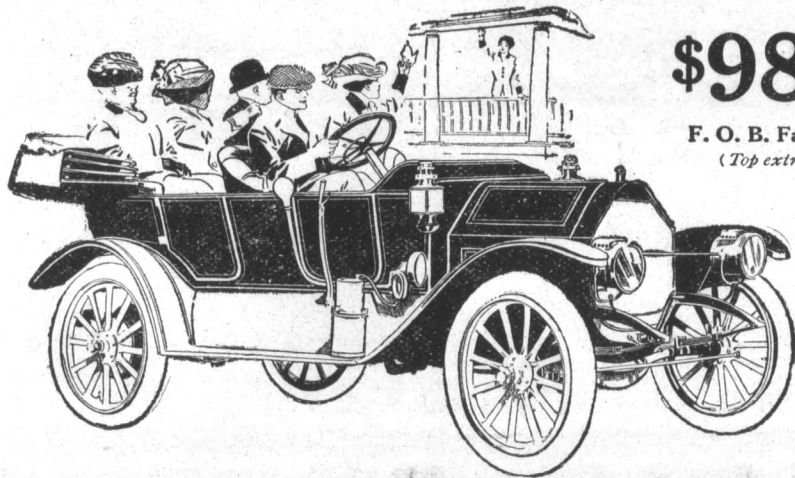
Farmers and their families everywhere have accepted my invitation to ride in the Maxwell "Mascotte"—will you ride in it at my expense?



I FIRST extended this invitation about a month ago and the acceptances I have received show me that this is the right way to demonstrate an automobile—on the roads where it will be used if purchased, under exactly the same conditions.

The responses to my invitation are great in number, but some parts of the country are not as well represented as I want them to be. So I am repeating my invitation, and if you have not yet accepted, do so now.

Maxwell "Mascotte"



\$980

F. O. B. Factory
(Top extra)

Mr. J. D. Maxwell,
74 West 61st St., N. Y.

Dear Sir:

I will be glad to accept your invitation to take a ride with my family in the Maxwell "Mascotte."

Kindly arrange to place a car at my disposal. It is understood that no expense or obligation on my part is involved.

Yours very truly,

Name

Address

Town

State

M. F. 4-27-12.

I am sure you will immediately see what an ideal car the "Mascotte" is for the farmer and his family—if you once take your family for a ride in it.

The average automobile "demonstration" falls far short of really showing what a car will do, so I don't want to demonstrate the "Mascotte" in that way. I want you to ride around the country-side some nice afternoon—up hill and down dale—over the roads you travel in your daily life. If you do this, you should be able to know when you get home in the evening just what kind of a car the "Mascotte" is and how well it is suited for use in your daily life. I want the family to go with you, too—the wife and the children. I designed the "Mascotte" to be a real family car and it is just that—a car for the whole family.

You may know something about Maxwell reliability and durability—you may know that nine out of ten Maxwells in use in New York State in 1905 are still in use today, after seven years of continuous service. Few cars come anywhere near this record.

You may know how sweeping was the Maxwell victory in the recent Glidden Tour—the hardest tour in history—in which the Maxwell was the only team to finish with a perfect score after 1450 miles of travel over the worst roads in the country. The Maxwell beat practically every other American car, some of which sell for as much as \$6000. You may be familiar with the marvelous non-stop record of the Maxwell, when it traveled 10,000 miles over country roads without once stopping the motor. If you know these things, you will know what to expect in the Maxwell "Mascotte".

The Maxwell "Mascotte" costs \$980, and I can safely say that no other car within \$200 of its price compares with it.

If I haven't had your acceptance to my invitation for you and your family to ride in the "Mascotte", send it to me today. Send it to me personally—fill out the attached coupon and I will instruct our representative near you to arrange with you and your family for a trip.

Write me today.

J. D. Maxwell

UNITED STATES MOTOR COMPANY

(Maxwell Division)

74 West 61st Street

New York City

CIDER PRESSES

THE ORIGINAL MT. GILEAD HYDRAULIC PRESS produces more cider from less apples than any other and is a

BIG MONEY MAKER

Sizes 10 to 100 barrels daily; hand or power. Presses for all purposes, also cider evaporators, apple-butter cookers, vinegar generators, etc. Catalog free. We are manufacturers, not jobbers.

HYDRAULIC PRESS MFG. CO.,
(Oldest and largest manufacturers of cider presses in the world.)

131 Lincoln Avenue, Mount Gilead, Ohio

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

Cedar Fence Posts.
GEORGE M. CHANDLER, Onaway, Mich.

SHERWIN-WILLIAMS PAINTS & VARNISHES FOR THE FARM



When you paint your home, use the best paint—Sherwin-Williams Paint (Prepared) (S W P). It looks best, spreads easier under the brush, saves the painters' time, covers the greatest number of square feet to the gallon and wears the longest possible time. Consequently, you can use the best paint, S W P, for a less average cost per year than in using cheap ready mixed or hand mixed lead and oil.

Sold by dealers everywhere. Ask for color cards

Address all inquiries to The Sherwin-Williams Co., 669 Canal Road, N. W., Cleveland, Ohio

When writing advertisers please mention The Michigan Farmer.

flung the whip from me, far out over the bridge railing into the water below.

"A fine reward your villainies have brought you, Harry Rodney," I said, "and no great harm to me; for the marriage ceremony will take place at the appointed time today; but I, and not you, will be the bridegroom who will wed Elsie Lamont. I know that Elsie's heart has been mine all the time, all the time, Harry Rodney; and so I am content and happy," and I turned my back contemptuously on the man and walked toward my carriage.

Rodney, with his head half-turned fearfully in my direction, his frame bent and trembling, his whole attitude that of a whipped dog, slunk limpingly away. For a minute or more I stood watching him; and, as I thus stood with my eyes on the abject figure of that once haughty man, I comprehended, as I never had before, the meaning of that old, old saying: "The way of the transgressor is hard."

Chapter XXIX.—"God Make me Worthy of the Great Trust."

I drove rapidly home and shortly after reaching the house received the following characteristic note from Nurse Wixam:

Mr. John Delvin, Esq.

Dear Sir:—Concerning the matter of the beautiful woman who visited Belle Murdock a short time before she was taken worse, I find that my judgment was at fault. If an overdose of opium was given to Belle Murdock it came from the hands of her father, who, I am told, was killed yesterday in a drunken row. A careful reconsideration of my acts during my attendance at the bedside of Belle Murdock has revealed one thing that I deem it my duty to impart to you. After the beautiful woman had gone I found on the floor a gold locket with a short piece of broken chain attached to it. Thinking that the locket belonged to Belle Murdock and that she had torn it from her neck in one of her paroxysms. I picked it up from the floor and placed it in her hand. She clenched her hand tightly over it and I left it there. I have since learned that the locket was the property of the beautiful woman; and, thinking that the finding of the locket in Belle Murdock's hand, might prove a cause of suspicion against her, I hasten to make this explanation. I absolutely have no other "confession" to make; and I demand my immediate release from this unjustifiable and humiliating detention.—Jane Wixam, Nurse.

The boy who brought me Nurse Wixam's note carried back the following letter to Sheriff Bowlder:

Dear Sheriff Bowlder:—There is no need of longer detaining Nurse Wixam. Everything has been satisfactorily explained. Kindly convey to her my regrets for her unavoidable detention, and set her at liberty. I am sure she will not attempt to make trouble, because of the irregular manner of her short visit with you; but, if she should, there is nothing to fear. You have my sincerest thanks for the part you have played in this matter. Congratulate me! I am to wed Elsie Lamont this morning at ten o'clock. Sincerely yours, John Delvin.

The moment the ceremony had been performed which gave to Elsie and me the rights of the dearest and sweetest companionship known to human life, that of wife and husband, and before a congratulatory word could be uttered, Elsie turned quickly from my side and threw her arms around Teddy and Ellen, who were standing directly in front of us, their sweet young faces shining with delight and interest.

"Oh, you dear, blessed children!" she exclaimed, kissing them rapturously. "Next to God I owe the happiness of this blessed moment to you, and you," and she punctuated each "you" with a hug and a kiss. "And I am going to be the very bestest aunt that ever lived, and Uncle John and—Aunt Elsie want you to come and live with them just as long as your mother and father can spare you, don't we John? Oh, you blessed little dears!" and there were more hugs and kisses.

"Indeed we do," I answered, bending quickly down and enclosing the three of them in my arms; for suddenly it had come to me how much of this day's joys—even my life—I owed to the doings of Teddy and Ellen. "And, if your father and mother are willing, we will adopt both this very day."

"The dear little matchmakers!" and Esther projected herself joyously into the general mix-up of loving arms and faces. "I wouldn't give you up to the best uncle and aunt that ever lived, indeed I wouldn't!" Besides, and she looked me archly in the face, "you know something dreadful might happen, John."

"Well, sister mine," I answered, "something did happen," and I looked down into Elsie's happy eyes, "something very serious, too; and I am quite sure that Teddy and Ellen are largely responsible for it. The happiness of the dearest little woman that ever lived has been placed in my keeping. God make me worthy of the great trust!"

(The End).

OUR GREAT TEN-DAY OFFER! To 5,000 Progressive Farmers

Introducing "Nitragin," the Salvation of the Soil
The Greatest Agricultural Discovery of the 20th Century

PROGRESSIVE farm owners, everywhere, are studying the vital subject of nitrogen. They are beginning to understand that the value of their crops, and the value of their land depend almost wholly upon amount of nitrogen (plus decaying vegetable matter) there is in the soil.

They are beginning to realize that they can keep the soil supplied with all the nitrogen and humus their crops require without buying one cent's worth of commercial nitrogen; that they can supply both nitrogen and humus for almost nothing—in fact they can make these right on their own farm by turning under inoculated legume crops, and nitrogen will thus cost less than one cent a pound.

You know that the word "legume" is applied to all pod-bearing plants, such as alfalfa, clover, peas, beans, etc. You know that the Government bulletins, farm papers and other authorities have, for years, been urging the farmer to grow legumes; that this advice comes from every quarter; that the almost universal slogan is "legumes are the salvation of the soil." In fact, you won't find one man in a hundred who does not know this.

Legumes Get Nitrogen from the Air.

But, neither will you find one man in a hundred who really knows why so many authorities are recommending legumes. Most farmers know that legumes are good green manure crops. Many know that legumes enrich soil. Some of them know that legumes bring nitrogen to the soil. But how many know that it is the legume GERM that really does the work? How many know that it is the legume germ alone that makes it possible for any legume to take nitrogen out of the air and store it in the soil.

The slogan "legumes are the salvation of the soil" is wrong, for legumes without the GERMS are as big soil robbers, as oats, or wheat, or corn, or cotton, or any other non-leguminous plant. It is the GERMS that do the work. It is the GERMS that take the nitrogen out of the air. It is the GERMS that enrich the soil.

You must know, however, that the germs that perform this wonderful work must have the co-operation of the legumes. That they live and thrive on the roots of legume plants only, which, of course, is the reason why agricultural authorities all recommend the growing of legume crops. But you will now understand that these authorities should have gone a step farther, and have urged farmers to grow inoculated legumes. And the slogan should be "inoculated legumes are the salvation of the soil," or, to be more accurate,

"Legume Germs are the Salvation of the Soil."

You will now understand and appreciate our slogan "NITRAGIN the Salvation of the Soil," since "NITRAGIN" is simply the trade-name for the GERMS

that live at the roots of the legumes, and it is these Germs that make the soil richer by taking nitrogen from the air and storing it up in the soil.

Scientists studied these germs for years. They are still studying them, for these wonderful legume germs are playing an important part in the solution of man's mightiest problem—"How can the fertility of the soil be maintained?"

Legume germs are commonly known as nitrogen-gathering germs. We are breeders of these very germs, and our business (after they are bred) is to pack them in small tin boxes (along with some food stuff to keep them alive) and sell them to the farm-owner, who mixes them with his seed and then sows germs and seeds together.

Right here, let us give you seven facts which scientists have discovered concerning these great benefactors of Man—the nitrogen-gathering Germs:

What "Nitragin" Germs Do

1. These Germs make the legume plants healthier, harder, deeper-rooted, quicker of growth, and give them greater food value, since they contain more nitrogen (protein) than germless legumes.

2. Legumes without these nitrogen-gathering Germs in their roots do not thrive well, and get all their nitrogen food out of the vegetable matter in the soil, the same as do oats, wheat, corn, etc.

3. Alfalfa and some of the clovers wither away and die, unless these germs are in their roots; or at best, they never produce a crop worth harvesting.

4. These germs, in co-operation with legumes build up worn-out land.

5. Legumes without these germs never add an ounce of nitrogen to the soil.

6. These germs and legumes maintain soil fertility.

7. Legumes without these germs, and all other crops (non-leguminous crops) rob the soil of its fertility. You should grasp the above facts firmly in your mind, for they are strong, vital, fundamental truths. With the above facts in mind, ask yourself why you should plow under a legume crop for its nitrogen, unless it has these nitrogen-gathering Germs in the roots? Unless the crop is inoculated—or "NITRAGINED," as farmers are beginning to call it—the green manuring will not add an ounce of nitrogen to your soil. It will only put back what it took out of the land.

You had far better plow under some crop the seed of which is cheaper than the costly legume seed. But if you want a catch of alfalfa, clover, vetch, soy beans, etc., you must see to it that these legumes have nitrogen germs in their roots.

If you want greater fertility instead of less, increased value of your land rather than decreased, you should green-manure and rotate with some "NITRAGINED" legume plant.

A legume becomes "NITRAGINED" when its seeds

are treated with "NITRAGIN." The seeds are then spread over the floor to dry. When dry enough to handle, they are planted along with the germs, in the usual manner.

The method is simple and inexpensive. It is the common-sense logical way of inoculating legumes. It is cheaper, easier, and surer than soil transfer and has none of its dangers. The "NITRAGIN" method is endorsed, recommended and encouraged everywhere by the highest Agricultural authorities, including the United States Government, Experiment Stations, Soil Experts and Editors of best-known Farm papers. "NITRAGIN" meets the great agricultural need of the hour—greater soil fertility.

Our Offer to You

In order to quickly introduce "NITRAGIN" to one or more farmers in every township, we have decided to distribute a certain amount upon exceptionally favorable terms in order to prove to you and your neighbors just what "NITRAGIN" will do. Write at once for our great 10-day offer. Be the first to respond from your township. Act quickly because we have allotted only a certain amount of "NITRAGIN" for this offer. First come—first served—send us the coupon now.

Free Bulletin Explains All.

We can't tell you half the facts about "Nitragin" here, so we have prepared a bulletin "Old Farms Made New," which shows by actual photographs and bona-fide testimonial letters from prominent users just what "NITRAGIN" will do, and how "NITRAGIN" has brought success to alfalfa growers and other farmers in many states. In short, it proves all we have said here.

We want you to have a copy of this bulletin whether you ever use a cent's worth of "NITRAGIN" or not. Send for the bulletin now—take time to read it—profit by the truths it contains—prepare to make a bigger success of farming this season and every season hereafter.

The bulletin is FREE—just send the coupon, that's all. In addition to sending you the bulletin, we will explain our Great 10-Day Offer on "NITRAGIN."

Fill out and Mail
Coupon Now
Before it is
Misplaced

Name

Town

County

P. O. Box
or
R. F. D. State

WRITE
QUICK
FOR FULL
DETAILS
—
SEND THE
COUPON
NOW!

German-American
"Nitragin" Co.,
296 Mason St.,
Milwaukee, Wis.

Please send me your free bulletin
"Old Farms Made New" and full particulars of your Great Ten-Day Offer on
"Nitragin".



H. C. PHELPS
President

gies throughout the United States. I have all gone on free trial, all guaranteed for two years—subject to return if not satisfactory. I am the originator of selling buggies on trial. I had to make good buggies to sell on that plan. No retail dealer dares sell his buggies on a month's free trial.

Split Hickory Vehicles

Made-To-Order

Sold On 30 Days' FREE TRIAL
The Saving of Big Money

Why not send for my big book no matter where you buy. I offer more vehicles than you can find in 25 retail stores.

I am not selling automobiles; I am selling buggies. One or two shop-worn, dust-covered samples won't do for my trade. Everything I offer is strictly up-to-date. Auto-seat Buggies, Surreys, Phaetons, latest style traps—everything, including all kinds of Harness. All at manufacturers prices.

Doesn't this ad, so far, sound as though you ought to get my free book? It costs you only a penny. You ought to post yourself on what a buggy will cost no matter where you buy. Remember, my 150,000 customers have bought on this plan from me.

I believe I can interest you. Anyway, don't you want to accept my proposition and let me pay the postage on my big book to you? Then just write a postal card. Remember, Split Hickory Vehicles are trade-marked "Highest grade vehicles made," H. C. PHELPS, President

THE OHIO CARRIAGE MFG. COMPANY, Station 32, COLUMBUS, OHIO

To Thinking Buyers of Buggies

I Want to Pay Postage to You on My Big, Free Buggy Book for 1912

IT IS JUST OFF THE PRESS. It is the best book I have ever written. It shows more styles than I have ever shown before. It quotes you factory prices, direct, on 125 styles of buggies and harness. It is a book written for thinking buyers—the man who wants to get the lowest price possible on the best buggy made.

I have been making buggies to order for 12 years. I have had to sell them in the hardest competition. I have had to save every buyer of big money to get his order. I have sold 150,000 buggies. I have never heard of one of my buggies that was worn out. They have all gone on free trial, all guaranteed for two years—subject to return if not satisfactory. I am the originator of selling buggies on trial. I had to make good buggies to sell on that plan. No retail dealer dares

Save \$25
and Up On
This
Buggy

125
Styles
Shown
In My
Book

Made in
My
own
factory
to
your
Order

Don't
You
Want a
30-Day
Free
Road
Test
of this
Auto
Seat
Buggy

Two
Years'
Guar-
antee

1912 Model Auto-Seat
Split Hickory
Special

\$50 SEWING MACHINE FOR \$19

New Model Drop Head, with ball bearing head and stand, Automatic lift, high arm, oak or walnut table, guaranteed 20 years.

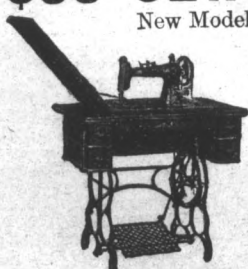
We Pay Freight AND ALLOW 90 Days' Trial.

The Michigan Farmer contracts for large quantities of these machines direct from one of the largest factories in the world. You pay no middlemen's profits or agent's commission, in fact you pay only factory cost plus a very small profit to pay us for handling machines.

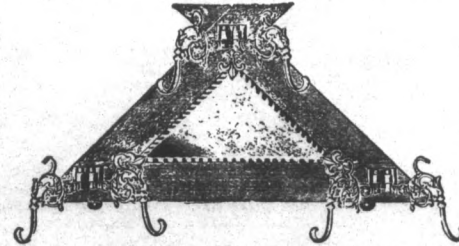
Other Machines at \$12, \$15, and \$16.

Send at once for free illustrated catalog.

THE MICHIGAN FARMER, Detroit, Mich.



Beautiful Combination Wall Hat Rack and Mirror.



The frame is made of pressed steel. Ormola gold finish, baked on. French chip edge, mirror in center. Six removable hooks. Two hangers. Extra well made. Worth \$2.50.

Our Price Only \$1.25

By Express at Buyer's Expense.

Or you can get it free for only four subscriptions to The Michigan Farmer (1, 2, 3 or 5 years). For six subscriptions we will also prepay the express. THE MICHIGAN FARMER, Detroit, Mich.

MARKETS

DETROIT WHOLESALE MARKETS.

April 24, 1912.

Grains and Seeds.

Wheat.—With every quarter of the soft wheat belt firing news of extreme damage to the trading centers, the market for this grain experienced the very exceptional feat of advancing prices for 12 consecutive days without a break until Tuesday of this week when a reaction amounting to a half cent was realized by the bears. The advance in all amounted to nearly 15c per bushel. The splendid covering of snow the past winter had led to the belief that the grain under it was in excellent condition, but when the fields cleared and warm days and rains began to liven the plants it became evident that much injury had been wrought between the time the crop went into winter quarters and when it emerged. So extensive has been the damage that it is expected fully 5,000,000 acres will be plowed up and put to other spring crops. Adverse crop estimates have come from Missouri, Indiana, Ohio and Illinois, and many of the states west of the Mississippi where it was at first thought better prospects prevailed, are now being brought in question, so that traders who are short of grain are manifestly anxious lest they have to secure the grain on a much higher price basis than is even now prevailing. The reaction Tuesday was due to some selling by "longs" who wished to take profits. The market quickly rallied from a wide decline early in the day which evidenced the strong position of the deal in spite of the advance. The reaction had been looked for several days before it appeared. The price a year ago was 88½¢ per bu. for No. 2 red. Visible supply decreased 1,800,000 bu. Quotations are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	1.10½	1.08½	1.10½	1.10½	1.09½	1.11½
Friday	1.12	1.10	1.12	1.12	1.11½	1.13½
Saturday	1.13	1.11	1.13	1.13	1.12½	1.14½
Monday	1.14½	1.12½	1.14½	1.14½	1.13½	1.15½
Tuesday	1.14	1.12	1.14	1.14	1.13½	1.15½
Wednesday	1.14½	1.12½	1.14½	1.14½	1.13½	1.15½

Corn.—An improvement in weather conditions has made the outlook appear a little brighter for the discouraged bears but was not sufficient in the face of the heavy advance in wheat to prevent maintaining the high price for the season established at the close of the market last Wednesday. On Tuesday there was a slight rally of eastern demand but the south was taking hope from the clearing weather and canceled orders sent in earlier. The high prices limit activity. In Kansas and other western states there is a heavy falling off in offerings at primary elevators. The price a year ago was 54c for No. 3 corn. The visible supply decreased 1,878,000 bu. Quotations for the week are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	79½	81½
Friday	79½	81½
Saturday	79½	81½
Monday	79½	81½
Tuesday	79½	81½
Wednesday	79½	81½

Oats.—This market has been favored in the same manner by weather conditions that corn has, although it is now impossible to get the bulk of the seed in on time in any of the oat sections of the country, and this trade has, as a result of this delay, rallied from the prices of last week and given the sellers an advance of fully a cent for all grades. Sales are limited by the shortage of the stocks in dealers' hands. Offerings from country places are small. Visible supply showed a decrease of 899,000 bu. The price last year was 36c for standard oats. Quotations for the week are:

	Standard.	No. 3
		White.
Thursday	62	61½
Friday	62½	62½
Saturday	63	62½
Monday	63	62½
Tuesday	63	62½
Wednesday	63	62½

Beans.—Values show an increase of four cents for cash and two cents for May delivery, since a week ago. There is no animation in the trade here. The deal is reported firm at the new quotations. Following are the quotations fixed by the board of trade:

	Cash.	May.
Thursday	\$2.42	\$2.45
Friday	2.42	2.45
Saturday	2.42	2.45
Monday	2.42	2.45
Tuesday	2.42	2.45
Wednesday	2.44	2.47

Clover Seed.—There has been some contracting for clover seed the past week but the range of values ruled lower than for the previous week. Sales were not large. October deliveries remain steady. Alsike is lower. Quotations are:

	Cash.	Oct.	Alsike.
Thursday	\$12.00	\$10.25	\$12.25
Friday	12.00	10.25	12.25
Saturday	11.75	10.25	12.00
Monday	11.75	10.25	12.00
Tuesday	12.00	10.25	12.00
Wednesday	12.00	10.25	12.00

Timothy Seed.—On Tuesday prime spot sold on the local market for \$6.10 per bu. which is 10c below the quotation for the same grade a week earlier.

Rye.—In spite of the change in wheat values rye has remained steady at the quotation given last week, which is 94c for cash No. 2.

Flour, Feed, Potatoes, Etc.
Flour.—Prices are changed and the trade is being encouraged by an improvement in the demand. Rye flour is steady. Straight \$4.40
 Patent Michigan 5.00
 Second Patent 4.75
 Rye 5.20

Feed.—Bran and middlings rule steady while corn and oat feeds are up. The carlot prices on track are: Bran, \$30 per ton; coarse middlings, \$30; fine middlings, \$32; cracked corn and coarse corn meal, \$33; corn and oat chop, \$32 per ton.

Hay and Straw.—Timothy hay and rye straw are higher. Remaining grades show no change. Quotations: No. 1 timothy, \$27@27.50; No. 2 timothy, \$25@25.50; clover, mixed, \$24@25.50; rye straw, \$12.50@13; wheat and oat straw, \$11@11.50 per ton.

Potatoes.—While the eastern markets are easy, due to the heavy receipts of tubers from foreign countries, those of the west remain about steady with a week ago, the offerings just nicely caring for the demand, which is good considering the high prices prevailing. In car lots the quotations run from \$1.15@1.20 per bushel.

Provisions.—Family pork, \$19@20; mess pork, \$18; clear, backs, \$17.50@19.50; picnic hams, 10c; bacon, 14@15½c; pure lard in tierces, 10c; kettle rendered lard, 11½c per lb.

Dairy and Poultry Products.
Butter.—With a normal amount of business transacted the butter trade is continuing with quotations unchanged from a week ago. Demand and supply are ruling steady with the former period. Quotations are: Extra creamery, 31c; first do., 30c; dairy, 22c; packing stock, 21c per lb.

Eggs.—Receiving liberal supplies and being supported with a widening demand the deal remains steady with a week ago. The price for current receipts being 19½c per dozen, which was the same price quoted last week.

Poultry.—This market has a firm tone, offerings are very scarce, and values unchanged from a week ago. Quotations: Live.—Spring chickens, 15@16c; hens, 15@16c; turkeys, 16@18c; geese, 11@12c; ducks, 14c; young ducks, 15@16c per lb.

Veal.—Veal is higher for fancy. Fancy, 10@11c; choice, 8@9c per lb.

Cheese.—Steady. Michigan, old, 22c; Michigan, late made, 20½@21c; York state, old, 22@23c; do. new, 20½@21c; Limburger, 21@22c; domestic Swiss, 22@24c; brick cream, 20@21c per lb.

Fruits and Vegetables.
Cabbage.—Steady; now selling at 3½@4c per lb.

Onions.—Unchanged; \$2.40 per bu.

Apples.—Trade continues firm with values ruling a little higher. Baldwins are selling at \$3.40@4; Steele Red, \$6@6.50; Ben Davis, \$2@2.50.

OTHER MARKETS.

Grand Rapids.

Hay, loose in loads, is bringing \$20@22 per ton. The city market on the Island is again open and Tuesday morning's prices were as follows: Potatoes, \$1.30; pieplant, \$1.25 per bu; radishes, 23c per dozen bunches; spinach, \$1.25 per bu; lettuce, 7c per lb; onions three bunches for 25c; parsnips, \$1 per bu; yellow turnips, 35c; vegetable oysters two bunches for 25c. Fancy apples are selling for \$1.75; good stock, \$1.25@1.40. Eggs are quoted at 18c; dairy butter, 25c, jobbers to country trade. Dressed hogs are worth 8½@9½c. Grain prices are as follows: Wheat, \$1.07; oats, 60c; corn, 80c; rye, 99c. Beans are worth around \$2.

Chicago.

Wheat.—No. 2 red, \$1.13½@1.15; May, \$1.13½; July, \$1.09½.
 Corn.—No. 3, 78@79c; May, 78½c; July, 76½c per bu.

Oats.—No. 2 white, 57½@58c; May, 57c; July, 54c per bu.

Barley.—Malting grades, \$1.10@1.38 per bu; feeding, 75@85c.

Butter.—Unchanged under limited offerings and a quiet demand. Quotations: Creameries, 28@31c; dairies, 24@28c.

Eggs.—Top grades are off ¼c and miscellaneous receipts are quoted 1c lower, due to extremely liberal offerings. Quotations: Firsts, 18½c; ordinary firsts, 17½c per dozen; at mark, cases included, 17@17½c.

Potatoes.—Lighter receipts and a fairly active demand are holding this market steady. No change in values worthy of note. Michigan and Minnesota stock now quoted at \$1.25@1.28 per bu; Wisconsin, \$1.20@1.25.

Beans.—Active, with prices firmly held. Quotations: Pea beans, choice hand-picked, \$2.65 per bu; prime, \$2.55; red kidneys, \$2.50@2.60.

Hay and Straw.—Practically all grades show an advance. Market firm. Quotations: Timothy, choice, \$26.50@27; No. 1, \$25@26; No. 2 and No. 1 mixed, \$23.50@24.50; No. 3 and No. 2 mixed, \$18@21.50; clover, \$21@23; No. 2 and no grade, \$13@18; alfalfa, choice, \$24.50@25; No. 1, \$23@24; No. 2, \$21@22.50. Straw.—Rye, \$10@11; wheat, \$8@9; oat, \$9.50@10.

New York.

Butter.—While western markets were steady the trade here dropped a cent for regular grades. Creamery special, 32c; extras, 31½c; firsts, 30½@31c; packing stock, current make, No. 2, 23½@24c per pound.

Eggs.—Supplies large but values steady to higher. Quotations: Fresh gathered extras, 22@22½c; firsts, storage packed, 21@21½c; do. regularly packed, 19½@20½c; western gathered whites, 21@22c per dozen.

Poultry.—Alive.—Two cars were sold at auction for 13½c per lb., while 35 cars were held over with owners asking from 15@16c. Dressed.—Fowls lower; turkeys steady. Fresh killed fowls, 14@16½c; turkeys, 13@22c per lb.

Boston.

Wool.—This is the "between season" in the wool markets and the amount of business done is consequently very small. The manufacturers are working with short supplies and necessarily have to keep an eye on the raw material market to replenish whenever an opportunity offers. Buyers failed to get relief from the recent London auctions which show an

advance in value of from 2½ to 5 per cent. Contracting for the new clip is not attaining any large proportions for growers are not making the business attractive to buyers by asking a liberal price for their shearings. There is, however, such a strong feeling in the trade that little apprehension is felt by sheepmen as to loss from failure to make contracts upon the present basis of values. In the fleece states the season is not far enough along to give the market a satisfactory idea of the trend of the buying; however, there are some Michigan growers who have expressed themselves as not ready to take less than 20 and 22 cents for fine and medium grades respectively. The market is strong and the growers ought to secure a fair price for their wool this season.

Elgin.

Butter.—Market firm at 31c per lb., the price of the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

April 22, 1912.
 (Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, New York).

Cattle.

Receipts, 180 cars; market 10@15c lower; best 1,400 to 1,600-lb. steers, \$8.50@8.75; good prime 1,300 to 1,400-lb. steers, \$7.75@8.25; good prime 1,200 to 1,300-lb. shipping steers, \$7.25@7.75; best 1,100 to 1,200-lb. do., \$7@7.25; medium butcher steers, 1,000 to 1,100 lbs., \$6.25@6.60; light do., \$5.50@6; best fat cows, \$5.50@6.50; fair to good do., \$4.50@5.25; common to medium do., \$3.75@4.25; trimmers, \$2.50@3; best fat heifers, \$6.25@6.75; good do., \$5.25@5.85; fair to good do., \$4.90@5.15; stock heifers, \$4@4.25; best feeding steers dehorned, \$5@5.20; common feeding steers \$4@4.25; stockers, all grades, \$4.75@5.25; bologna bulls, \$4@4.50; stock bulls, \$3.25@4; best milkers and springers, \$4@5.00; common to good do., \$2.50@3.00.

Hogs.

Receipts, 100 cars; market 15c lower; heavy, \$8.10@8.15; yorkers, \$8@8.05; pigs, \$7@7.25.

Sheep and Lambs.

Receipts, 60 cars; strong, top wool lambs, \$8.90; clipped, \$7.75@7.85; yearlings, \$6.50@6.75; wethers, \$6.25@6.50; ewes, \$5@5.50; calves slow; tops, \$8@8.25; fair to good, \$6.50@7.50; heavy, \$4@5.

Chicago.

April 22, 1912.
 Cattle. Hogs. Sheep.
 Received today 21,000 66,000 25,000
 Same day last year. 25,693 51,591 21,815
 Received last week. 47,962 119,297 78,995
 Same week last year. 41,498 111,649 77,444

There is only a moderate general demand for cattle today, but the supply is so moderate for a Monday that recent prices are paid readily, and the scarcity of strictly prime beefs tends to make them firmer, although there is no advance. Stockers and feeders are at the highest prices for the year, and they are more likely to go still higher than lower. Hogs took a fall this morning of fully 15c on account of the exceptionally liberal receipts, trade showing fair animation on local and shipping account. Light hogs are selling at \$7.25@7.75, with the best strong-weight hogs bringing \$7.85. Hogs marketed here last week averaged 228 lbs., the same as a week earlier and two years ago, the average weight a year ago having been 241 lbs. Sheep are selling slowly, but lambs are in active demand, and several sales of prime unshorn lambs at \$8.50 shows a further advance of 10c in the best grade. More clipped flocks are here today than on any previous day this season.

Cattle have had considerable fluctuations in prices recently, starting off last week with prices largely 10@15c higher on a Monday run of 22,122 head and ruling that much lower on Wednesday on a pretty good-sized mid-week supply. The best demand is usually experienced on Monday, and it does not ordinarily take a big supply on Wednesday to bring about a decline. However, no matter what reactions may take place in prices from time to time, cattle are certainly bringing extraordinarily high prices compared with former years, 1910 alone excepted, and this is especially the case as regards really good lots, whether beef steers, fat heifers, or high-grade feeders. Beef steers sold last week largely at a range of \$6.70@8.30, with the poorer light-weights bringing \$5.60@6.70 and choice to fancy heavy beefs \$8.30@8.75. No cattle with much weight that were entitled to be called good were sold below \$7.75, although reports were sent out giving lower prices. However, desirable yearlings could be bought much lower than equally good heavy cattle that had been fed a long time. The packers bought a good many fat female cattle, as well as numerous cattle on the feeder order that had some killing value and weighed 900 lbs. or more. Cows and heifers had a good outlet at \$4@7.50 for ordinary to prime grades, with cutters selling at \$3.35@3.95, canners at \$2.25@3.30 and bulls at \$3.75@7. The receipts of calves from dairy districts rose to extremely liberal proportions, as is customary in April, over 9,000 calves showing up on Tuesday, named as "calf day" at the stock yards, and prices reached lower levels, ruling at \$3.50@7.50. Milk and springers had a moderate sale at \$35@70 per head, with meaty backward cows going largely to killers. Stockers and feeders were moderately active at ruling high prices, the former selling at \$4.25@6.25 and the latter at \$5.60@6.80.

Hogs made new high records last week, the highest prices being paid since January, 1911. The recent advances have surprised many people, who had been unprepared to see further upward movements after hogs reached \$8, but it is a case of large local and eastern shipping requirements and inadequate supplies, so that there is no telling how high values may go yet before top is finally reached.

It is known that matured hogs have been very closely marketed from all parts of the west, that the eastern hogs were mostly marketed many weeks ago, and that until after farmers get through with their spring work, they are not going to have much spare time for shipping their hogs to market. Furthermore, most stock feeders realize that it will pay them well in all probability to put plenty of weight and a good finish on their hogs, and this is reflected in the recent considerable average gains in the weight of the hogs marketed. Provisions have shared in the upward movement in the raw material, and fresh pork is higher, it being now a question of how much higher the market can go without seriously disturbing consumption, which is already diverted in no small degree to eggs and vegetables. The highest price paid for hogs was \$8.20, and reactions left the closing prices of the week at \$7.40@8, with stags at \$7.75@8.40 and pigs at \$5.40@7.35, according to weight.

Sheep and lambs have sold extremely high recently, reaching the highest levels of the season, prime woolled and clipped lambs fetching very satisfactory figures on a remarkably good demand on local and shipping account. The proportion of clipped consignments has undergone a marked increase, and these flocks are sold at discounts of 75c@1 per 100 lbs. from prices paid for unshorn stock. The offerings, as a rule, have been very moderate as compared with the time when the markets were crowded with flocks from western and middle western feeding districts, and sellers were able to dictate terms much of the week, particularly for anything fancy. Most of the Colorado flocks have been shipped out of that state, and recent marketings have been confined largely to supplies sent from big railroad feeding stations not far from Chicago. Woolled lots sold as follows: Lambs \$6@8.35; yearlings, \$6.50@7.25; wethers, \$5.90@6.90; ewes, \$4.50@6.50; bucks, \$4.50@5.50.

Horses have been in better demand for a week past, the advance in the season bringing out a larger number of buyers from different parts of the country, and larger receipts failed to depress prices much. Farm workers were salable at \$100@200 per head, and there was more call for saddlers at \$160@300, with few prime ones offered. Wagon horses sold mainly at \$160@200, prime delivery wagon horses being salable up to \$250. Light drafters sold freely at \$175@225, and heavier ones were salable all the way up to \$275@325, few being good enough to bring \$300 or thereabouts.

LIVE STOCK NOTES.

Regarding the recent cattle sales on the Chicago market, a market reviewer says: "Probably 10 per cent of current supply is selling above \$8, such cattle dressing 60@62 per cent. About 60 per cent of the crop sold at \$7.25@7.70, cattle realizing these prices dressing 57@58 per cent. There is a \$6.50@7 delegation of steers going to killers, but they are buying little under \$7. The class selling at \$7.60@7.90 are not good and few of them dress over 58 per cent."

Distillery-fed cattle have been selling in the Chicago market recently at \$8@8.25 per 100 lbs., and Iowa corn-fed steers at \$8@8.15 mainly. A two-car consignment of 1,169-lb. hay-fed Montana steers sold recently at \$7.30.

The Chicago stock yards have been receiving the big annual supplies of calves shipped from the dairy districts of Wisconsin, Michigan and other near-by states, and many of them were removed too soon from their mothers, causing them to sell extremely low in price. Good heavy and strong-weight calves have been scarce and high. Weekly supplies have exceeded 18,000 calves a week, running as high as 19,000 head.

In a short time the demand for saddle horses, already starting up, will be active in the Chicago market, and it will pay farmers intending to furnish such animals to see that they are well fattened before selling. The demand always centers on the best grade, and thin, cheap looking ones sell badly, if at all.

Prominent farmer-stockmen in Laporte county, Indiana, have marketed at Chicago recently beef cattle that got the greater part of their flesh gain off of corn silage and roughness, with very little corn fed them. After much investigation, they have reached the conclusion that the best results to be had in feeding cattle, where hogs do not follow them, are from feeding silage, cottonseed meal and ground corn. Where hogs follow the cattle, of course, shelled corn should be substituted for the ground corn.

A marked difference of views regarding prices exists between sheepmen and wool buyers regarding the prices of the spring clip in the range states, owners demanding at least 20 cents per pound and sometimes a higher figure, while buyers are offering from 17 to 18 cents. In Nevada, however, considerable business has been transacted at prices ranging from 13 to 14 cents in most instances, and some choice clips were closed out for 15 cents.

Strictly prime handy heifers are selling extremely well right along in the Chicago market, with not enough fat female cattle to meet the good killing demand. Not long ago an Illinois stockman had a consignment of fancy heifers on the market raised and fed by him that averaged over 673 lbs. and brought \$7.50 per 100 lbs. Extremely few such heifers are marketed.

An Iowa stockman marketed at Chicago recently a consignment of steers that he had raised and fed, obtaining \$7.40 per 100 lbs. They averaged 1,277 lbs. and had been fed nothing but clover hay and shock corn.

A short time ago a Colorado sheep firm marketed at Chicago three double-decks of lambs of their own feeding that averaged 80 lbs. and brought \$8.25 per 100 lbs. They had been fed less than five months and made average gains of 32½ lbs. in weight during that period.

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.
April 25, 1912.

Cattle.

Receipts, 1,283. Market strong at last week's prices; good active trade; quality good.

We quote: Best steers and heifers, \$7.75 @ \$7.90; steers and heifers, 1,000 to 1,200, \$6.75 @ \$7.50; do. 800 to 1,000, \$5.75 @ \$7; do. that are fat, 500 to 700, \$5.50 @ \$6.25; choice fat cows, \$5 @ \$6; good do., \$4 @ \$4.75; common cows, \$3.50 @ \$3.85; canners, \$2 @ \$3; choice heavy bulls, \$5 @ \$5.75; fair to good bolognas, bulls, \$4.25 @ \$4.50; stock bulls, \$3.50 @ \$4; milkers, large, young, medium age, \$4 @ \$5; common milkers, \$2.50 @ \$3.50.

Spicer & R. sold Mich. B. Co. 6 steers av 965 at \$6.50, 1 bull weighing 1,350 at \$5.25, 3 do av 770 at \$5.75, 2 butchers av 930 at \$6.25, 1 bull weighing 1,080 at \$5.25, 20 steers av 1,012 at \$7.25, 20 do av 990 at \$7.25; to Kamman 2 cows av 1,020 at \$4.50, 3 do av 833 at \$4.40; to Regan 1 heifer weighing 590 at \$3.75; to Bresnahan 1 cow weighing 830 at \$3, 2 do av 805 at \$3.25, 1 canner weighing 900 at \$2.50; to Kull 5 cows av 930 at \$4, 1 do weighing 900 at \$3.50; to Sullivan P. Co. 3 cows av 900 at \$4.35, 1 bull weighing 1,140 at \$4.75, 1 cow weighing 780 at \$2.50, 1 do weighing 780 at \$3, 3 steers av 993 at \$7.50; to Mich. B. Co. 20 steers av 1,024 at \$7.40, 2 cows av 920 at \$4, 2 steers av 580 at \$5, 8 do av 712 at \$5, 3 do av 726 at \$6, 4 do av 570 at \$5; to Hammond, S. & Co. 1 cow weighing 900 at \$4.50, 1 do weighing 1,200 at \$5, 1 bull weighing 1,430 at \$5; to Nagle P. Co. 1 steer weighing 1,090 at \$7; to Mich. B. Co. 14 do av 1,057 at \$7.25, 3 do av 837 at \$6.25; to Rattkowsky 1 bull weighing 1,080 at \$5.25; to Fish 1 cow weighing 910 at \$4, 3 do av 723 at \$3.25.

Haley & M. sold Mich. B. Co. 1 bull weighing 380 at \$5; to Bresnahan 2 heifers av 575 at \$4.25; to Heinrich 10 steers av 991 at \$7.15; to Thompson Bros. 2 cows av 970 at \$4.10, 3 do av 1,170 at \$5; to Mich. B. Co. 2 steers av 1,120 at \$7.70; to La-chait 9 do av 922 at \$6.75, 3 do av 630 at \$5.30; to Schuman 14 do av 963 at \$7.15, 6 do av 665 at \$5.25; to Parker, W. & Co. 27 butchers av 934 at \$6.25, 27 do av 932 at \$6.

Weeks sold Parker, W. & Co. 2 bulls av 925 at \$5, 1 do weighing 1,210 at \$5.25. Sharp sold Mich. B. Co. 6 cows av 950 at \$4.75.

Weeks sold same 13 steers av 1,007 at \$7.15.

Weeks sold Schuman 19 steers av 945 at \$7.15.

Same sold Regan 8 butchers av 600 at \$4.85.

Same sold Applebaum 1 cow weighing 1,020 at \$4.75, 3 do av 1,200 at \$5, 3 butchers av 937 at \$5.

Bishop, B. & H. sold Rattkowsky 3 steers av 1,457 at \$7.60, 2 cows av 925 at \$4, 1 do weighing 1,050 at \$5.25; to Parker, W. & Co. 6 steers av 951 at \$7, 1 do weighing 660 at \$5, 29 do av 1,034 at \$7.75; to Sullivan P. Co. 4 cows av 740 at \$3.65, 4 do av 1,037 at \$5.50, 1 do weighing 930 at \$3.50, 8 butchers av 771 at \$6; to Breitenbeck 18 steers av 1,043 at \$7; to Fromm 11 butchers av 806 at \$4.10; to Gerish 6 steers av 1,065 at \$7.25; to Kamman 6 cows av 881 at \$3.75, 2 do av 1,085 at \$5, 1 bull weighing 880 at \$5; to Parker, W. & Co. 20 steers av 1,246 at \$7.90; to Mich. B. Co. 14 do av 1,134 at \$7.50, 1 bull weighing 1,530 at \$5; to Parker, W. & Co. 3 steers av 1,023 at \$6.50, 11 do av 1,150 at \$7.75, 2 bulls av 1,150 at \$5.20, 2 do av 1,000 at \$4.90, 9 butchers av 763 at \$5.75; to Sullivan P. Co. 2 cows av 790 at \$3.65, 2 do av 1,090 at \$4.65; to Bresnahan 15 cows av 800 at \$3, 2 do av 810 at \$3, 2 do av 920 at \$3, 3 stockers av 403 at \$3.60; to Thompson Bros. 10 butchers av 945 at \$5, 9 do av 745 at \$5.75; to Heinrich 10 do av 825 at \$6.60; to Rattkowsky 2 cows av 940 at \$4.50, 4 butchers av 755 at \$5.50; to Goose 4 cows av 960 at \$4.

Roe Com. Co. sold Mich. B. Co. 2 bulls av 1,270 at \$5, 2 do av 1,105 at \$5, 1 do weighing 830 at \$4.50, 12 steers av 1,037 at \$7.25; to Fry 6 butchers av 975 at \$5.25, 3 cows av 1,007 at \$4.50; to Nagle P. Co. 24 steers av 1,233 at \$7.75; to Sullivan P. Co. 5 canners av 812 at \$2.75, 2 do av 845 at \$2, 1 do weighing 950 at \$2.75; to Nagle P. Co. 11 steers av 1,133 at \$7.75, 1 bull weighing 1,390 at \$6, 24 steers av 1,225 at \$7.75; to Mich. B. Co. 21 do av 1,019 at \$7; to Marx 6 butchers av 811 at \$5; to Hammond, S. & Co. 1 canner weighing 730 at \$2.75; to Rattkowsky 4 cows av 890 at \$4.25; to Kamman B. Co. 10 butchers av 918 at \$6.40, 1 steer weighing 780 at \$5.

Veal Calves.

Receipts, 1,439. Market steady at last week's prices. Best, \$7.50 @ \$7.75; common, \$5 @ \$6.95.

Bishop, B. & H. sold Sullivan P. Co. 1 weighing 120 at \$5.50, 6 av 148 at \$7.75, 1 weighing 100 at \$6, 3 av 140 at \$7.75; to Hammond, S. & Co. 5 av 120 at \$6.50, 16 av 138 at \$7.75, 6 av 135 at \$7.75; to Goose 32 av 120 at \$7, to Parker, W. & Co. 8 av 125 at \$7.25, 18 av 130 at \$7.25; to Nagle P. Co. 4 av 110 at \$6, 12 av 138 at \$8, 26 av 125 at \$7.25; to Hammond, S. & Co. 4 av 118 at \$6, 10 av 135 at \$7.50, 4 av 140 at \$6, 6 av 165 at \$8, 11 av 105 at \$6, 15 av 130 at \$7.50, 3 av 125 at \$6.50; to Rattkowsky 9 av 110 at \$6, 19 av 120 at \$6.50; to G. Rattkowsky 16 av 125 at \$6.75; to Goose 25 av 120 at \$6; to McGuire 4 av 95 at \$5.50, 13 av 130 at \$7.50, 14 av 150 at \$7.50; to Sullivan P. Co. 8 av 115 at \$5.50, 12 av 135 at \$7.50, 22 av 140 at \$7.50, 6 av 130 at \$5.50; to Burnstine 16

av 125 at \$7.25; to Nagle P. Co. 60 av 130 at \$7.25, 10 av 100 at \$5, 43 av 130 at \$7, 17 av 125 at \$7.50, 6 av 105 at \$5.25.

Spicer & R. sold Hammond, S. & Co. 6 av 135 at \$7.50, 22 av 145 at \$7.50, 4 av 145 at \$7.50; to Parker, W. & Co. 10 av 113 at \$6.50, 14 av 135 at \$7.40; to Applebaum 5 av 210 at \$5.75; to Kull 1 weighing 150 at \$7.75.

Roe Com. Co. sold Goose 3 av 128 at \$7.50, 11 av 120 at \$7.50, 1 weighing 120 at \$6; to Rattkowsky 2 av 140 at \$6, 12 av 130 at \$7.

Haley & M. sold Mich. B. Co. 13 av 115 at \$7; to Parker, W. & Co. 4 av 130 at \$6, 19 av 125 at \$7.25, 16 av 140 at \$7; to Newton B. Co. 15 av 115 at \$6, 35 av 135 at \$7.25, 6 av 125 at \$7.25, 6 av 108 at \$6.

Stephens sold Mich. B. Co. 5 av 150 at \$7.50, 2 av 80 at \$5.

Sheep and Lambs.

Receipts, 2,651. Market steady at Wednesday's prices; 50 @ 75c higher than last week on clips; wools steady. Best lambs, \$7.75; fair to good lambs, \$6.50 @ \$7.50; light to common lambs, \$4 @ \$5; wool lambs, \$3 @ \$3.30; fair to good sheep, \$4.50 @ \$5; culls and common, \$2.50 @ \$4; spring lambs, \$10 @ \$10.50.

Bishop, B. & H. sold Sullivan P. Co. 89 lambs av 75 at \$7.40, 8 do av 55 at \$5, 44 do av 65 at \$7.15; to Mich. B. Co. 6 spring lambs av 55 at \$10, 40 sheep av 115 at \$5, 12 lambs av 50 at \$4.50; to Parker, W. & Co. 58 lambs av 60 at \$4.50, 54 do av 65 at \$6.75, 11 do av 58 at \$5.75; to Mich. B. Co. 32 do av 53 at \$5.50, 3 do av 90 at \$7.25, 17 sheep av 100 at \$4.75; to Young 81 lambs av 73 at \$7.50, 35 wool lambs av 75 at \$8.25; to Mich. B. Co. 63 do av 77 at \$7.65, 10 do av 62 at \$4; to Fitzpatrick Bros. 6 spring lambs av 42 at \$8, 12 do av 48 at \$10.50, 47 sheep av 83 at \$5, 24 lambs av 70 at \$6.75, 44 do av 70 at \$7.75, 8 do av 57 at \$4.50; to Sullivan P. Co. 26 wool lambs av 45 at \$4.50, 17 lambs av 85 at \$5.75; to Fitzpatrick Bros. 39 do av 65 at \$5.50.

Spicer & R. sold Parker, W. & Co. 3 sheep av 113 at \$1.50, 24 lambs av 63 at \$5; to Sullivan P. Co. 5 do av 53 at \$5, 19 do av 60 at \$7.25.

Haley & M. sold Mich. B. Co. 11 sheep av 95 at \$5; to Parker, W. & Co. 12 lambs av 55 at \$6, 3 do av 90 at \$6; to Newton B. Co. 13 do av 67 at \$7, 8 do av 75 at \$6.50, 9 sheep av 115 at \$4.50.

Jedele sold Newton B. Co. 46 lambs av 75 at \$7.50, 1 sheep weighing 140 at \$5.

Kalaher sold Nagle P. Co. 59 mixed av 65 at \$5.

Hogs.

Receipts, 7,264. Market about steady with Wednesday; 20c lower than last Thursday.

Range of prices: Good butchers, \$7.70 @ \$7.75; pigs, \$6.75 @ \$6.90; light yorkers, \$7.35 @ \$7.70; stags one-third off.

Roe Com. Co. sold Sullivan P. Co. 190 av 180 at \$7.75, 163 av 180 at \$7.70, 87 av 150 at \$7.55, 99 pigs av 110 at \$6.90.

Haley & M. sold Parker, W. & Co. 235 av 185 at \$7.75, 215 av 180 at \$7.70, 125 av 165 at \$7.65, 160 av 150 at \$7.50.

Spicer & R. sold same 515 av 200 at \$7.75, 150 av 170 at \$7.65, 135 av 140 at \$7.40.

Bishop, B. & H. sold Hammond, S. & Co. 1,955 av 180 at \$7.75, 1,540 av 175 at \$7.70, 630 av 160 at \$7.65, 475 av 150 at \$7.60.

ADDITIONAL VETERINARY.

Ringbone.—Have a 16-year-old mare that has ringbone and has had it for the past two or more years. W. S. Bay City, Mich.—When a ringbone is situated low down, extends all way round pastern it is considered serious and is sometimes incurable. Blister with one part red iodine of mercury and six parts cerate of cantharides every ten days, or use any one of the ringbone remedies regularly advertised in this paper.

Laminitis.—Rheumatism.—When starting my 11-year-old mare moves very stiff, but after traveling a mile or so she goes fairly well. She is seemingly healthy and I forgot to mention I took colt from her one year ago; since then she has been gradually getting worse. J. J. W. Niles, Mich.—She suffers from chronic laminitis (founder), and will be made more comfortable by shoeing her with rolling motion shoes, keeping fore feet moist and using her on soft ground. She is incurable.

Chronic Cough.—One year ago I clipped my mare; soon after that she commenced to cough, but seemed to recover when hot weather came, but this spring she is just as bad, if not worse, than last year, and I would like to know what to give her. M. J. S. Barryton, Mich.—Give her 1 dr. powdered opium, 2 drs. muriate ammonia and 1 dr. iodine of potassium at a dose in feed three times daily.

Stocking.—Have a horse that has been doing very little work this winter, which has a swollen hind leg. The horse is well, not lame, and has been in this condition for the past week. W. C. South Rockwood, Mich.—Give him a dessert-spoonful powdered nitrate of potash at a dose in feed three times a day until stocking leaves leg. Bandage leg in cotton and exercise him daily.

A Three-quarter Shoe.—I notice you recommend as one of the remedies for corn in foot, a three-quarter shoe and I am at a loss to know what kind it is. J. H. Bentley, Mich.—Reduce the length of inside of shoe one-half and you will then have shod horse with a three-quarter shoe. The object in shoeing in this manner is to relieve bruised heel of pressure.

Blocked Udder.—My cow's udder is not caked, but very little milk comes from one quarter, but bag is not sore. I have tried milking tubes without success in this case and am now at my wits end to know what to do. H. D. S. Novi, Mich.—Apply solid extract belladonna one part and six parts vaseline to blocked portion once daily.

Infected Udder.—Have a cow that had her fifth calf some three months ago and she is not at all sick. Her breath has an offensive smell and we shall not use her milk. W. V. H. Grand Rapids, Mich.—Apply one part coal tar disinfectant and 50 parts water to udder twice a day. Give

her 1 oz. hypo-sulphite of soda three times a day.

Stricture in End of Teat.—I have a cow that has a growth forming in end of teat which blocks milk flow and would like to know what to do for it. Have applied iodine without doing her any good. R. H. Brayton, Mich.—A little surgical work on end of teat will soon make her well. Let your Vet. operate on her.

Barren Cow.—Have a valuable cow that has had four calves and since having last one she fails to get with calf. Have used soda without result. F. J. F., Temperance, Mich.—Ask your Vet. to apply pressure to ovary, this is best done by passing one hand in rectum, the other into vagina. He has doubtless read recent reports from veterinarians that have been operating on barren cows very successfully. I am told this manipulation of the ovaries stimulates them into action and the same treatment brings on heat in cows that do not come in heat regularly.

Lump-jaw.—I have a cow that has a bunch on lower jaw which discharges pus and would like to know if it is contagious or not. G. F. F., West Branch, Mich.—She has lump-jaw and as it is suppurating advise you to keep her away from balance of herd for she may infect them.

D. P. R., Kalkaska, Mich.—Destroy your calf for he will not recover, for it will be poorly spent money to treat him.

Indigestion—Rickets.—I have a mare that is seemingly healthy, eats plenty of food but keeps gaunt and thin. I keep 54 ewes and their lambs are taken with a sort of leg weakness when three weeks old, gradually growing worse; legs draw up and the lamb dies. Sheep have been fed alsike clover, some weeds in it and damaged beans, three pecks at a feed divided between 54 ewes. Cut lambs open after death but found nothing except that bladder was quite full of water. Their legs seem to stiffen as the disease progresses. O. M. B., Vestaburg, Mich.—Your horse's teeth may need floating and you should change feed. She is not sick but needs different nourishment and should be driven slow. I believe most of trouble with lambs arises from the manner in which the ewes have been fed, the damaged beans may have caused it all. Change their food supply.

Warts on Teats.—Can you tell me what will take warts off cow's teats? I. E. T. Marion, Mich.—Cut off those that have long necks and apply acetic acid to flat ones daily.

We Want HAY & STRAW

We get the top price on consignments, make liberal advancements and prompt remittances.

Daniel McCaffrey's Sons Co.

PITTSBURG, PA

Reference, Washington Trust Company, or any bank in city

FARMS AND FARM LANDS FOR SALE OR EXCHANGE

FRUIT AND EARLY VEGETABLE LANDS

Most productive and most profitable lands for these crops in Canada or the adjoining States. On North Shore of Lake Erie, 30 miles from Detroit, on the W. E. & L. S. electric railway line. Excellent climatic conditions; pure water abundant; exceptional markets. Tracts of five, 10 or 15 acres offered on easy terms; title perfect. For particulars address J. D. FRASER, Leamington, Ontario.

Near So. Haven, Mich.

Only 1/4 mile to smart R. R. village, 20 acres, good 6-room house, stable 24x30; cash sales last year from fruit, vegetables and poultry, \$480. This income can be greatly increased by keeping more hens and raising berries and potatoes. Owner, called away, will include, if taken immediately, \$125 horse, cow, hens and long list tool and machinery for the very low price of \$1700; part cash. Traveling instructions to see this and other same trip in our Big Spring Farm Catalogue No. 35, just out, copy free, profusely illustrated and filled with an astonishing assortment of tremendous farm bargains throughout Michigan and many other states. We Pay Buyers' R. R. Fares. Write to-day E. A. STROUT FARM AGENCY, Station 101, 407 So. Dearborn St., Chicago, Ill.

FOR INFORMATION AS TO LANDS IN

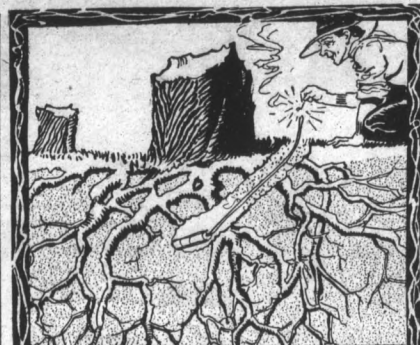
The Nation's Garden Spot—THAT GREAT FRUIT AND TRUCK GROWING SECTION—along the Atlantic Coast Line RAILROAD

in Virginia, North and South Carolina, Georgia, Alabama and Florida, write to WILBUR MCCOY, E. N. CLARK, A. & L. Agt. for Florida, A. & L. Agt. for Virginia, Jacksonville, Fla., and the Carolinas, Wilmington, N. C.

SUNNIE RIVER ROUTE Live Oak, Perry & Gulf Railroad Co. FREE LAND

160-Acre Farms Free—on Very Easy Conditions. If you will come down here and examine our lands, or if you will send others down to first examine and then take up tracts of 40 to 320 acres, you and your friends can secure the best 40 to 160-acre farms we have on very easy conditions, without costing you one cent of money. These lands are in the beautiful "Sunnies River" Valley near Jacksonville, right on our line of railroad, close to good towns and markets; great corn, cotton, cattle and fruit country.

FOR OUR GREAT FREE OFFER—in a letter, say mail particulars. Address JOHN H. MULHOLLAND, Land Commissioner, LIVE OAK, PERRY & GULF RAILROAD CO., DEPT. G33, LIVE OAK, FLORIDA



AETNA DYNAMITE

MAKES ALL YOUR LAND WORK FOR YOU

FARMERS: Don't continue to

waste taxes on that old stump-filled field. Every cent you pay out in taxes of that sort is so much money thrown away. And don't try to clear the field with stump-pullers, teams of horses and farm-hands.

Save the great labor and the money

that the old process costs and remove the stumps in a day or so by the use of AETNA DYNAMITE. Make that field ready for the plow in a week, at the utmost.

AETNA DYNAMITE

means efficiency on the farm. It sweeps away big boulders in a breath, digs your ditches for you while you wait, and the cost is so small in comparison with the old way that you'll be amazed when you are told.

If you have been told that dynamite is dangerous to handle, hard to transport and easily exploded by fire or jar, then you've heard about some other dynamite than ours.

Get AETNA DYNAMITE wise. Send for our illustrated booklets describing definitely the many uses of dynamite on the farm and showing the process of stump blasting, ditch digging, boulder removing and other things that you ought to know in order to turn waste into profit.

THE AETNA POWDER CO.

General Offices, Tribune Bldg.

Chicago, Ill.

For quick attention address Department E

We Sell Farms in Oceana, greatest fruit Co. in U.S. also grain, potatoes, alfalfa, dairying. Write for list, etc. HANSON & SON, Hart, Mich.

MICHIGAN FARMS

40 A., all cleared, fine house and barn, wind mill, level, \$2500, \$1000 down, balance easy. Others. Catalogue free. EVANS-HOLT CO., Fremont, Mich.

Beautifully Illustrated Booklet about Delaware, the State of red apples, luscious peaches, strawberries, and of ideal homes. Address State Board of Agriculture, Dover, Delaware

For Sale—Retail bottling dairy, modernly equipped. Exclusive sale of town, 60 gals. daily. Stock farm and tools. Description sent. W. H. BOARDMAN, Vassar, Mich.

FOR FARMS IN NEW YORK STATE

and in 21 other States, East, West and South, address, or call on, B. F. McBURNEY & Co., 708 Fisher Bldg., Chicago, Ill., or 309 Bastable Block, Syracuse, N. Y.

FARMS WANTED—We have direct buyers. Don't scribble property, naming lowest price. We help buyers locate desirable property. FREE. American Investment Association, 3 Palace Bldg., Minneapolis, Minn.

\$3720 Farm's Income.

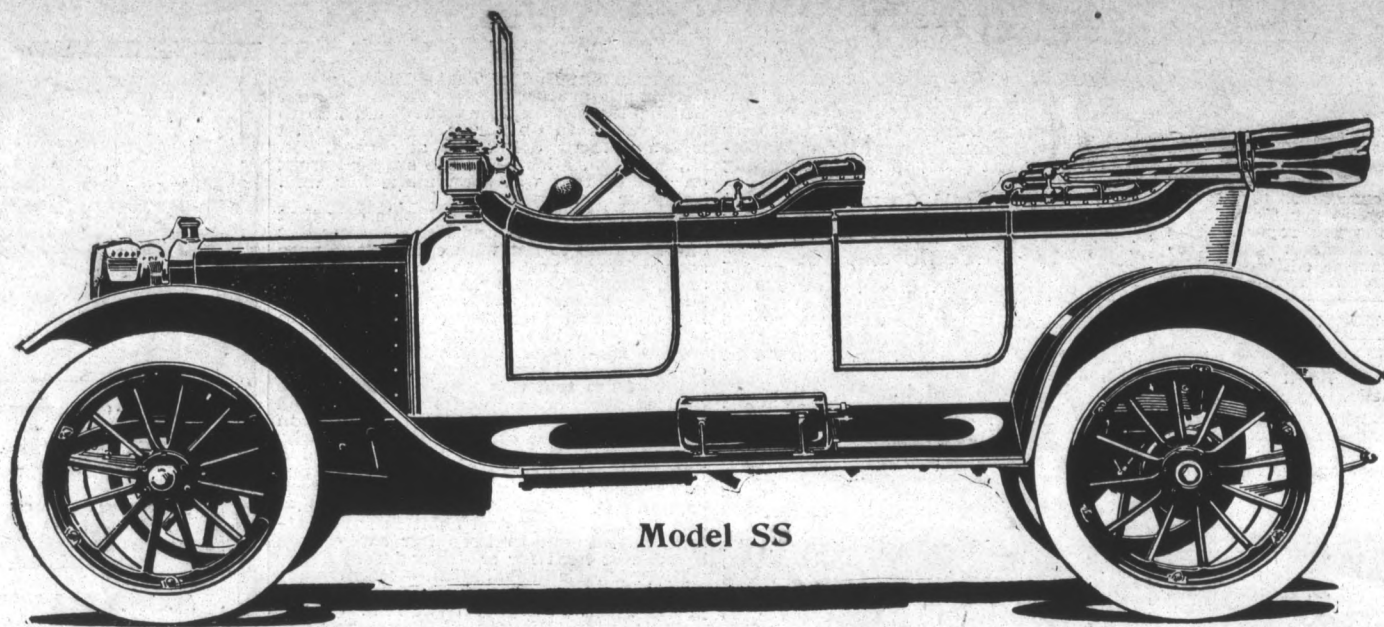
Last year from hops, oats, barley, potatoes, corn, alfalfa, hay and apples; 135 acres near Morrisville, N. Y.; 2-story 11 room residence, 3 big barns. Owner has another farm and if taken before planting, will throw in horse, 2 cows, farming tools and some household furniture. Price for all only \$5000.00, half cash; deed to easy living for you and yours while life lasts. It is the chance of a life-time to secure a warranty. Traveling instructions to see it and one of 391 acres with good buildings for \$2400, half cash, in our Big Spring Farm Catalogue No. 35, just out, copy free. Illustrated and filled with big bargains in money making, improved farms throughout Wisconsin, Michigan, Ohio and many eastern states. We Pay Buyers' R. R. Fares. E. A. STROUT FARM AGENCY, Station 101, 407 So. Dearborn St. Chicago, Ill.

Choice Michigan Lands—20,000 fine unimproved lands. Also some improved farms in Gladwin and Clare counties. Write us for maps and folders. McClure-Stevens Land Co., Gladwin, Mich.

WHY PAY RENT

when you can buy the best land in Michigan at from \$7 to \$12 an acre near Saginaw and Bay City. Write for map and particulars. Clear title and easy terms. Staffed Bros., (owners) 15 Merrill Bldg., Saginaw, W. B. Michigan.

MENTION the Michigan Farmer when writing to our advertisers.



Model SS

5-Passenger Touring Car 110-inch Wheelbase

R-C-H \$950 f.o.b. Detroit **R-C-H**

SELF STARTER, 32 x 3½ inch tires, dual ignition, demountable and quick detachable rims, gas tank, extra rim, top, windshield, 5 lamps, horn, tools and tire repair kit, LONG STROKE MOTOR, 3 SPEEDS, ENCLOSED VALVES, MAGNETO.

What Kind of a Car Do You Want?

WHEN you're thinking of buying an automobile, Mr. Farmer, what are the first things you demand—what are the features that are necessary in order to make it a successful car for the farmer's use?

Comfort. First, you want a car with a long wheelbase. For that means a good-sized body with plenty of room for the family and perhaps for an extra package or two that you happen to want to take to or from town. You don't want a short, scrunched-up body that you can't get the family into without everyone feeling uncomfortable. The wheelbase on the R-C-H is 110 inches—greater than that of any other car under \$1,000.

Power. Next, you want a car that's powerful enough to take you anywhere you want to go, in any kind of going, and that is economical of fuel. The long-stroke motor of the R-C-H makes the car a perfect hill-climber, a wonder over bad roads, and a much easier running car all the time. And you'll be surprised at the small amount of gasoline it uses compared with other cars. The stroke of the R-C-H motor is 5 inches, the bore 3¼ inches; and this is exactly the proportion which experience has demonstrated to give the best results.

Strength. Then you want a car that's strongly built—that will last. The durability of a car depends principally on two things—the metals used in it and the way those metals are treated. Chrome nickel steel is used throughout all shafts and gears in the transmission and rear axle of the R-C-H. Where special stiffness is required, high-carbon manganese steel is used. Another thing. You know how much stronger drop-forgings are than castings—they're practically unbreakable. Well, we use 123 distinct drop forgings in the R-C-H—more than any other car in the world at any price.

Accessibility. The farmer needs a car that's easy to get at. He can't bother with a car that has to go to the machine-shop every time there's a slight adjustment to be made. The R-C-H has been

specially designed to make every possible part readily accessible, even to an entirely inexperienced owner. The gears, the motor parts and the transmission can be examined by the removal of a few bolts or screws. The steering gear or the clutch can be readily removed if desired without disturbing the rest of the car.

Other Features. The drive on the R-C-H is left-side. This is the only natural drive for American road rules. The right-side drive was copied years ago from European cars, but in Europe the rules of the road are just the reverse of what they are here. The control is by means of a center lever; out of the way, yet convenient to the operator's right hand.

Now then, here's a car with every feature the farmer wants and needs. Note these features, read over again the specifications and equipment of the R-C-H, and then think what the price of such a car would be, judged by previous standards. You know it would run from \$1,500 to \$2,000; for you're seeing cars advertised at those prices every day that don't come near the R-C-H standard.

Naturally you'll wonder how we can make such a car at such a price. And here's the reason in a nutshell. There has been a big advance in automobile construction within the last year or so. Newly-invented machinery has made it possible to manufacture at much less cost. And no matter how big a plant may be, if it is running with old machinery it cannot compete in production cost with a newer plant.

The R-C-H plant is new from start to finish. Much of the machinery in it was specially devised. All waste has been eliminated. The result is that by making thousands of cars each year we can build them at much less cost than has ever been possible before.

And you get the benefit.

Simply send us your name and address and we will send you, without obligation on your part, a descriptive folder of the R-C-H, together with the name of the nearest dealer.

You owe it to yourself to investigate this wonderful automobile before buying a car.

Standard Models. These are fully equipped with top, windshield, lamps, horn, tools and kit. They have not the self-starter or other special equipment of the SS models mentioned above. They are priced as follows: Touring Car, \$850; Touring Roadster, \$800; Roadster, \$700.

GENERAL R-C-H SPECIFICATIONS—Motor—4 cylinders, cast en bloc, 3¼ inch bore, 5 inch stroke, two-bearing crank shaft. Timing gears and valves enclosed. Three-point suspension. Drive—Left side. Irreversible worm gear. 16 inch wheel. Control—Center lever operated through H plate, integral with universal joint housing just below. Springs—Front, semi-elliptic; rear, full elliptic and mounted on swivel seats. Frame—Pressed steel channel. Axles—Front, I-beam, drop-forged; rear, semi-floating type. Body—English type, extra wide front seats. Wheelbase 110 inches. Full equipment quoted above.

R-C-H Corporation, 189 Lyncast Street, Detroit, Michigan.

BRANCHES

Atlanta, 548 Peachtree St.
Boston, 563 Boylston St.
Buffalo, 1225 Main St.

Chicago, 2021 Michigan Ave.
Cleveland, 2122 Euclid Ave.
Denver, 1520 Broadway.

Detroit, Woodward and Warren Aves.
Kansas City, 3501 Main St.
Los Angeles, 1242 So. Flower St.

Minneapolis, 1206 Hennepin Ave.
New York, 1989 Broadway.
Philadelphia, 330 No. Broad St.