

OCT 15 1910
PUBLIC LIBRARY
OF THE
STATE OF MICHIGAN
DETROIT

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

JOURNAL.

ESTABLISHED 1843.

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

VOL. CXXXV. No. 16.
Whole Number 3517.

DETROIT, MICH., SATURDAY, OCT. 15, 1910.

75 CENTS A YEAR
\$2.00 FIVE YEARS

FARM NOTES.

Pasturing Clover Meadows.

I would like to know through The Farmer if it will hurt to pasture clover after the hay crop has been taken off. Will it make it more liable to winter-kill?

Barry Co.

M. W. P.

The pasturing of clover meadows after the hay crop has been removed is not in line with the best agriculture practice for several reasons. If the land is in need of more vegetable matter or humus, as most of our older soils are, the close grazing of the second growth of clover will, as suggested in this inquiry, have a tendency to make the clover plants more likely to winter-kill. Of course, not a very large proportion of the clover plants will live the second winter under average conditions and, where the clover crop is turned to the best possible account in the improvement of the soil, the clover meadow should not be cut for hay more than one year, but should be plowed up the following spring for some cultivated crop, since the nitrogen stored in the clover roots will be consumed by the timothy and other grasses which grow in the hay field the second year, and there will be practically no gain in plant food and little gain in the mechanical condition of the soil where the meadow is cut for two or more years, in comparison with the results secured where the clover is cut but once, and the growth which it makes during the late fall and the following spring is plowed down for the benefit of the soil. Then the trampling of stock upon the clover field and the uneven grazing, and the more uneven distribution of the droppings of the stock which always results from pasturing the second growth will not prove beneficial to the land. If it is desired to get the greatest benefit from the second growth of clover it is a far better plan to cut it for hay, if the growth is sufficiently abundant to make that profitable, or leave it for seed, if the weather is such as to cause it to fill well.

The pasturing of any kind of meadow is not a profitable thing to do in any event, as it undoubtedly affects the yield of hay the following year to an extent that more than offsets the value of the pasture obtained from it. Unfortunately, it is a common practice upon most farms to pasture the second growth of clover and other grasses after the haying season, but the sooner the practice is abandoned the better it will be for those who have been following it, both from the standpoint of the profits secured from the soil in the way of succeeding crops and its improvement in fertility, including a betterment of its mechanical condition, which is a most important factor in the fertility of our soil. In fact, it is a question whether it pays to pasture the fields devoted to the regular crop rotation on high-priced land at all, and many of our best farmers are abandoning the practice of pasturing such feeds, either regularly or closely, and

some do not pasture them at all, preferring to depend upon permanent pastures, sowing crops and silage for summer feed, thus rendering the pasturing of the tilled fields a matter of judgment rather than necessity.

Grasses for Permanent Pasture on Low Lands.

Will you kindly advise me what kind of seed to sow on creek flats that will stay. I have sowed timothy and redtop, but it soon runs out, then I have to break up and re-seed. I want to sow the best and most enduring grasses for pasture.

Washtenaw Co.

G. R.

The grasses recommended for sowing in laying down a permanent pasture on creek bottom lands and other low lands, in their order of relative importance, are as follows: Russian brome grass, redtop, fowl meadow grass, timothy, and possibly perennial rye grass and meadow foxtail. It is probable, however, that if the low lands do not overflow for any considerable time in the spring, a mixture of Russian brome grass, redtop, timothy and alsike clover would be as good a mixture as could be used. In our state it is seldom necessary to sow blue grass, or our common June grass, as it ordinarily will run in and occupy the land as other grasses

during the fall and winter, whenever the weather conditions permit it to be hauled directly to the field, since the roots of the grass will appropriate and hold the soluble plant food which may leach into the surface soil through the action of rains, and this plant food will be in an available form for use for the corn crop the next year. There is no appreciable loss of nitrogen where the stable manure is applied to the sod as rapidly as it is made, but where it is stored in heaps in the yards there is a very considerable loss of nitrogen which escapes in the form of ammonia gas and also a loss of other plant foods through leaching, as well as a loss of vegetable matter through the natural process of decomposition. There may be no hesitation in applying stable manure to even a light sandy soil, so long as it is covered with sod at any season of the year. Of course, the better the job of spreading, the better the results which will be secured, as even distribution is an important factor in this regard.

There is no other method of handling stable manure with as little loss of plant food that compares with this plan in cheapness, except the deep stall plan practiced by cattle and sheep feeders,

erable factor in the conservation and improvement of soil fertility. Beans, for instance, is a crop which rapidly depletes the humus in the soil and even a good soil, which contains plenty of plant food to grow two or more crops of beans in succession, if that course is followed, will get in a poor mechanical condition through the depletion of the humus or vegetable matter in the soil, and its condition of fertility will be accordingly injured. It would be far better to follow this bean crop with oats, and the oats with wheat, seeding the land to clover again in the wheat crop, or substituting any other grain crop which may be desired, such as barley, for the oats and wheat, seeding to clover in the barley, and again following the clover with beans, if it is desired to make beans the cash crop in the rotation. In this way the bean crop will not be grown oftener than once in three or four years on the same soil, and clover will appear at like intervals in the crop rotation, which plan will make for the conservation and improvement of the soil fertility, provided proper methods are employed in the culture of the crops grown, and the fertilization of the soil in preparation for them.

It is probable that this field would grow a profitable crop of beans another year, but for the above reasons it does not follow that it would be profitable to grow them. In case it is desired to substitute some cash crop in place of the oats or barley above advised, some other crop might better be planted. Some successful farmers follow beans which have been grown on sod ground with sugar beets, fitting the land without plowing, which is a saving of labor, as sugar beets require a firm seed bed for best results. Or, if a crop which is adapted to the production of either grain or forage is desired, the field might be sown to oats and peas with profit and this crop followed with wheat. In any case, the benefit to be derived from a rotation of crops would be gained by any of these plans, all of which are preferable to following with another crop of beans.

There is no one factor of greater importance in the maintenance of soil fertility than the rotation of crops grown upon the land, and, as this is one of the factors which is directly under control of the owner, it should be given the most careful consideration.

COVER CROPS.

I like the practice of leaving some growing crop on the soil over winter, whether it be in the orchard or on the farm fields. This is one reason why we like to follow corn with wheat. No time is lost and the ground is covered. The cover crop idea is not alone for protection but its greatest function is perhaps the taking up of plant food which is liberated in the fall and winter and saving it up in plant tissue to be available gradually to succeeding crops. It also performs the function of adding humus to

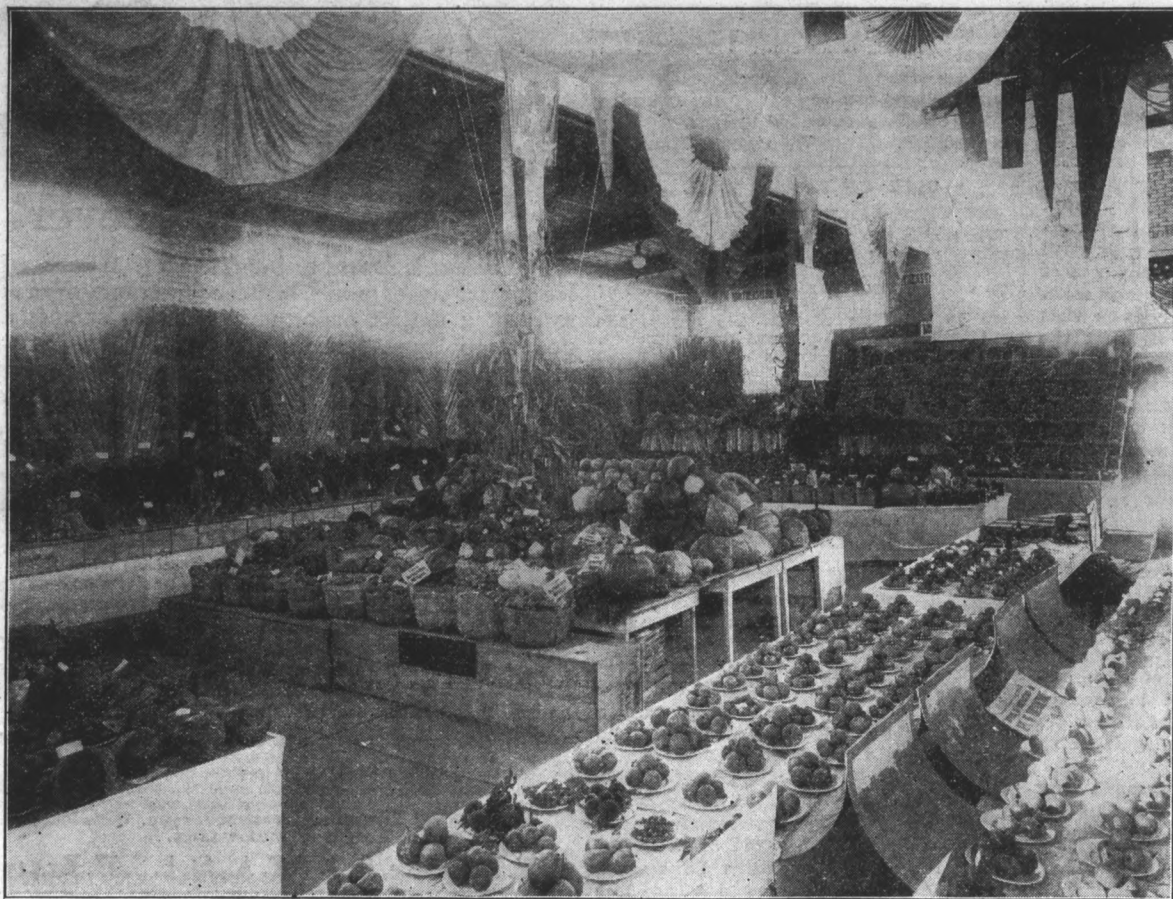


Exhibit of Northeastern Michigan Development Bureau at the Michigan State Fair, 1910.

fail, although it is a valuable pasture grass on this kind of land, and where the seed is not already present in the soil a little of this seed may be included in the mixture with profit.

Manuring Sod Ground for Corn.

Would it be advisable to spread manure on a light, level, sandy, sod field, intended for corn next year?

Ottawa Co.

J. L.

It is always good practice to draw and spread stable manure on meadows or pastures intended for corn the following year, as rapidly as it is made, since there is less loss of plant food where it is applied in this way than in any other way in which it may be handled. There will be very little loss of plant food where the stable manure is applied in this way

where the manure is kept closely packed by the trampling of the stock. But even where this plan is practicable it is best to draw it at convenient times and spread on the land as weather conditions permit.

Rotation of Crops.

Last spring I plowed under a June grass sod for beans, and I would like to ask through your columns if it would be better to plow this ground this fall for beans or just use the pulverizer and not turn up the old sod, and do you think it would raise another crop of beans profitably.

Saginaw Co.

SUBSCRIBER.

It is not good agricultural practice to plant beans, or any other crop, in fact, two years in succession upon the same ground. A rotation of crops is a consid-

the soil with all its attendant benefits.

Our farm is now entirely covered with a growing crop with the exception of five acres of corn ground. We intended to sow a cover crop in the corn at the last cultivation, but a hard wind blew the corn over so we could not get through it and we had to abandon the plan. This is a part of a young orchard and I am almost tempted to sow something as soon as the corn is off though this will be pretty late. In the potato field, which is also a part of a young orchard, we sowed strips of oats next to the trees about the middle of August. This is now about eight inches high and very thick. Buckwheat is higher, about up to one's knees, and in blossom, but does not stand as thick as the oats. We also sowed oats next to the trees in the bean and cucumber patch.

The early potato patch was cultivated up and oats sowed, also the sweet corn plot. The young blackberry patch has a mixture of winter vetch and clover. In one orchard a student who was with us this summer from M. A. C. has a half dozen plots of cover crops composed of mixtures of various clovers with oats, winter vetch, cowpeas, and buckwheat. All have made a good growth, though the buckwheat is in the lead for height, being considerably more than knee high in six weeks. The vetch and oats make a good carpet also, the cowpeas being the slowest in growth. The covers are small yet but will grow later after the nurse crop ceases growth. These crops will add much humus to the soil at little expense.

Calhoun Co. S. B. H.

MANAGEMENT OF SANDY SOILS.

Sandy soil is the easiest type of soil to cultivate, and when it can be maintained in a high state of productivity it offers many advantages to the farmer. The plant food contained in sandy soil is in a form easily accessible to the growing plants. The soil is easy to work, and does not crust over or bake, it is warm and friable, and can be worked sooner after a rain than other soils.

In discussing the matter of managing sandy soils I shall confine myself to the use of means which are within the reach of the average farmer, for sooner or later in all agricultural enterprises the one great question must be settled. Does it pay?

The working of sandy soil is no exception to this question, and for that reason I will dismiss the question of using artificial fertilizers and commercial manures; for though none can doubt their value when rightly used, yet my experience and observation has taught me that they cannot be profitably used on sandy soils until after we have furnished an abundance of humus-forming materials to the soils. There may be a few special crops that will bring sufficient returns so that the owner will be justified in applying such expensive fertilizers, but to speak from the standpoint of general farm crops I believe that the expense will be greater than any possible increased returns.

A sandy soil rightly managed may be made the most productive of any soil, but we must be constantly furnishing it with humus-forming material if we are to maintain its capacity to produce profitable crops. We have found that by plowing under clover and other legumes and by using a fertilizer rich in potash and phosphoric acid sandy land can be made to produce profitable crops of corn and potatoes when it would fail to produce good crops if a high priced, complete fertilizer was used with no legume crop plowed under.

All plants of heavy annual growth may be plowed under to increase the humus content of the soil; but the leguminous plants, to which clover belongs, have so far proved most satisfactory.

When clover is rightly managed it will accomplish all that other plants possibly can, besides adding nitrogen to the soil to be utilized by future crops. Where clover will not thrive, cowpeas, alfalfa and other legumes may be profitably utilized.

The best rotation of crops to adopt, in view of the necessity of increasing the amount of humus in the soil, will be one in which clover is grown at least one year in three. The ground should be seeded with clover every time it is sown to small grain.

Wheat, clover and some field crop, such as corn or potatoes, will make an ideal rotation of crops for sandy lands. This rotation, if clean work is made of it, will produce uniform results, varied only by the kind of weather or the season. The clover fields may be pastured in the fall without injury if not grazed too close,

as the cattle will avoid the ripened heads and feed on the tender grass underneath. When the clover sod has been plowed late in the fall and the land planted with some hoed crop the following year, and this followed with small grain and clover, it will require but little clover seed to secure a good stand. It is easier to get a stand of clover on land where it has been grown frequently, as the soil becomes thoroughly filled with seed in the proper condition to grow.

There is no more serious disappointment in farm management than to fail to secure a good stand of clover. To insure the chances of success the ground should be plowed in the fall in order that the spring grains may be sowed at earliest possible date. It is of little use to sow small grains late in the spring for they must get a good start before the heat and droughts of summer come on or the insect foes will begin their depredations.

All of the time sandy soil is not occupied by a growing crop there is a constant loss of fertility, and the management should be so planned that it is covered either with clover, wheat or some other growing crop. They improve the action of the soil toward heat, light and moisture and prevent the fertility from evaporating and washing down out of reach of the plant roots.

The management of manure on sandy land is an important matter. It should be carefully saved and great pains should be taken to increase the amount and quality. It may be applied to the hoed crop in the rotation, but should not be put deep into the soil. I believe that the greatest benefit will come from applying it as a top-dressing to the clover. When we lift the clover crop we are getting under the center of gravity of the whole farm. If the clover crop is improved the whole farm is brought up with it.

The practice of hauling the manure direct from the stable to the field and spreading as fast as it is made is fast gaining favor among the best farmers. There is no loss and we get the benefit at once instead of allowing it to lay in the yards a year before it is applied. It is essential on sandy soils as well as on other soils that we keep plenty of live stock to consume all of the forage grown on the farms.

If sandy soil is made profitable for general farming it must be done so along these economical lines, for laborious and expensive systems are out of the question on the ordinary farm.

New York. W. MILTON KELLY.

SIZE OF DRAIN TILE.

What size tile would I need to take the surface water off from a ravine of about 80 acres. To give you a more perfect idea of how much water there is, will say the road commissioner thought it necessary to have an 18-inch tile across the road where my tile would commence. This culvert runs full once in a while when there is a freshet, or rapidly melting snow. There is a partial open ditch now through my field for about 40 rods which empties into a large ditch. Now, as I want to plow the field this fall, I thought it better to lay tile for the water than to re-open the old ditch, if it would not cost too much. What size tile would I need to take this water. It runs dry most of the summer. Or do you think it better to have the open ditch?

F. B. Mecosta Co. If the contour of the land is such that no free surface water comes from above and beyond the field, then a tile drain is practical, but if free water comes from beyond, and at times washes down over your field, then you must use the open ditch. In other words, if all the water on your field can be made to soak into the ground into your system of tile drains you can control it all and probably with a six-inch tile, but if at times water comes from above and requires an 18-inch tile for a sluice, then a tile drain is impractical and will sometime be washed out. I have had experience in a case like this and had to go back to the open ditch for the main water course.

The drains will work for you night and day, almost the year round, and will carry off an immense amount of water, but water enters them slowly and they will not take any great amount of free water that comes from undrained land above.

COLON C. LILLIE.

FACTS ABOUT CANCER.

A booklet published by the Leach Sanatorium of Indianapolis, Indiana, contains interesting information about the cause of cancer. It tells what to do for pain, bleeding, odor, etc., and advises how to care for the patient. The booklet is sent free to those interested who write for it, mentioning this paper.



Mayer's

SPECIAL MERIT SCHOOL SHOES

These shoes are built exceedingly strong. The leather is tough and the soles are selected from the best wear-resisting hides. They are the only school shoes made with two layers of leather over the tip.

"WEAR LIKE IRON"

MAYER SPECIAL MERIT SCHOOL SHOES

outlast average school shoes two to one and cost no more. They are good looking shoes, built to fit and comfortable to wear.

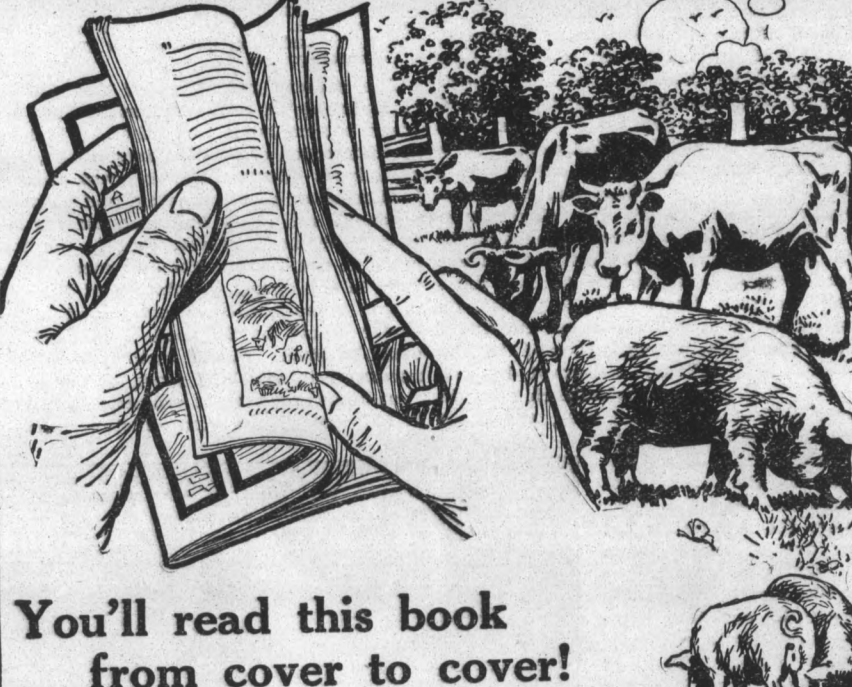
The Genuine Special Merit School Shoes have the Mayer Trade Mark stamped on the sole.

FREE—Send us the name of a dealer who does not handle Special Merit School Shoes, and we will send you free, postpaid, a handsome picture of George Washington, size 15x20.

We also make *Honorbilt* Shoes for men, *Leading Lady* Shoes, *Martha Washington* Comfort Shoes, *Yerma* Cushion Shoes and *Mayer Work* Shoes.

F. Mayer Boot & Shoe Co., Milwaukee, Wisconsin





You'll read this book from cover to cover!

This booklet is bound to interest every farmer who is looking for bigger profits, broader opportunities—a perfect story of a perfect opportunity land, so completely told that you'll have nothing to "guess" about when you've read it through. Its the nearest thing to being actually on the ground that you can do—and so attractive in the advantages that it shows, that you'll not be satisfied until you've seen this splendid country that it tells about. You'll be glad that you wrote for "Profitable Products of East Texas."

Dairying means dollars in EAST TEXAS

The booklet for instance, gives the interesting story of J. E. Berry of Lufkin, Texas. "Six years ago, I started in the dairy business with \$12. I now have 78 head of Jersey cattle. I also have two brood mares and raise a colt every year from each. I sold one of the 3-months-old colts recently for \$112.50, netting \$90 profit. I have 26 head of hogs. I have 8 acres in corn that yields 40 bu. per acre. With no capital I have made and saved \$8300 in 6 years. A man can get 2 or 3 miles from town and buy cut over timber lands for \$10 an acre that will raise anything he wants." The East Texas stock raiser has no long winters to contend with, no costly shelter to build for stock and no long feeding periods.

Why don't you go to this splendid country, where the ground is good to people—where soil, season and sunshine combine to speed you on the road to wealth; where land prices are little and profits are big. Take a trip down there on the low rate excursions offered twice each month via the Cotton Belt Route—that's the only way you can fully realize what an opportunity is waiting there for you. Write today for the free booklet and full facts about the low fares.

E. W. LaBeaume, G. P. & T. A., St. L. S. W. Ry., 1111 Pierce Bldg., St. Louis





\$225 an Acre from Potatoes

Early potatoes are one of the best-paying crops raised in Southern Alabama, Western Florida, Tennessee and along the Gulf Coast. Good prices are always obtainable and demand for same beyond the supply. Read what a farmer at Summerdale, Ala., has to say on this crop: "My yield of salable potatoes this year, per acre, was 150 bushels, which sold readily at \$1.50 per bushel, this being the first crop on the land. I followed this crop with sweet potatoes and sweet corn and then planted cow peas. I raised three crops on the land in one year, all of which brought good prices."

Sweet potatoes produce big returns and are usually planted after Irish potatoes have been dug. Two to three hundred bushels an acre are produced and bring from 50 cents to \$1.75 per bushel. Let me send you our illustrated booklets and learn what can be done in a country where fertile land can be purchased cheaply and where there are 312 working days a year. Low round-trip fares 1st and 3d Tuesdays each month.

G. A. PARK, Gen'l Ind. and Imm. Agt., Louisville & Nashville R. R. Room 213 Louisville, Ky.

FALL CROPS.

Beans.

The bean crop is fair this year, but the wet weather has made it difficult to harvest the crop without injury, and the quality in this section is likely to be poor. There are few beans grown here. All we have this year are the rows planted between rows of cucumbers on an acre of ground. By the way, the pickling station has closed and as soon as I can get them together I will give the figures promised on that acre of cucumbers, so prepare for something big. (?)

Clover Seed.

Clover seed is a light crop on account of the drought which shortened the second crop of June clover so that there is hardly enough to cut on fields cut for hay late. What there is is well filled, however. The best yield of small seed I have heard of in this section is 19 bushels from fifteen acres of second growth June clover. Most fields yield about one-half bushel per acre and it takes about five acres for a load. Seed had to be cut with bunchers or with a platform, an extra man raking it off. We cut ours in this way this season, as it was so short that much of it would be lost even by the buncher. Another seat was attached to a plank extending behind the mower and the man who raked off could ride. Mammoth clover seed turned out fairly well, though no large yields are reported. One very successful farmer on rather light land in this vicinity follows this rotation. Corn, wheat after corn stubble, plow early and seed to wheat again, seeding to mammoth clover and cutting this for seed, then plowing for corn again. This gives a three-year rotation with the whole of a heavy crop of mammoth clover, except the seed, going back on the land; also the manure from the cornstalks and straw. He is getting paying crops with the least amount of labor and the land is steadily improving under this treatment. Some poor land which others could hardly make a living on is paying well under this method.

Potatoes.

With the late fall and rains the potato crop is looking better and we now have hopes of a fair, though not a large, crop. I believe most of the crop is now practically out of the way of the frost, and if freezing weather does not come on during October that the crop can be harvested in pretty good condition. Buying has not begun here as yet, but a few cars were loaded at a neighboring station and I understand the price was 50 cents. I do not know of any late potatoes dug in this section as yet, October 4.

Corn.

The corn crop occupies the attention of most farmers at this time, and will be the leading line of work for a month or two yet. Perhaps two-thirds of the crop is now in the shock, and no frost as yet. Practically all the crop is beyond frost danger, except to the fodder. The crop is not large, but I think it will be practically all sound corn. Probably seven-eighths of the crop has been cut by hand, as it was down so badly that it was out of the question to use the corn binders.

I do not believe I have known a season when there have been so many dirty corn fields as the present one. Rag weed and pigeon grass seem to form the bulk of the foreign growth, and in many places it is difficult to get through them to cut the corn. Of course, in such places the corn is small and hardly worth the cutting, to say nothing of the lost labor in growing. Where we do not have time to give a corn field the care it should have to keep it reasonably clean I believe we would get more corn with less labor by cutting the acreage in two. I do not mean that every weed must be kept out. No doubt it will not pay to get all of them, but I believe that corn should have at least four cultivations at the proper time, and one hoeing if it is rowed but one way. Some of The Farmer readers may think it strange but there are some persons in this section who will put a corn crop out fairly well and never touch it afterward, and others who get through it but once or twice. Of course, the labor expended is practically a dead loss. This season some of the poor corn fields are due to a lack of proper preparation in the spring. The June grass was not subdued before planting, rains came on, and it was not subdued during the entire season. As a result some fairly good farmers have corn fields that are an eyesore. If there is one thing that we farmers should learn it is to concentrate our efforts, cover less ground, and do it better, or if we must cover the same ground get more help. If help cannot be obtained, grow more hay,

cloverseed, and wheat; and less corn, and hoed crops.

Calhoun Co.

S. B. H.

SOME FARM ENGINEERING.

Yardage is a term used by engineers in describing cubic yards, the content of earth or rock to be removed. To those who have a taste for such matters it is interesting to note the monthly reports of the Panama Canal work in the number of yards of material moved. It may seem a long jump from the Panama Canal to farm matters, but nevertheless yardage is also to be considered on the farm. When the great smoothing plane of glaciation passed over the land there were places which were not well filled. Geologists tell us that a portion of the glacier broke away and settled in these spots, which prevented the fill being completed and when the ice melted away the hole was left and in the ages since has been slowly filling by wash accretions. Some of the sags are so shallow that they are plowed and sown with a certain knowledge that the crop will miserably perish, a sort of blind devotion to fatalism. When the sags are deeper they are cultivated around and the outside diameter of good soil added to the actual area of waste which is abandoned makes a larger amount of loss than is generally known. It is at this point that yardage is of interest in calculating the fill necessary to complete the error of glaciation.

If the farmer desires to approximate the calculation he can make a square or parallelogram with cord and make the stakes the depth of the fill and calculate in feet and yards. No two problems are alike in distance of haulage or cuts and fills. The main point is to get started. For very short hauls the scoop scraper will answer the purpose; for longer hauls the wheel scraper is a decided advantage. The high points should not be evenly removed for that puts the top layer of soil out of its sphere of usefulness and there is a piece of land which would make a good "Potter's field" but a poor piece of farm land. If the fill is considerable start a six or eight foot bottom excavation like a ditch and then refill this excavation by plowing in and levelling to the newly made plane. This method of filling does not greatly disturb the soil and by manuring over these places no real damage follows. The number of cuts is determined by the yardage necessary to make the fill.

I have known of one-eighth of an acre being made available in one day's work with two men and a team. The actual value of the land would be at the rate of \$100 per acre measured from the standpoint of production alone, and more from the removal of the unsightly waste. Many a bullfrog would lose his happy home if a few days' work were employed in making these fills and many and many additional dollars of farm products be added to the year's income. Horace Greeley tells of a certain ford across a Virginia river that had been used for two hundred years and no attempt made to remove the big, loose stones which had wrecked many wagons. Greeley's yankee shrewdness led him to estimate that but a few days' work at the proper season of the year would have removed these stones for all time. There are opportune times for making these fills, from both a physical and economic standpoint. When the ground is not sodded the work can be done to greater advantage as it is a matter of comparative ease to fill in the excavated cut where no sod interferes. One may have noticed railroad construction proceeding in the winter time, and while this is not always possible, late fall or early winter may be a very opportune time. When prices of farm products are considered, together with the annoyance and loss of time conducting farm operations around these sags it is a positive economy to make the fill. On irrigated lands the problem is the reverse in the sense of small knolls that must be levelled to the required irrigation plane. These knolls were not only barren because of the inability of the water to reach them but were the homes of prairie dogs who created great havoc in the surrounding fields of grain and alfalfa. Prairie dogs and water do not agree and the dog knolls were of necessity leveled and made productive. While the green scum ponds may not be as inimical to the farm's well being as the dog knolls, they are a menace to good animal health and often can be easily filled. A few days' work with team and scraper will not necessarily remove mountains but will accomplish the removal of some very unsightly depressions on farms. JAS. N. McBRIDE.



Adler's Collegian Clothes

are the standard garments of America because no other maker pays so much attention to the quality of the fabrics, the linings and all the other materials. The man who has ever worn an Adler Collegian suit or overcoat knows how thoroughly these garments keep their shape. He knows that they retain their new, fresh appearance after a season of constant, hard wear. When you buy your next suit or overcoat, ask for an Adler Collegian. They are produced for men and young men and you can get an extreme or a conservative style just as you desire. It's a protection to you to buy clothes of a standard well known make. You are then assured of thoroughly reliable quality and perfect fit. Adler's Collegian Clothes would prove to be the best garments you have ever worn. The foremost clothier in every community sells our garments. Ask for them. Prices \$15.00 to \$30.00. Write for a free copy of our style book which will give you valuable information regarding the prices and styles of clothes for this season.



The Style and Quality Label

David Adler & Sons Clothing Co.
Nobby Clothes Makers
Milwaukee



Something You Should Know

For 38 years GARLAND Stoves and Ranges have had the greatest sale of any stoves and ranges in the world. The line comprises Stoves and Ranges, Furnaces, Gas Ranges and Appliances. The GARLAND costs you no more than stoves and ranges of inferior grade. Secure the World's Best.

Write us for Free book and choice recipes, which will be mailed to you on receipt of your request. Ask your dealer to show you

GARLAND Stoves and Ranges

BAKE WELL! COOK WELL! HEAT WELL! THEREFORE, ALL'S WELL!

Furnaces, Gas Ranges and Appliances

Sold by Leading Dealers All Over the World

The Michigan Stove Company

Detroit Largest Makers of Stoves and Ranges in the World Chicago

(14)

LIVE STOCK

THE FLOCK IN THE FALL.

It is often a trying time with the flock of ewes after the lambs are taken away from them, as they are usually put in some out-of-the-way field and out of hearing of the lambs. Of course, it would not be a good plan to feed them heavily just then, as it should be the object to let the udders become reduced and the whole animal system become adjusted to the work of recuperation, and prepared for the work of producing a crop of lambs the following spring. But it is not a wise plan to so scrimp them on the pasture feed that they will become reduced in flesh and vitality. A strong, vigorous condition is very desirable at this particular time.

Changing Pastures.

There is no one thing that will instill new life, and start a flock of ewes on the up grade after being drawn on by a lot of lousy lambs, more than to give them occasionally a change of pasture. They tire of the monotony of the one field. After traveling over the grass and distributing their droppings, there is an odor that is disagreeable, and no other animal is so sensitive to such conditions as the sheep.

By turning them on to fresh feed they are awakened to the new surroundings, they liven up and take hold of the feed with an apparent relish that challenges admiration. Their eyes brighten, they become plump and look better in a short period of time. If one desires to make the most of his flock at the least expense, let him see to it that they frequently have a chance at fresh feed. If there are any weeds or brush for them to trim in the field where they are turned for a time, they enjoy trimming them, thereby getting a variety of feed which is beneficial.

Culling the Ewes.

To sort and balance up the flock requires the use of good judgment. If there are any ewes that were marked in the spring or at shearing time on account of any serious defects, unless it seems best to keep up the numbers for some reason, they should be put out. If the objectionable feature is not a serious one they might be given another chance. Sometimes conditions in the spring make a ewe drop her lamb prematurely, or she might not have been in a condition to feed her lamb properly born, and she has come through the summer a fruitless animal; and yet under better conditions next year, she may do as well as any in the flock. A rest of one summer often puts a ewe in fine form for profitable service the next year.

It seems hard sometimes to turn aside a fruitful and dutiful old matron just because she is getting past her prime in years. If she eats well, and is vigorous, she is likely to be of better service than a young untried ewe. I have found it more profitable to keep all the good ewes as long as they are strong and vigorous, and do good service, than taking chances with the young ewes.

The class of ewes that I would take out every time, is the tall, gaunt ones, that are lacking in form and constitutional vigor. What we want in ewes is to raise lambs that will be strong and grow along rapidly after they have been started in life. We expect the ewe to transmit to the offspring the internal structure which includes the vital organs, and unless she possesses strong vital organs herself she can not impart a vigorous constitution to her lambs. While a good breeding ewe should be large and roomy, the importance of large heart and lungs should not be overlooked; it is of prime importance.

The numbers of the flock are usually kept up by additions from the ewe lambs. Unless numbers are very desirable, culling should be done in a very thorough manner with the lambs. The lamb that lacks the growthiness, the breadth between the fore legs, the spread of ribs and large nostrils that indicate large lungs should be left out and fed for the mutton market. Of course, the small lambs will not sell for as much for meat as the larger ones, nor are they worth as much for breeders that are to maintain the character of the flock for several years to come. Keep the good, growthy ones.

Stimulate for Breeding.

There is a practice among very good sheep men of "flushing" the flock before breeding time, and there is wisdom in it. The skillful flockmaster can control the

flock almost at will. It is desirable to have about all the ewes come in heat during the first three weeks after the time has come to breed them. If part of the flock are out of condition some of the ewes will not be ready to breed until they are settled down in winter quarters on dry feed and grain that will stimulate them up to sexual activity.

By giving the ewes good pasture, sheltering them from the fall storms, the normal condition of the flock can be equalized to a great extent. Add to those conditions the advantages that can be gained by commencing to feed a small amount of grain and note the results. Two parts of oats to one of corn makes an excellent mixture. Increase the amount until a flock of one hundred is getting from a half bushel to three pecks of grain per day. After feeding grain from two to three weeks according to the condition of the flock, they will be ready to breed and it will be found that about all, if not all, of the ewes will come in heat during the following three weeks. It is a rule among most animals, that as soon as a thrifty condition begins, sexual activity follows. Cool nights in the fall strengthens the appetite with ewes, improved conditions begin and readiness to breed follows.

Wayne Co.

N. A. CLAPP.

BUYING A STALLION.

The present high prices received for horses makes the raising of good heavy drafters a profitable line of live stock production. Yet it is a well known fact that many horses that are put upon the market every month do not return a profit to the producer. Small, misshapen, unsound horses are changing hands every day at prices that are only a fraction of what is being received for desirable animals.

It is plain to every farmer or horseman that he must raise the better class of horses if he is to get the greatest profit out of their production. It is plain, also, that the larger number of horses must be produced from mares, already upon the farm. The chief source of improvement in breeding then, is through the use of a stallion that will tend to produce the size, conformation and quality demanded in the highest class of draft horses.

With the present high prices and general prosperity throughout the country it is more than probable that more pure-bred stallions will be bought than ever before. Many country districts that have heretofore used one stallion will have sufficient business for two next year. In other places the stallion has been in use so long that now his progeny are ready for use and new blood must be secured to mate with the young fillies. Even yet there are many localities in which grades have been in use. All such will surely be discarded this year and pure-bred stallions purchased. All these reasons make it appear that the demand for pure-bred stallions will be strong this year.

Perhaps the first point to be taken up in purchasing a stallion is the matter of breed. It is not that any one breed is better than another, for market tappers come from any of the four leading draft breeds. But it is rather that a stallion belonging to the breed whose blood predominates or of the breed it is desired to raise be chosen. The reason for adhering to one breed is that the colts will be more uniform and will be better animals than if they were of mixed breeding.

The Ideal Horse.

Having decided upon a breed, it will be well to study out and to plan something of an ideal horse or to decide what kind of a horse to buy. First of all, a draft sire must have size. He must be of the correct draft type and that means much more than size. He must be a beautiful, attractive animal. No matter which of the draft breeds he belongs to he must have certain essential characteristics or he is not suited to be a sire of draft horses. Granting that he has size, his form must be massive, broad, and deep. Muscling in all parts should be heavy for it is muscle that makes a draft horse a power in the collar. This muscling is especially desirable over the back, loin, croup, down through the hind quarters and in the thighs and fore-arm. He needs what horsemen term a good middle. That means that he has a wide, deep chest which indicates large lung capacity and usually a strong constitution. It means, also, large digestive capacity.

The head and neck are important points of consideration. They should indicate masculinity. The most desirable head will be fairly large, clean cut, and

have a bold, strong expression. A Roman nose seems to indicate courage in a great many horses. However, this may not be true, yet a horse with a Roman nose should not be discriminated against unless it is so prominent that it detracts from the beauty of the animal. The writer would always discriminate against a horse that has a bad dish or sunken place in his forehead or face. The neck should be fairly long and well arched, showing masculinity in its appearance. A stallion with a mare or gelding neck is rarely a satisfactory breeder. Eyes should be fairly large, prominent and healthy. Special attention need be given to length of neck for it is one of the most common faults of draft horses today to be short in the neck. The throat latch should be clean cut and free from flabbiness. Approaching the withers the neck should blend nicely and smoothly into the shoulders. A neck that is to be avoided is one that is excessively wide on top. Any number of stallions can be found that have as much as eight inches of flat width on top of the neck. This is undesirable and should be discriminated against.

Next in order is the shoulder. Usually not enough attention is given to this point. The shoulders should be fairly wide apart, indicating room within for vital organs. They should be smooth and neat and not too high and prominent, forming what is commonly called high withers. The most important feature here, however, is the slope of shoulder as viewed from the side. Far too many horses are faulty in this respect. A shoulder that is too straight upward and downward is sure evidence that the horse will be short in his stride and a poor walker. Good slope, for that reason, is desirable.

The back should be broad but not too long. A short back usually means two things. First, a sloping shoulder, and second, short-coupled body. A short-coupled horse is everywhere said to be an easy keeper and usually he is a little heavier muscled over the back and loin. The same full, heavy muscling over loin should be carried back through the croup and hindquarters. It is quite a common fault of many otherwise good horses to be drooping in the croup. This must be guarded against for if a stallion has such a droop his progeny are likely to have the same and will bring less money when ready for market. The same width and heavy muscling should be carried down through the thighs for it is the muscling of thighs, loin, and back that furnish most of the power when a load is to be moved.

Good Feet Are Most Important.

This brings us to feet and legs which, although very important, are hard to describe. First of all, they should be sound and free from any predisposition to unsoundness. Soundness of hock is especially desirable because, as was said above, the hind legs bear a large share of the strain when the horse is in the collar. The hock should be wide, both from the front and from the side. This indicates strength. Narrow, or tied-in hocks are most subject to curbs. The hock should be clean-cut and free from all meatiness and bog spavins. It is important to get the proper curve in the limb at the hock. Some horses are too crooked. Others are too straight. A man with a fairly good eye can decide upon this point if he looks carefully at the horse when he is not standing in a cramped position.

The fore legs should be of only medium width apart; if there is too much space between them the horse is very likely to roll in action. The leg should be well defined, heavily muscled, having a broad knee, and a cannon bone that does not cut in just below the knee. The bone of the fore leg, and hind leg as well, should be clean and flat and indicating a good quality of bone. Too great size of bone should not be sought for because it is usually associated with coarseness. Yet about as much must be looked for as is possible without coarseness. Bone, if of the right quality is one of the things demanded upon the market and a horse must have a sufficient amount of it to carry his weight and do his work.

Pasterns must be of medium length and of fair slope. There are many stallions on the market at the present time that are too short in the pastern, especially behind. This makes them inclined to knuckle over on the fetlock joint and sometimes to appear cock-ankled. A medium slope of pastern indicates some springiness of action and causes the weight of the horse to fall more gradually upon the foot than if the pastern

Free to Pile Victims

Next Morning Worst Cases Wonder Why They Never Before Tried The Remarkable Pyramid Pile Cure.

IT IS FREE.

By making a free test of the Wonderful Pyramid Pile Cure you are sure of being right. Nothing is more disappointing than to invest in something that don't do the work. So, write at once to the Pyramid Drug Co., Marshall, Mich., for a free trial package and know to a certainty that here is a sure, quick and permanent cure, an instant relief in worst cases of any form of piles. The trial will enable you to rest comfortably over night, and in the morning you will hustle to the nearest drug store, can't help it, for the regular 50c package that puts you on your feet and keeps you going. Be sure you get what you ask for.

Use the coupon below. Merely fill in your name and address.

FREE PACKAGE COUPON

Fill out the blank lines below with your name and address, cut out coupon and mail to the PYRAMID DRUG COMPANY, 269 Pyramid Bldg., Marshall, Mich. A sample of the great Pyramid Pile Cure will then be sent you at once by mail, FREE, in plain wrapper.

Name

Street

City State.....

Give the Hogs a Medicated Wallow

and they'll rid themselves of skin parasites and infectious disease germs. Dr. Hess Dip and Disinfectant does the work. Make a shallow dirt wallow; fill it with a dip solution—60 or 70 parts water to 1 of dip—and let the hogs enjoy it.



This kind of thing pays over and over again in healthier hogs and quicker fattening.

Dr. HESS DIP and Disinfectant

meets every requirement of the government as an official dip for sheep scab. Prevents infectious diseases of livestock and rids infested animals of lice and sheep ticks. Valuable, too, as a deodorizer—kills unwholesome odors in stables, pens, out-houses and from sinks or drain pipes. Don't be without Dr. Hess Dip and Disinfectant. Write for booklet. DR. HESS & CLARK, Ashland, Ohio

For Lambe Horses

Remove All positively cures Sprains, Ringbone, Curb, Shoe Bolls, Capped Hocks, abnormal growths and lameness. **REMOV-ALL** Sold on money-back guarantee. Leaves horses sound and unscathed. Lump jaw is cured in less than three weeks with **Adams Rapid Lump-Jaw Cure** Easy to use. Guaranteed. Write for FREE TREATISE on curing these diseases. H. C. ADAMS MFG. CO. Dept. 22, Algona, Iowa



Always mention the Michigan Farmer when writing to advertisers.



Double Your Hog Profits

this year by using Pratts Animal Regulator. It's guaranteed to make healthy, quick-growing hogs—to make the weight and quality that bring top prices.

Pratts Animal Regulator

is also a money maker for thousands of hog raisers because it prevents cholera and constipation. It makes digestion perfect and the hogs get the fullest possible return from every pound of feed.

Test Pratts Animal Regulator on a few hogs and then compare with those who did not get it. It is

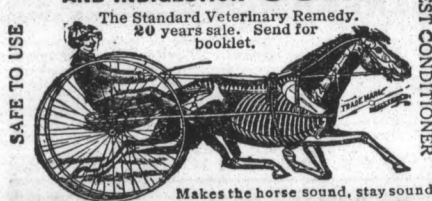
Guaranteed or Money Back

Your dealer will instantly refund purchase price in case of dissatisfaction.

Get Pratts Animal Regulator of your dealer today. A 25 lb. pail costs \$3.50—smaller packages 25c. up.

PRATT FOOD CO., Dept. 28 Philadelphia, Pa.

NEWTON'S HEAVE COUGH, DISTEMPER AND INDICATION CURE



DEATH TO HEAVES
The first or second \$1.00 can cures. The third can is guaranteed to cure or money refunded.
\$1.00 per can at dealers, or express prepaid.
THE NEWTON REMEDY CO., Toledo, Ohio

When All Others Fail Try Dr. Fair's Cough & Heave Remedy

SIX DAYS' TREATMENT FREE to new customers, if you send 4c to pay postage. If your druggist can't supply you

Send \$1 for 30 Days' Treatment

W. C. FAIR, V. S., Prop.
DR. FAIR VETERINARY REMEDY CO.
5712-5714 Carnegie Avenue, Cleveland, Ohio.

DUNHAMS' PERCHERONS

Fourth importation for 1910 arrived August 4th. Our present lot, we believe, equals or surpasses any we have heretofore collected. More horses of bone, size and first-class quality than ever. Numerous important prize winners. Write for catalogue.

W. S., J. B. & B. DUNHAM
Wayne, Illinois

Old Honesty Blankets



Harness at Wholesale Prices!

Direct from our shops to you. FREIGHT PAID. We Can Save You Money. Write to-day for a copy of our HARNESS BARGAIN Catalog
JOE'S HONEST HARNESS CO., CARO, MICHIGAN.

were more upright. This reduces the tendency to sidebones.

The feet, while being mentioned near the last of this article are by no means the least important. Many an otherwise good horse is well nigh useless because he is bad in the feet. No matter what breed a stallion may belong to, he should have a large, deep foot, of a very tough texture. The hoof must be large at the top or it will be inclined to have sidebones. It must be wide behind or it will be likely to have contracted heels. While looking over several classes of stallions in the show ring at a state fair recently the most striking feature was a lack of depth at the heel of the hoof. The blacksmith may be to blame in part but no stallion that does not have a hoof that is desirable in every way should be purchased.

The style and action of a horse are very important market considerations. First of all, it is the business of a draft horse to walk and to pull a load. Therefore he should walk with a firm, straight, regular stride without dragging his feet at all. The stride should be of good reach, indicating that he will be able to get over the ground at a fairly rapid rate. At the trot the most desirable action in a draft horse is that he carry

well, he should have the horse examined if it indicates that he is straightforward and upright he probably will be safe to do business with. All importers give guarantees but these guarantees may mean much or little. They must be studied carefully. One will read "Sound and a sure and satisfactory breeder," to you and mean what it says. The next may be written in such a way that it means nothing. A man cannot be too careful upon this point.

One must expect to pay a fairly good price to get a good horse. The same is true in horses as in general merchandise. The store that is selling goods at an extremely low price invariably has a poor quality of goods. But if we seek for the better quality of goods we must always pay for it. This is exactly the case with horses. Go where horses are advertised to be sold for extremely low prices and you will nearly always find an inferior bunch of horses. It will always pay to invest little extra money and get an absolutely high-class horse.

The writer does not feel justified in closing this article until he has again called attention to the matter of soundness. If the purchaser is not of sufficient experience to detect all forms of unsoundness, and predisposition to such as



Shropshire Ram Lamb, 1st at Hillsdale and a Prize-Winner at Grand Rapids. Shown by C. H. Hutchison, of St. Joseph County.

himself as though he were putting his weight into the collar. The action will be straight and free from rolling. The feet will be lifted in an almost vertical direction before being carried forward. A great amount of speed and coach action is not to be expected in a draft horse, yet he should be stylish and graceful in action.

Other Essential Points in Buying.

In the main it will be best to buy early in the season. This enables the purchaser to get the pick of the lot. Furthermore, it enables him to get the horse accustomed to his new surroundings long before the breeding season opens. Perhaps the best place to buy is at the barn of a reliable importer, for in nearly all cases the horse will be bought from one of the importers. There a man can see the animals under their more ordinary care and learn more about the horses than is possible otherwise. He should see the horse bridled in the stall and note whether he seems to have any viciousness which makes the boys cautious in going about him.

The best age to purchase will depend upon circumstances. In general, a colt coming three years old will be best in the long run. A colt of that age can nearly always be gotten for less money than a horse one or two years older. While he could not stand as much service the first season as an older horse, that first season is usually lighter than those that follow and a strong three-year-old will do very well. In this way one or two years more of usefulness will be secured from the horse.

Selecting an importer from whom to buy is almost as important as selecting the horse himself. There are reliable importers and there are unreliable importers. Before visiting an importing establishment the proprietor should be investigated from every standpoint. If such investigation proves him to be unreliable it is best to pass him by at the start.

by a competent and reliable veterinarian as well as to have the importer's guarantee.

Iowa. H. E. MCCARTNEY.

LIVE STOCK NOTES.

Recently in the Chicago wholesale market September lard sold at higher prices than a year ago, while September pork sold nearly \$6 per barrel lower than at that time.

on the lines of the Rock Island in Iowa. Reports from Missouri say that there is a great demand for high-class saddle and harness horses and that not enough geldings are offered by farmers to go around.

The shortage of forage in Fall River county, South Dakota, is forcing the sacrifice of thousands of cattle prematurely, and it is feared that farmers will market their best breeding stock. Recently one of the ranchers threw every hoof he had on the market, and this is only one of dozens of similar cases in the county. These cattle averaged him \$18 per head. Less than three years ago the county was the center of an almost unbroken range. Now the big ranches are all broken up and gone, and similar conditions prevail all over the two Dakotas, Montana, Wyoming, and in fact, throughout the semi-arid states.

The big ranches of the northwest, as well as those of Texas, are being cut up one by one into ordinary sized farms, among the last to be divided in this manner being the enormous ranch in Montana owned by Colonel Cruise for nearly a quarter of a century. The ranch covers about 17,000 acres, and the price paid was about \$400,000, being the largest land transaction in that state for a year. The sale embraces 6,500 cattle, 20,000 head of sheep and all the ranch equipment.

Reports from various points in Iowa and Illinois say that farmers are preparing to build new cribs for storing this year's mammoth crop of corn, their intention being to engage in feeding live stock on a large scale, as the market price of corn is expected to be low. The weather has been ideal for maturing the crop, and old corn has been shipped out freely to make room for the new crop. In central Illinois the crop is expected to be a record-breaker. A short time ago sales of new No. 3 yellow corn were made for this year's shipment from northwestern Iowa to Chicago on the basis of seven cents a bushel below the Chicago May delivery price.

Keep Hogs Healthy



A DIPPING TANK OR A HOG WALLOW WITH KRESO DIP NO. 1 WILL DO THE WORK

THERE IS NO EXCUSE FOR LOUSY MANGY UNTHRIFTY PIGS. IF YOU HAVE SOME OF THIS KIND YOU WILL FIND IT WORTH WHILE TO GET OUR CIRCULAR ON TANKS AND WALLOWS. IT TELLS HOW TO MAKE THEM OF CEMENT

KRESO DIP NO. 1 IS A REAL NECESSITY ABOUT ALL LIVE STOCK

FOR KILLING LICE, TICKS, MITES, FLEAS. FOR TREATING SCAB, MANGE, RINGWORM, AND OTHER SKIN DISEASES. TO DISINFECT, DEODORIZE, CLEANSE & PURIFY.

ALL OF THESE USES FULLY DESCRIBED IN OUR BOOKLETS. WRITE FOR COPIES ASK YOUR DRUGGIST FOR KRESO DIP NO. 1

PARKE, DAVIS & CO., DEPARTMENT OF ANIMAL INDUSTRY.

DETROIT, MICH.



Horse Owners Should Use GOMBAULT'S CAUSTIC BALSAM

The Great French Veterinary Remedy. A SAFE, SPEEDY & POSITIVE CURE.

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.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. WE GUARANTEE that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

"SAVE THE HORSE" SPAVIN CURE.



No half-way, temporary, break-down-to-morrow kind of cures. Instead "Save-the-Horse" produces a lasting and perfect cure.

Besides the indisputable evidence of actual and phenomenal results on every hand, we give a signed contract that absolutely protects you. Fifteen years of success and evidence that is honest to the core will convince. Send for book on all lameness and copy of signed contract.

Port Deposit, Md., May 19, 1910. I tried "Save-the-Horse" on a valuable mare that was lame over a year with bone spavin. It effected a complete cure. She is as fast this year as she ever was. I am entirely satisfied. PHILIP B. BOND.

Still Sound Five Years After. Benton Harbor, Mich., May 22, 1910. Five years ago I got "Save-the-Horse" of you to use on a fine horse that had injured his hind leg, and it cured him when veterinary surgeons said it could not be cured. J. E. BARNES.

\$5.00 a bottle, with legal written guarantee or contract. Send for copy, booklet & letters from business men & trainers on every kind of case. Permanently cures Spavin, Thoroughpin, Ringbone (except low), Curb, Splint, Capped Hock, Windpuff, Shoe Boli, Injured Tendons & all Lameness. No scar or loss of hair. Horse works as usual. Dealers or Exp. paid. TROY CHEMICAL CO., 20 Commercial Av., Binghamton, N.Y.

Prices Sent Free Chicago Scale Co.

Please mention the Michigan Farmer when you are writing to advertisers.

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.

Bronchocele.—I have a horse with two enlarged glands in throat and would like to know what to apply. S. D. P., Byron, Mich.—Apply one part iodine and six parts lard once a day.

Kidney Disease.—My 16-year-old mare has some kidney and bladder trouble which is of long standing. Our local Vet. has treated for some time but she is not well and I would like to know what to do for her. E. J. H., North Branch, Mich.—Give her a tablespoonful fluid extract buchu at a dose in feed once or twice a day.

Enlarged Glands.—The glands of my cow's neck seem to be enlarged and I would like to get a remedy for them. C. W. M., Baden, Mich.—Apply equal parts spirits camphor and tincture iodine daily.

Pigs Have Paralysis.—Seven of my young pigs seem to have poor use of their hind quarters; they have been fed sweet milk and some oats. M. F. P., Attica, Mich.—You have been feeding too much sweet milk or else they eat a poisonous herb while running in pasture. Give more oats, oil meal, green food and vegetables. Give them some air slaked lime in their feed two or three times a day.

Sow Fails to Come in Heat.—I have a sow that fails to come in heat and I should like to know what to give her. D. B., Grass Lake. Give her 5 grs. powdered cantharides at a dose in feed twice a day.

Stiffness—Sidebones.—I have a horse 17 years old that travels stiff. I also have another horse that is troubled with sidebone. G. W. J., Elk Rapids, Mich.—Give 2 drs. salicylate soda at a dose in feed twice daily. Apply one part red iodine mercury and 8 parts cerate of cantharides to sidebones once a week.

Abscess Under Jaw.—I have a heifer 15 months old that has a swelling under jaw which came suddenly; this bunch is hot and tender. What shall I do for her? E. V., Rothbury, Mich.—Apply equal parts camphorated oil and tincture iodine to throat once a day, give 20 grs. quinine every three hours or 40 grs. every six hours. Keep the bowels open by giving either salts or castor oil.

Ringbone.—I bought a horse that had ringbone; he had been blistered but the treatment left a scar. The man who sold him stated that it was killed, but the horse is quite lame. Tell me how to reduce bunch and heal the sore. C. A., Marion, Mich.—Your horse was not cured when treated. Apply tincture iodine once a day and if you work him drive slow.

Lambs Cough.—I would like to know how much copperas and sulphur can safely be given at a dose with salt to sheep, and also tell me how much carbolic acid can be given to sheep at a dose. My lambs are coughing nearly all the time and I want to experiment a little. F. J. C., Hudson, Mich.—From 10 to 20 grs. of sulphate of iron is enough for a dose, the same quantity of sulphur is plenty and it should be given in feed once or twice a day. Giving drugs in salt is not a good plan for the animals may eat too much at a time. Carbolic acid should not be given in more than one or two drop doses to lambs. I usually give creosote in three drop doses instead of carbolic acid and I am sure it produces better results; it is not nearly so poisonous.

Nervousness—Sore Neck.—I bought a six-year-old mare last spring, put her to work right away; she seemed to be in perfect health, but was quick and nervous. She did far more than her share of the work; now she travels as if quite stiff and sore. When urinating she frequently grunts as though in pain. I wish you would tell me what to do for sore neck. V. M., Chesaning, Mich.—Give your mare 2 drs. powdered rosin, 1 dr. ground nux vomica, 1/2 oz. ground gentian and a tablespoonful cooking soda at a dose in feed two or three times a day. For sore neck, dissolve 1/4 lb. acetate lead and 3 ozs. sulphate zinc in a gallon of cold water and apply to sore neck three times a day. Remember, the collar and pad should be kept very clean and is important to have a nice fitting collar or the medicine will fail to heal the sores.

Tuberculosis.—I am a five-year paid in advance subscriber to the Michigan Farmer and having used your advice with such good results in the past, I come to ascertain what ails my chickens. I lost three two-year-old hens lately and after death found the liver spotted with yellow specks. I feed them some skim-milk, oyster shells, potatoes and grain. Mrs. D. M. W., Ann Arbor, Mich.—I am inclined to believe your chickens died of tuberculosis of the liver, and suggest that you discontinue feeding them milk. Your other chickens may be all right.

AYRSHIRE CATTLE

By PUBLIC AUCTION
AT CAMLACHIE,

OCTOBER 29th, 1910.

20 Females and 3 Males. Send for bills describing their breeding, etc., and come to the sale.

JOHN FERGUSON, Camlachie, Ontario.

14 miles east of Sarnia Tunnel on G. T. R.



Cuts Down Fuel Bill 1/3

This Range Is Not Stuffed With Stove Putty

Let this be your warning not to buy any range that is "doped" with stove putty. Stove putty is the "dope" used to stuff the seams of cast iron and steel ranges to make them air-tight.

Under the pressure of expansion and contraction, caused by heating and cooling, stove putty crumbles and falls out. Then false drafts enter at the seams. Either they fan the fire so you can't check it, or deaden it so you can't make it burn. They cause the range to waste fuel—send fuel bills way up—make it impossible to do good baking and cooking or to keep a fire over night.

A cast iron, or so-called steel range, is the most expensive thing you can have, because of its wastefulness, to say nothing about the difficulty of keeping clean, or doing good baking.

ARCADIAN RANGE

MALLEABLE NON-BREAKABLE

This range is made of malleable iron and charcoal iron plates. While so-called steel and cast iron ranges can only be bolted together and must be stuffed with stove putty, the malleable iron and charcoal iron plates in the Arcadian are so tough they are riveted air-tight, metal to metal, without the use of stove putty, just like a locomotive boiler. The Arcadian is air-tight, that's why it actually cuts down fuel bills one-third, and is as splendid a baker after a lifetime of service as the day you bought it—no need to blacken—easy to clean, just rub with oil rag; oven thermometer and every improvement. Sold by dealers.

Free booklet—full of money-saving information about ranges, telling the inside facts about range making and showing up secrets—teaches you to detect weak points in ranges. Free. Write to-day.

ARCADIAN MALLEABLE RANGE CO., Dept. 56 Milwaukee, Wis.

Mich. Consignment Sale Co. 3d Annual Sale of 125 Head of

HOLSTEIN CATTLE

STATE FAIR GROUNDS, DETROIT, OCTOBER 20, 1910

9:30 A. M. A GREAT DAY!

An opportunity to buy at your own price Choice Cows and Heifers, fresh or soon to be, bred to bulls of the blood that produces 30 pound cows. Some of the Choice Young Bulls will be offered, grandsons of 25 to 30 pound cows. You can't afford to miss this sale. Don't forget the date—Oct. 20, 1910, 9:30 A. M.

MEMBERS OF SALE CO.:

Ed. Starkweather, Northville, Mich.; D. C. Pierson, Hadley, Mich.; F. R. Crandall, Howell, Mich.; J. Fred Smith, Secretary, Byron, Mich.; J. H. Johnson, Farmington, Mich.; F. E. Eager & Son, Howell, Mich.; J. W. Norton, President, Howell, Mich.; J. W. Worthington, Howell, Mich.; Reed & Knowles, Howell, Mich.; J. FRED SMITH, Sec., Byron, Mich.

AUCTION SALE 200 Reg. Shropshire Sheep, Ewes and Rams. Oct. 18, 1910, 10 A. M. All my reserve flock, ewes bred to choice imported rams, flock won all first prizes Ohio State Fair, four silver medals, two silver cups, Michigan State Fair and \$119 cash prizes, one year's showing. C. H. HUTCHISON, White Pigeon, Michigan.

For Sale—Horses, Cattle, Sheep, Hogs, Dogs, or Poultry, nearly all breeds. Sires exchanged. Southwest Michigan Pedigreed Stock Association, R. E. Jennings, Sec., Paw Paw, Mich.

FOR SALE—5 head Feeding Heifers. Beef breeds, average about 800 lbs. each and are well started. ALLEN CARLISLE, Nottawa, St. Jo. Co., Mich.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd headed by UNULATA BLACKBIRD ITD 83836, one of the best sons of PRINCE ITD 50006, and Grand Champion Bull at the Detroit and Grand Rapids Fairs of 1907, 1908, 1909 and 1910. Herd consists of Ericsa, Blackbirds, Prides, etc. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—High type of Dairy animal. Young bulls and bull calves for sale. Prices low. Inquiries solicited.

BERKSHIRE SWINE.

FINE POULTRY—White and Barred Rocks, White & Buff Orpingtons, White Wyandottes and Leochorns. Eggs in season 10c each.

MICHIGAN SCHOOL FOR THE DEAF, Flint, Mich.

Maple Ridge Farm, Breeders and Importers of high class Guernseys. Write us your wants. E. & J. T. MILLER, Birmingham, Mich.

CHOICELY BRED HOLSTEIN-FRIESIAN Bull Calves prices. Cole Bros., Ypsilanti Farms, Ypsilanti, Mich.

TOP NOTCH HOLSTEINS

Top Notch registered young Holstein Bulls combining in themselves the blood of cows which now hold and have in the past held World's Records for milk and butter fat at fair prices.

McPHERSON FARMS CO., Howell, Mich.

NOTHING BUT HOLSTEIN BULLS FOR SALE. Sir May Hartog Posch No. 37094. A. B. Three Nearest Dams Average 26 1/2 lbs. butter in 7 days. Sound, Sure, Gentle, and one of the finest individuals of the breed. If you want a Herd Header come and see this one. I can please any breeder with a bull calf two to ten months old. I want to sell TEN before Nov. 1st. Help me do it by buying one. L. E. Connelley, Fayette, O.

Holstein-Friesian Cattle—Special price Service Bull. W. B. JONES, Oak Grove, Michigan.

For Sale Cheap—Five choice bred for service. WILLIAM B. HATCH, Ypsilanti, Mich.

ELMHURST FARMS, SMITH & WARNER, Props. Holstein Cattle and Oxford Down Sheep. Have 15 Choice Ram Lambs for sale. Address B. C. Banfield, Supt. Owendale, Mich.

FOR SALE—2 yearling Holstein-Friesian bulls, pedigrees and photo on application. W. C. JACKSON, 715 Rex St., South Bend, Ind.

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

Jersey Bull—A registered St. Lambert ready for service. Will send pedigree. JOSIAH BLACK, Bremen, Ohio.

FOR SALE—12 registered Jersey Cows of St. Lambert and Island blood, from 2 to 10 years, all fresh or nearly so. Price \$100 each if taken at once. C. A. Bristol, R. F. D. 5, Ponton, Mich.

Register of Merit Jerseys. Official yearly lot of young bulls from dams with official records of 433 pounds and upwards of butter. T. F. MARSTON, Bay City, Michigan.

BUTTER BRED JERSEY BULLS FOR SALE CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

LILLIE FARMSTEAD JERSEYS,

We have some splendid young bulls for sale. Some of them are old enough for service. They are from cows with records of 300 to 425 pounds of butter last year. Write for description and prices. COLON C. LILLIE, Coopersville, Michigan.

JERSEY BULL CALF born Oct. 21, '09. Dam Register of Merit Cow. Maternal grand dam gave 9,900 lbs. milk in one year. 520 lbs. butter fat. Sire's dam gave 10,000 lbs. milk, test 5.25 in 10% Mo. Herd tuberculosis tested. THE MURRAY-WATERMAN CO., R. F. D. 6, Ann Arbor, Mich.

Dairybred Shorthorn Bulls for sale. 7 mo. old, also a few yearling heifers. J. B. HUMMEL, Mason, Michigan.

SHEEP.

ROCKLAND Farm Delaines are in field form, strong, rugged and well covered. Prices right. Tell us your wants. D. E. Turner & Sons, Mosherville, Mich.

CHOICE registered DELAINE MERINO RAMS AT HALF PRICE. Will ship on approval. Lorimer Kipp, Rockford, Kent Co., Mich., R. F. D. 28.

FOR SALE—Registered Improved black top Delaine Merino Rams. Address G. A. Vincent, R. F. D. No. 2, Vernon, Mich.

Hampshire Sheep—Rams and Ewes for sale. Prices Moderate. Comfort A. Tyler, Coldwater, Mich.

HAMPSHIRE RAM LAMBS and several extra good YEARLINGS. All registered. C. D. WOODBURY, Lansing, Mich.

Hampshire, Southdown, and Cotswold Rams and Ewes for sale. Prices right. THE CLOVER BLOSSOM FARM, Port Austin, Mich.

LINCOLN SHEEP—either sex, 2 years, Yearlings or Ram Lambs. Write or phone, A. H. WARREN, Ovid, Mich.

Parsons Oxford Rams—These popular big, dark faced rams will produce bigger and better lambs. Grade X \$15.00, XX \$20.00, XXX \$25.00. Romeyn C. Parsons, Grand Ledge, Mich.

Oxford-Down Sheep and Polled cattle for sale. A. D. & J. A. DE GARMO, Muir, Mich.

OXFORD RAMS And ewes from Imported Rams, And ewes bred to same. Address B. F. MILLER or GEO. SPILLANE, Flint, Michigan.

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

DELAINE RAMS, also 50 registered Delaine ewes which must be sold before Dec. 1. Great bargain for some one. S. J. COWAN, Rockford, Michigan.

46 RAMS and 100 ewes (reg) Ramboulllets descended from the best flocks. In perfect health in lots to suit buyers. J. Q. A. Cook, Morrice, Mich. Bell Tel.

CHOICE Registered Shropshires & Cotswolds, yearling ewes, rams & ewe lambs, single or car lots, Clyde Stations & Welsh Ponies. Write for prices. ARTHUR L. MILNE, Green River, Ontario.

Shropshire Hall Stock Farm

Will make special prices, for thirty days, on some choice one and two-year-old ewes, also ram lambs.

L. S. DUNHAM & Sons, Concord, Michigan.

SHROPSHIRES—A few choice field rams. Also O. I. C. swine. C. J. THOMPSON, Rockford, Michigan.

SHROPSHIRE Rams and Ram Lambs, eligible. Prices right. B. C. Raymond, Dansville, Michigan.

SHROPSHIRE RAMS and RAM LAMBS for sale. M. A. BRAY, Okemos, Ingham Co., Michigan.

MUST sell at once a little flock of Shropshire ewes, mostly young, and 6 buck lambs. Very best breeding. Will sell cheap. J. W. Slater, Traverse City, Mich.

SHROPSHIRE Rams and O. I. C. Swine. Spring farrow of both sexes, of right type and breeding. E. E. BEACH & SON, Brighton, Mich. Route No. 3.

REGISTERED Shropshire Rams and ewes for sale from imported and Canadian bred stock. Satisfaction guaranteed. Willis S. Meade, R. No. 3, Holly, Mich.

SHROPSHIRE yearling and ram lambs, the best of wool and mutton type from registered stock. GEO. P. ANDREWS, Dansville, Ingham Co., Mich.

INGLESIDE SHROPSHIRES—Rams of all ages. Bred for wool and mutton type from registered stock. H. E. Powell, Robt. Groves, Shepherd, Iowa, Mich.

FOR SALE—70 Good Registered Shrop Ewes, 20 yearling rams, 10 ram lambs, one 2-yr.-old stock ram bred by Wardwell, E. E. Leland & Son, R. No. 9, Ann Arbor, Mich.

MAPLE RIDGE SHROPSHIRES—Closing out sale choice yearling rams. Ewes all ages, will be sold without reserve. H. STEWART, Lenton, Michigan.

HOGS.

LARGE ENGLISH BERKSHIRES

Have fine lot of male pigs about 4 1/2 months, of large, growthy type. Also good young gilts same age. Prices reasonable. Satisfaction guaranteed.

F. A. BYWATER, Memphis, Michigan.

HUPP FARM BERKSHIRES!

WON 189 PRIZES IN 1909.

Stock of both sexes and all ages for sale. Breeders of Guernsey Cattle, M. B. Parkers, Barred Rock Chickens, Pekin Ducks. GEORGE O. HUPP, Manager, Drawer A, Birmingham, Michigan.

Berkshire—A few choice fall Gilts bred for early farrowing and a choice lot of Spring Pigs with prices right and the right breed. A. A. Pattullo, Duckerville, Michigan.

BERKSHIRES—Handsome Jewell 116334 of Michigan 1908, son of the \$1,500 Handsome Lee 91407, and a choice lot of pigs of his get at moderate prices. M. D. & G. B. Johnson, Plymouth, Michigan.

BERKSHIRES Unexcelled in breeding. Select-ed boars, sows and gilts. Choice fall pigs. T. V. HICKS, R. No. 11, Battle Creek, Mich.

DUROC JERSEYS.

CAREY U. EDMONDS, Hastings, Michigan.

DUROC JERSEYS—75 choice male pigs, 80 choice fall pigs, 6 sows with pigs, 10 show prospects in fall sows. Write for particulars. J. C. BARNEY, Coldwater, Mich.

DUROC JERSEY SWINE. Shepherd Dogs, B. 1.50 each. J. H. BANGHART, Lansing, Mich.

Chester Whites and Guernsey Cattle, also 102-acre farm. A change of business and everything for sale before Sept. 25th. WILL W. FISHER, Watervliet, Michigan.

IMPROVED CHESTERS

Choice Pigs of March and April farrow either sex. W. O. WILSON, Okemos, Mich. (Both Phones).

O. I. C. Hogs all ages. Sows bred, and more. H. E. JUMP, Munith, Michigan.

O. I. C.—Choice bred Sows, May and August boars from World's Fair Winners, at Glenwood Stock Farm, Zeeland, Michigan. Phone 94.

O. I. C.—For Sale a few choice pigs of March and April farrow in pairs not akin. Satisfaction guaranteed. A. Newman, Marlette, Mich., R. F. D. 1.

O. I. C. SWINE—Have a number of choice boar pigs of April farrow got by Grand Son of Jackson Chief, the World's Champion and Grand Champion Boar. Gilts all sold. Write for live live prices. A. J. GORDEN, Dor, R. F. D. No. 2, Michigan.

River View Hampshires—Sow Pigs 6 wks; Spring Gilts, bred or open. Mature sows, 2 yearling boars, 1 well bred St. Lambert Jersey bull, 18 mos. Prices right. A. L. Allis, Adrian, Mich. R. No. 1.

RECORDED MULE FOOTED HOGS

are said to be immune from hog cholera. Stock of all ages for sale. John H. Dunlap, Williamsport, Ohio.

150 POLAND-CHINA SPRING PIGS

either sex, with size, bone and quality. Bargains on early fall weaned pigs. I ship c. o. d. and furnish pedigree promptly. Write for prices.

WM. WAFFLE, Coldwater, Michigan.

P. C. Bargains—3 choice boars ready for service; 1 good sow for Sept. farrow. Z. KINNE, Three Oaks, Michigan.

P. C. BOARS of great size, great quality and the best of breeding. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

25 BIG BOARS at \$25—Ready for service. Sired by three big type West-ern bred boars, and from big type sows, bred big for 20 years. We are the pioneer big type breeders of Michigan. Pairs and trios not akin. J. C. BUTLER, Portland, Mich. Bell Phone.

Large Type Poland-Chinas—Largest in Mich. Pigs now ready to ship, weigh from 150 to 300 lbs. at 4 1/2 months old. Will deliver what I advertise. W. E. LIVINGSTON, Parma, Michigan.

Poland-Chinas—Boars ready for service; spring pigs, either sex. Write L. W. Barnes & son, Byron, Shiawassee Co., Mich.

P. C. BOARS—Big growthy fellows, worth the money. WOOD & SONS, SALINE, MICHIGAN.

Poland-Chinas—Boars, Gilts and Pig of quality at the right price. E. M. WING & SON, Sheridan, Michigan.

Large Improved English Yorkshires.

The hog that makes good. Boars ready for service. Gilts bred for next spring farrow. A choice lot of fall pigs, pairs not akin. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Michigan.

POULTRY AND BEES

PREPARING FOR WINTER POULTRY WORK.

Cleaning Up the Houses.

Anyone who expects success with poultry must not neglect to keep the houses clean. This is a hard disagreeable job, but one that should be attended to promptly as well as regularly. Nearly every person has seen, at some time, chicken houses that looked as if they had not been cleaned since the day they were built. The droppings have been allowed to accumulate under the roosts until the mass is several feet deep. The roosts are coated, and even the boxes that were put in at some time to serve for nests are so filthy that they are not fit for hens to lay in.

How can chickens be healthy in such a place? Often in snowy, disagreeable weather they will not leave the house, and it is hard to find a spot in such a place upon which to feed them. Chickens generally have insects on their bodies even under good conditions, and what must fowls in such surroundings suffer from these pests?

A well kept chicken house is one that is cleaned often. Some poultry raisers clean their houses every day and would not think of neglecting this job.

When the house has been thoroughly cleaned, whether this is done every day or not so often, sprinkle the floor generously with air-slaked lime and dust a little in the nests. If there are insects in the house smoke it well with sulphur and then wrap a cloth around a stick and apply coal oil to the roosts. It is also a good plan to whitewash the house on the inside occasionally. When a chicken house is taken care of in this way it never gets in bad condition and the fowls will be comparatively free from parasites.

Another thing that will add to the comfort and cleanliness of the chickens is a box filled with dust and ashes where they can take a dust bath. This will need to be replenished quite often for there will be chickens in it most of the time and the dust will be carried away in their feathers.

This will mean work but it will pay, and the chicken house will not get into such condition that the only desire one has when he sees such a place is to set fire to it and remove it from sight; for it is almost a hopeless task to attempt to clean up a house in which chickens have been allowed to stay for years without giving the building any attention whatever.

Ohio.

MARGARET WHITNEY.

Care of Roosts and Nests.

Though lice and mites are apt to be most numerous during the summer months they will become troublesome in the poultry house at other seasons unless care is exercised to keep them under control. Roosts and nests are generally the hiding places of these vermin, so they should receive particular attention. Sometimes, when we think everything is in good shape, a look under the perches will show little blotches of red here and there. These blotches are composed of numerous tiny red mites which, for the most part, do not bother fowls during the day. They often collect in nesting material also, but the under side of perches is their usual daylight abode.

No perfunctory measures will rid a house of these pests once they become thoroughly established. My method, when I find the mites, (which is not often) is, first, to go over the roosts rapidly with a torch, moving it back and forth until all vermin on the poles have been killed by the heat. Care must be used to prevent setting fire to the wood. Next I give the roosts a heavy coat of whitewash. Sometimes I use kerosene instead, applying it with a rag to upper and under sides and sprinkling it over the droppings platform. Then lime is scattered liberally beneath the roosts; it probably lessens the value of the manure but helps to keep the house sweet and free from vermin. Do not depend upon lime alone to keep down insects. It helps wonderfully, but other means also must be employed; whitewashing or oiling should be repeated frequently, even though no mites are visible.

Nests will sometimes become infested with lice, usually the small gray ones, in spite of all precautions. This is especially true of nests so built that they can not be removed from the house. Here the lice find crevices to hide in where they

cannot be reached by the usual methods. The best precaution is to make all nests removable. Mine are made three together, with a hinged top. Each nest is 12x15 inches and 12 inches high. Along the front a strip three inches wide is nailed to prevent the hens scattering the nesting material. A handful of lime is placed in each nest box, the hay or straw on top of this and lice powder sprinkled over it.

Roosts as well as nests are best made removable. It facilitates cleaning out the droppings, and the poles are more easily whitewashed. Some of mine are hinged to the wall so they may be hooked up out of the way.

Careful attention to roosts and nests is essential to good results at all times, but particularly so during the winter months when the hens are confined to the houses much of the time.

Ohio.

NAT S. GREEN.

FATTENING CHICKENS FOR MARKET.

Before commencing to fatten, chickens should be thoroughly dusted with insect powder, and this should be repeated at least twice during the feeding period to keep them free from vermin. As far as possible the fowls penned together should be graded according to size to prevent fighting. During the first few days care must be taken not to over-feed, as a chicken at the beginning is apt to over-eat and lose its appetite. Give very little the first day but gradually increase till at the end of the first week they are receiving all they will eat three times a day. From 10 days to three weeks, according to the condition the fowls are in at the start, is sufficient to fatten them.

There are many good fattening rations. From experiments conducted at the Northwestern Experiment Farm in Minnesota it was learned that although the ration may be properly balanced with grain some form of animal protein, such as beef scraps or skim-milk, is needed to get the best results. Beef scraps and meat are, as a rule, too expensive for the farmer, but skim-milk gives equally good results and should be quite easy to get on any farm. The grains are finely ground and mixed with sour milk.

Some fattening rations which have been used very successfully upon the experiment farm referred to are the following:

1. Equal parts by weight of finely ground corn, oats and shorts mixed with sour skim-milk.
2. Equal parts by weight of finely ground barley, oats and shorts mixed with sour milk.
3. Finely ground oats mixed with sour skim-milk.
4. Equal parts of finely ground oats, corn and low grade flour. Where one is using beef scraps 15 per cent is the best proportion to use.

The purpose in thus feeding fowls is not, as many people suppose, to make them as fat as possible, but to secure the proper proportion of fat and lean which renders the fowl tender and juicy when cooked. The over-fat fowl, like the aged hen, is not wanted.

On this experiment farm the crate method of fattening is preferred for roasters or for fowls above 3½ lbs. in weight, although the loose pen method of fattening is also practiced. The crate used in the former method is usually 6 ft. long, 16 in. wide, 18 in. high and divided into three compartments, each holding from 4 to 6 fowls. The slats or laths, which are usually 1½ in. wide, are placed 1½ in. apart at the ends, sides and top of the crate, but those in front are placed vertically and are 2 in. apart, giving the fowls plenty of room to put their heads through to eat from the trough. The floor of the crate is made of slats which run lengthwise and are placed one inch apart, leaving a 1-in. space on either side between the first lath and the sides of the crate. The crate should stand on short legs or trestles to allow for convenience in cleaning out the droppings which fall to the floor. The trough runs the full length of the crate and should be about 3 or 4 in. deep.

The loose pen method is used mostly in fattening broilers or cockerels of the lighter breeds, such as Leghorns, as they are very active and apt to be restless in a crate. These fowls are usually confined to small yards or pens in lots of 25 or 50. The most satisfactory plan is to have a small coop or shelter for roosting quarters with a small yard attached, the whole structure being portable. Each morning at feeding time the coop is moved the length of itself to give a clean floor. Where it is placed in an orchard or gar-

den it serves the double purpose of accommodating the fowls and adding fertility to the soil. A coop large enough for 30 broilers or 20 to 25 cockerels should be 3 ft. wide, 6 ft. long, 2 ft. high at the back and 3 ft. in front, with three roosts running lengthwise. The yard should be made of three hurdles, two 12 ft. long and 18 in. high, and one 6 ft. long, the whole to be covered with a large, light hurdle to prevent the fowls from flying over.

BRIEF REVIEW OF THE PAST SEASON—HONEY CROP LIGHT.

In briefly summarizing the active season in bee-keeping which is now closing it may be said that March brought some unusually warm weather and bees started brood-rearing nearly a month earlier than common. Cold, rainy weather in the latter part of April and in May retarded the growth of clover and other honey-bearing plants, while a bad frost killed the fruit blossoms. The consequences were that bees reached the beginning of the clover flow with hives overflowing with workers but no brood or honey, unless the colonies had been liberally fed by the apiarist.

A long flow of clover followed and the bees succeeded in securing a small crop of honey in spite of the fact that many were compelled to build up after the beginning of the flow. Those few apiarists who were forehanded enough to see to it that their colonies were fed up and in good condition before the flow, succeeded in securing a good crop.

These are the conditions which have prevailed quite generally throughout the whole country. The average, as reported by the National Bee-keepers' Association, was about one-fourth of a normal crop, I believe.

A peculiar feature, as reported by several in this (Mecosta) county, is that the white honey, even the best of it, is not up to standard as to color. No one seems able to offer any plausible explanation of this as there were no honey plants in blossom at that time except clover and raspberry. Moreover, the flavor is as good as ever.

Another peculiarity of the season is that the late fall honey is almost as light as the earlier honey. This is more easily explained, however, as buckwheat is almost a failure here and second-growth clover has come on, furnishing quite a flow along with the golden-rod and asters.

In view of the very light yield, beekeepers who have honey for sale should realize a good figure for it. At present there is a brisk demand for it at good prices.

Mecosta Co.

L. C. WHEELER.

GRADING COMB HONEY.

In preparing comb honey for market it should be carefully graded, so that the sections in each shipping case are as nearly uniform as possible. Nothing will more likely cause wholesale purchasers to cut the price than to find the first row of sections in a case fancy and those behind of inferior grade. Grading rules have been adopted by various bee-keepers' associations or drawn up by honey dealers. These differ somewhat in different sections of the country and different markets. From Dr. Phillips' Department of Agriculture bulletin we take the following rules for grading and classifying comb honey, these rules governing in most of the big markets of the country, except those of the far west:

Fancy.—All sections well filled; combs straight; firmly attached to all four sides; the combs unsoiled by travel, stain, or otherwise; all the cells sealed except an occasional one; the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

No. 2.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 3.—Three-fourths of the total surface must be filled and sealed.

No. 4.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

Stomach Blood and Liver Troubles



Much sickness starts with weak stomach, and consequent poor, impoverished blood. Nervous and pale people lack good rich, red blood. Their stomachs need invigorating for, after all, a man can be no stronger than his stomach.

A remedy that makes the stomach strong and the liver active, makes rich red blood and overcomes and drives out disease producing bacteria and cures a whole multitude of diseases.

Get rid of your Stomach Weakness and Liver Laziness by taking a course of Dr. Pierce's Golden Medical Discovery — the Great Stomach Restorative, Liver Invigorator and Blood Cleanser.

You can't afford to accept any medicine of unknown composition as a substitute for "Golden Medical Discovery," which is a medicine of KNOWN COMPOSITION, having a complete list of ingredients in plain English on its bottle wrapper, same being attested as correct under oath.

Dr. Pierce's Pleasant Pellets regulate and invigorate Stomach, Liver and Bowels.

TRAPPERS WE BUY FOR CASH



And pay highest prices for Coon, Mink, Skunk, Possum, Muskrat, and all other Furs, Hides and Ginseng. Best facilities in America. Send for Free Price List and Shipping Tags. No commission charged.

ROGERS FUR COMPANY
391 N. Main St. St. Louis, Mo.

FOR SALE—Barred Plymouth Rock Pullets and Cockerels.

of the famous Blue Belle strain of Iowa; prize-winners at Boston, New York and Chicago; excellent layers; very large; beautifully marked. Young stock free from lice. Prices, introductory for this first year, 50 cents to \$3, according to age and markings. Address Lake Ridge Poultry Farm, Levering, Mich.

WE will have a few eels, to sell from Barred and White Rocks, Buff and White Orpingtons, Black Minorcas and White Leghorns. Write for prices. H. H. KING, WILLIS, MICHIGAN.

White Wyandottes—The Franklin Strain, established 1885. A. FRANKLIN SMITH, R. F. D. No. 9, Ann Arbor, Mich.

WHITE HOLLAND & BUFF TURKEYS both toms & hens. S. C. White Leghorns, Barred Rock Cockerels & pullets at reduced prices. B. C. Raymond, Danville, Mich.

S. C. BROWN LEGHORNS—A fine lot of cockerels for sale at \$1 each and up. Females all sold. LEWIS T. OPPENLANDER, R. No. 4 Lansing, Mich., successor to Fred Mott.

DOGS.

YOU WRITE W. J. ROSS, Rochester, Michigan, for those beautiful sable and white Collie Puppies, of the finest breeding, and from stock workers.

TRAINED foxhounds and hound pups for hunting fox and coons. Also collies, incl. 2-cent stamp. W. E. LECKY, Holmesville, Ohio.

FERRETS.

5,000 Farrets Always buy Michigan ferrets, they are stronger and better climated. Price list and cir. free. DeKleine Bros., Box 41, Jamestown, Mich.

I Cured My Rupture

I Will Show You How To Cure Yours FREE!

I was helpless and bed-ridden for years from a double rupture. No truss could hold. Doctors said I would die if not operated on. I fooled them all and cured myself by a simple discovery. I will send the cure free by mail if you write for it. It cured me and has since cured thousands. It will cure you.

Fill out the coupon below and mail it to me today.

Free Rupture-Cure Coupon

CAPT. W. A. COLLINGS,
Box 669 Watertown, N. Y.
Dear Sir:—Please send me free of all cost your New Discovery for the Cure of Rupture.

Name.....

Address.....

The Michigan Farmer

ESTABLISHED 1843.

THE LAWRENCE PUBLISHING CO.,
EDITORS AND PROPRIETORS.

39 to 45 Congress Street West, Detroit, Mich.
TELEPHONE MAIN 4325.

NEW YORK OFFICE—41 Park Row.
CHICAGO OFFICE—1736 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 **\$2.00**
Three Years 156 Copies, Postpaid.....**\$1.50**
One Year, 52 copies, postpaid.....**75 cts.**
Six Months, 26 copies, postpaid.....**40 cts.**
Canadian subscriptions 50 cents a year extra for postage.

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

RATES OF ADVERTISING:

40 cents per line agate measurement, or \$5.60 per inch, each insertion, with reasonable discount on orders amounting to \$20 or over. No advt 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, Mich., postoffice.

COPYRIGHT 1910

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

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

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

The Lawrence Pub. Co.,
Detroit, Mich.

[DETROIT, OCT. 15, 1910.]

CURRENT COMMENT.

The Prison Labor Problem. At an International Prison Congress recently held at Washington, the proposition of adopting resolutions favoring the payment of prisoners according to their industry to insure the protection of their families and their rehabilitation on release provoked vigorous discussion. This was true, not because the sentiment of those participating in the congress was opposed to the principle of caring for prisoners' families, but because the scheme was considered impracticable at present owing to the fact that existing laws in several countries, including the United States, are such that prisoners are unable to earn anything which may be devoted to such a purpose. It was apparent, however, that there is a growing sentiment for the making of a proper provision for the care of prisoners' families during their terms of imprisonment.

Another resolution adopted by this congress favors provision for productive work by prisoners, including those confined in county jails. This resolution favors the centralization of control of such work under officials specially trained to direct such employment. In the discussion of this point the difficulty of providing suitable employment for prisoners without incurring the opposition of labor unions was pointed out. A representative from Italy stated that in that country prisoners made goods which were used exclusively by the government, but that labor unions objected to even this on the ground that it deprived their members of profitable employment to which they were entitled. This proposition of providing satisfactory employment for prisoners is a vexed one and is of interest in Michigan as elsewhere.

The contract system of prison labor is unsatisfactory and it is probable that it will not continue in our own state beyond the length of contracts now in force. The problem appears to have been partly solved by the employment of prison labor in some productive industry which does not directly compete with local labor, in which manner a goodly number of our state prisoners are now employed. In some of the Michigan counties the problem of providing labor for county prisoners has been solved by placing them at work in the improvement of highways, and in one Michigan county the claim is made that

the moral effect of reducing the number of short term prisoners, who have been convicted of minor offences, is very material. While this may prove a profitable means of solving this problem in a local way it is doubtful whether it would be satisfactory when applied in a larger way to state prisoners who have been convicted of more serious offences. The question is one which is worthy of serious thought upon the part of every individual to the end that its satisfactory solution may be reached at the earliest possible date.

In the Club Discussions column of the Farmers' Club department of this issue, mention is made of the discussion of the appropriations which should be made for road improvement in the township in which the Club is located, at the spring election. If this same proposition could be frankly discussed in every township in the state at public meetings which intervene between now and the spring election, the benefit would be great. There is ample opportunity for the discussion of this important question at Farmers' Club meetings, Granges and Farmers' Institutes, and if need be special meetings of the interested farmers could be called for the sole consideration of this subject and those closely allied with it after interest in the proposition becomes general. The new highway law has not worked out satisfactorily in many townships. If the complaints which are heard voice public sentiment in the matter correctly. But it should be remembered that the highway work will have to be done under it next season, and probably for more seasons, and the best thing to do is to so adjust matters as to get the greatest possible benefit from the appropriations made under it. The general discussion of the problems involved in public meetings of this kind will go a long way toward promoting a desirable degree of satisfaction with the results of the law, which has proven satisfactory in other communities. In the first place the monies appropriated should be sufficient to produce beneficial results, which they have not been in many townships of the state. Then the expressions of a body of taxpayers which might be secured in this way regarding the best method of applying the funds appropriated in the permanent improvement of the highways would be welcomed by the township officers as a guide to their official action in the matter. Another benefit which would accrue from such meetings would be the systematic study of the law with a view of suggesting methods for its improvement for the benefit of members of the legislature which will meet in January next. But perhaps not the least benefit which would result from such consideration and discussion of this important subject would be to familiarize those who take part in it with the law, and the new interest which it would give them in the problem of road improvement which is well worthy of the consideration of every reader of this paper, not alone as a taxpayer, but as well as a constant user of the highways which, as a whole, are sadly in need of improvement.

A Caution to the Small Investor. The recent raiding of the officers of a firm of brokers, so called, by government officers and the arrest of general and local managers on the charge of running a "bucket shop" and of using the mails for fraudulent purposes, again calls public attention to the too great prevalence of stock gambling in this country. This firm, with headquarters in New York city and offices in sixteen large cities of the country, have, according to published reports, reaped millions of dollars of illegitimate profits from innocent investors of small savings who were attracted by the "get rich quick" propaganda which they promulgated.

In this event there is a wholesome lesson for Michigan Farmer readers. As a class, farmers are conservative in the matter of investments, generally investing their savings in some security with the value of which they are familiar, such as real estate mortgages, when they do not use them to add to their holdings of real estate or in the improvement of such real estate as they already hold. But the promoters of stock jobbing schemes are not unmindful of the fact that the farmers of the country are in a relatively prosperous condition at the present time, and that there is more surplus money in the country districts than ever before, and for this reason they may be expected to offer their attractively gilded bait in an attempt to land some of it, hence this word of warning. Past developments in this department of the country's business show

that brokers of good reputation and of supposedly sound financial standing are not always to be trusted as advisers in the making of investments in stocks, and in some cases small investors have found to their sorrow that funds intrusted to them for investment in supposedly promising stocks have shrunk or disappeared as a result of the future trend of the market or the failure of the firms through which the investment was made.

It is but fair to say that usually the investor has been careless in his methods or that he has taken what he knew to be long chances in the hope of a correspondingly large profit in a majority of such cases, and it is this phase of the proposition to which this warning is intended to apply. The man who knowingly takes long chances in an uncertain proposition or who buys stocks on a margin in a speculative way is entitled to no sympathy, but often unsophisticated people are induced to so invest their savings upon the representations of others who assure them of the certainty of big profits from such a course. "Inside information" in all such cases should be looked upon with suspicion. Comparatively few such investments ever show the profits expected. In fact, the stability of an investment is ordinarily indicated by the rate of interest which it may be expected to return on the investment. Good bonds of known stability and even good industrial stocks in stable enterprises are a safe medium of investment and pay a fair rate of interest. They are not in the "get rich quick" class, but they are always salable or available as collateral for loans. If outside investments are desired at all by country people with small savings, only those which come under this last description should be considered. Reliable information regarding them can be obtained through the banks or the commercial agencies, and where money is invested without asking or receiving such reliable evidence of the soundness of the investment, the investor is taking a chance which entitles him to no sympathy in case the result should prove it to be but another case in which "the fool and his money is soon parted."

The Wonderful Development of Aviation.

Records are being almost daily broken in the conquest of the air by man. Scarcely more than a year has elapsed since the aeroplane was demonstrated to be a success in official trials under government supervision, yet during that time more advancement has been made in the development of this vehicle than has ever occurred in the development of any other means of transportation in a similar time, not excepting the automobile. This remarkable advancement has caused not a little discussion of the future possibilities of this means of transportation for other than exhibition purposes or for thrilling sport. Of course, no man can place any limitations on the future. Many things in common use today were never dreamed of a generation or two ago, and would have been considered crazy dreams if they had been. History may repeat itself in the future development of aviation, yet it scarcely seems possible. Undoubtedly the aeroplane has a useful future, not only as a destructive agent in case of war but in a life saving capacity on our coasts, and perhaps in the exploration of new territory which is difficult of access by other means. Doubtless, also, it will be adapted to other uses when it has been fully perfected, for there is no doubt that it is as yet in its infancy. But its present development is an accomplishment of no mean proportions, and one which men have been striving to attain for many years, notwithstanding the fact that its actual consummation has been so recent. It is but another illustration of the fact that persistent effort is bound to bring its reward if directed along right lines with untiring energy, which is, after all, perhaps the most valuable lesson and the brightest hope which the marvelous development of this new science holds for humanity.

HAPPENINGS OF THE WEEK.

Foreign.

Political conditions in Portugal came to a crisis last week. The royal palace and other government buildings were attacked by armed nationalists and the old regime was overthrown. Today the nationalists are running the government under a provisional arrangement until the election of officers this fall and the establishment of a republican form of government. The conservative element is made up largely of adherents to the church organization that dominated European governments in the middle ages. The progressive people have been gaining in power and courage for the past few years until now they

were certain that their numbers warranted a revolution and a strike at the royalists who held the progress and prosperity of the land in abeyance to enjoy favored positions. That the revolution was not the result of sudden passion or enthusiasm is evident from the manner in which the attack was made and the successful way in which the people were controlled after the victory was gained. Only a few days after the conservatives were routed the capital and country places were as quiet as if nothing had occurred. The people are supporting the new order of things, while it is hardly possible but that confusion will result in the establishment of the new government, disorder will be reduced to a minimum. Deposed King Manuel has fled and will take up his residence in England. Nuns vigorously opposed the revolutionists. They are escaping across the border into France and Spain. The government is confiscating much of the property of the monasteries for its support. This revolution practically accomplished for Portugal what France accomplished a few years ago at the election booth, and it presages what is likely to happen at any time in Spain.

The street railways of Bogota, Columbia, are now owned and controlled by the municipality. For many weeks past the owners, who are Americans, have been troubled by riots. Scarcely any business was done by the lines because of boycotts instituted by the public. The city made an offer of \$300,000 for the property and the offer was accepted. The road began operations under the new regime last Monday.

As an expression of confidence in Americans, for the first time in history the Chinese opened the sacred places of the palaces at Peking to foreigners when they showed the gorgeous rooms to American business men making a tour of that country.

Because of the large number of cholera cases in southern Italy, Trans-atlantic steamships have decided not to stop at Naples in as much as it is too expensive to wait quarantine when they reach this side of the ocean.

Former President Castro, of Venezuela, is staying on one of the Canary Islands waiting for some change in affairs in the South American republic, which he hopes will restore to him his former office. The recent breach between Venezuela and Columbia has been amended and shuts out all hope of the deposed office holder from that quarter.

A movement is now on foot in France to mark cities and towns so they can be determined by air craftmen when flying overhead. The plan submitted is to have the towns numbered in such a manner as to locate the position of the flyer from Paris.

The French have devised a new submarine boiler. Boilers of submarine boats use steam when running above the surface and electricity when running below. The French boat does away with this shift and uses steam both above and below. The boilers are guarded with great secrecy.

National.

Eight hundred persons are thought to have been lost in forest fires raging in northern Minnesota. Large tracts have been burned over, towns destroyed, and refugees are fleeing to the border towns for safety. High winds accompanied the fires and made them impossible to control. There is little chance of abating the danger until the heavy rains come for timber and slashings are extremely dry. The population of the burned district is estimated at 12,000 people. About 200 bodies have been recovered from the flames. Twelve towns and villages have been burned and fully 5,000 people are now homeless.

It is expected that President Taft will appoint Senator Root, of New York state, to the position of chief justice of the supreme court. Charles E. Hughes has resigned as governor of that state to accept a position on the supreme bench, he taking the oath of office Monday.

A committee of four appointed by the democratic state convention of Massachusetts are deadlocked over the choice of a candidate for governor. The committee also failed in the selection of a fifth member of the committee.

An explosion in the Starkville mine in Colorado entombed fifty or more men. Early in the week the men were still believed to be alive but rescuers have encountered many obstacles in trying to reach the unfortunate miners and hope for their lives is fast growing dim.

The farmers' national congress at Lincoln, Nebraska, adopted resolutions demanding experimental parcels post on a few rural routes to decide the usefulness of this innovation in America.

Detectives declare they are sure of the capture of the murderers of William B. Rice, a wealthy attorney of Cleveland, who was found murdered several weeks ago.

Colonel Roosevelt is now making a tour of the south and southwest. All along the route of his tour he is being met by large crowds of admirers.

MICHIGAN CROP REPORT.

Wheat.—The final estimated yield of wheat in the state is 19, in the southern counties, 18, in the central counties 22, in the northern counties 20 and in the upper peninsula 16 bushels per acre. A few correspondents report wheat affected with smut, otherwise the quality is good. The estimated total yield for the state is 15,200,000 bushels. The total number of bushels of wheat marketed by farmers in September at 125 flouring mills is 256,102 and at 112 elevators and to grain dealers 189,376, or a total of 445,478 bushels. Of this amount 304,076 bushels were marketed in the southern four tiers of counties, 105,707 in the central counties and 35,695 in the northern counties and upper peninsula.

The estimated total number of bushels of wheat marketed in the two months, August-September, is 2,750,000. Forty

(Continued on page 319).

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

THE PROGRESS OF THE PANAMA CANAL

BY JAMES COOK MILLS.

WHAT is doing at Panama," and "how good is the work and the plans for the dams and locks?" are questions of very lively interest to nearly every American citizen. He is keeping in mind the fact that the government is engaged in the most stupendous engineering work of the age, the progress of which is being eagerly followed by the ablest engineers of the world, the successful outcome being of international moment. That the President, who is so well informed upon all matters pertaining to the canal plans, and able engineers, after careful inspection of the whole canal work and deliberate consideration of the plans for its completion, should say that the work is good and that the present plans should be carried out, is most reassuring to all Americans who have followed the progress of construction.

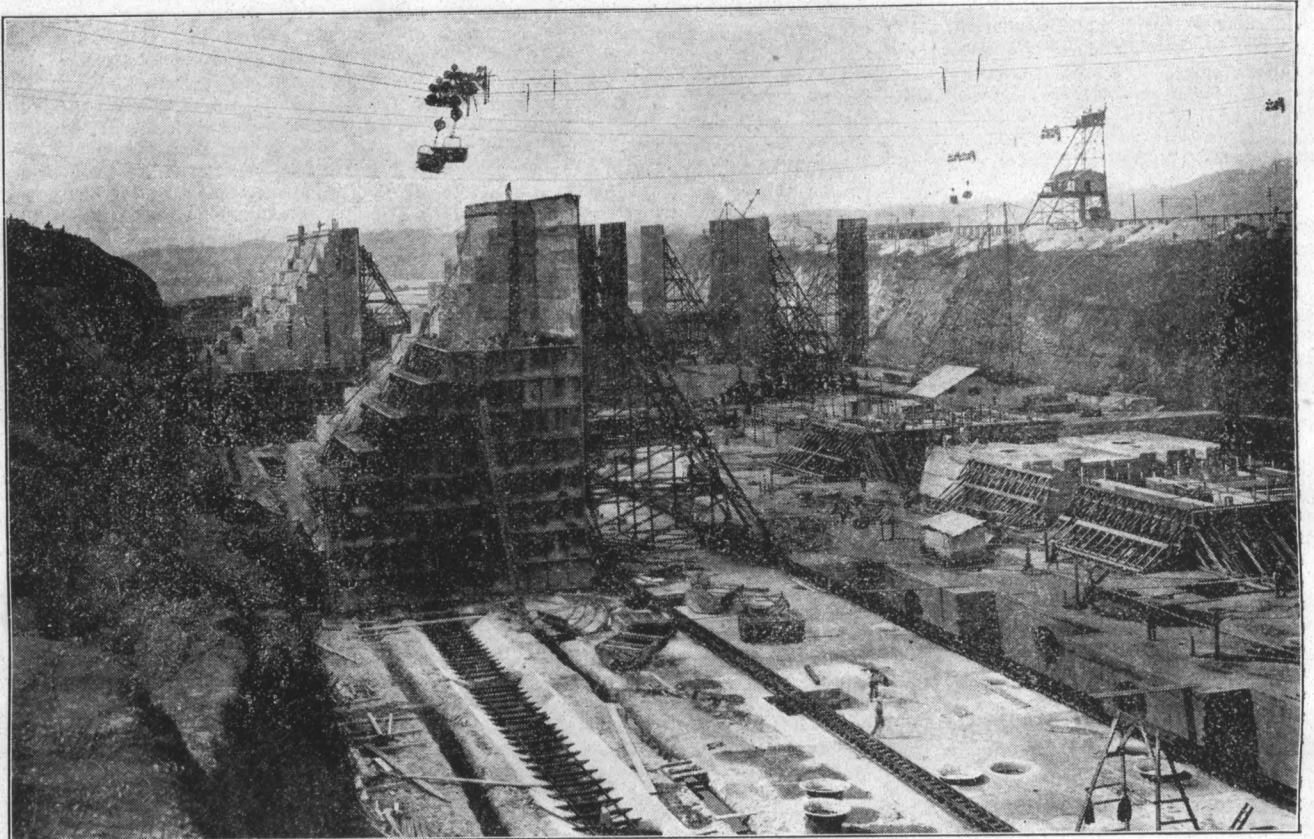
That some mistakes were made in the beginning, as is inevitable in all undertakings of such mammoth proportions, is not denied, but they were mistakes of organization and administration rather than of engineering. They were due in a large degree to the appointment of railroad presidents successively to the office of chief engineer, instead of leaving the work unrestricted in the hands of the engineer corps of the army and navy, which were in the field and carrying on the actual operations. It is a matter of congratulation that, in working out such great problems, no errors of engineering have been made, and that no insurmountable obstacles have arisen or are likely to arise, to delay the completion of the canal a few years hence.

The boring of twin tunnels far beneath the river's bed, the scratching of the earth's crust to form water highways, or the building of great bridges and other structures of steel and concrete, are but the every-day achievements of an engineering age. But the slicing of a mountain in twain, the building of a gigantic dam and six pairs of great locks of solid concrete, and finally the converting of a land of pestilence and death into one offering life and health to white men, are engineering feats of a very different cali-

bre. It is not overstating the actual fact to say that nowhere on the earth for centuries past has an engineering project of such proportions been undertaken which called for the expert knowledge of so

They comprise: Construction and engineering, excavation and dredging, locks and dams, river hydraulics, meteorology, motive power and machinery, municipal engineering, surveys and railroad. These

the Zone government, with the posts, customs and revenues, police and prisons, prosecuting attorney and the courts, public work, the schools, and fire protection. Then come the departments of sanitation, the commissary, materials and supplies, the hospitals, cost keeping, labor and



Looking South from East Wall of Upper Gatun Lock, on March 1, 1910.

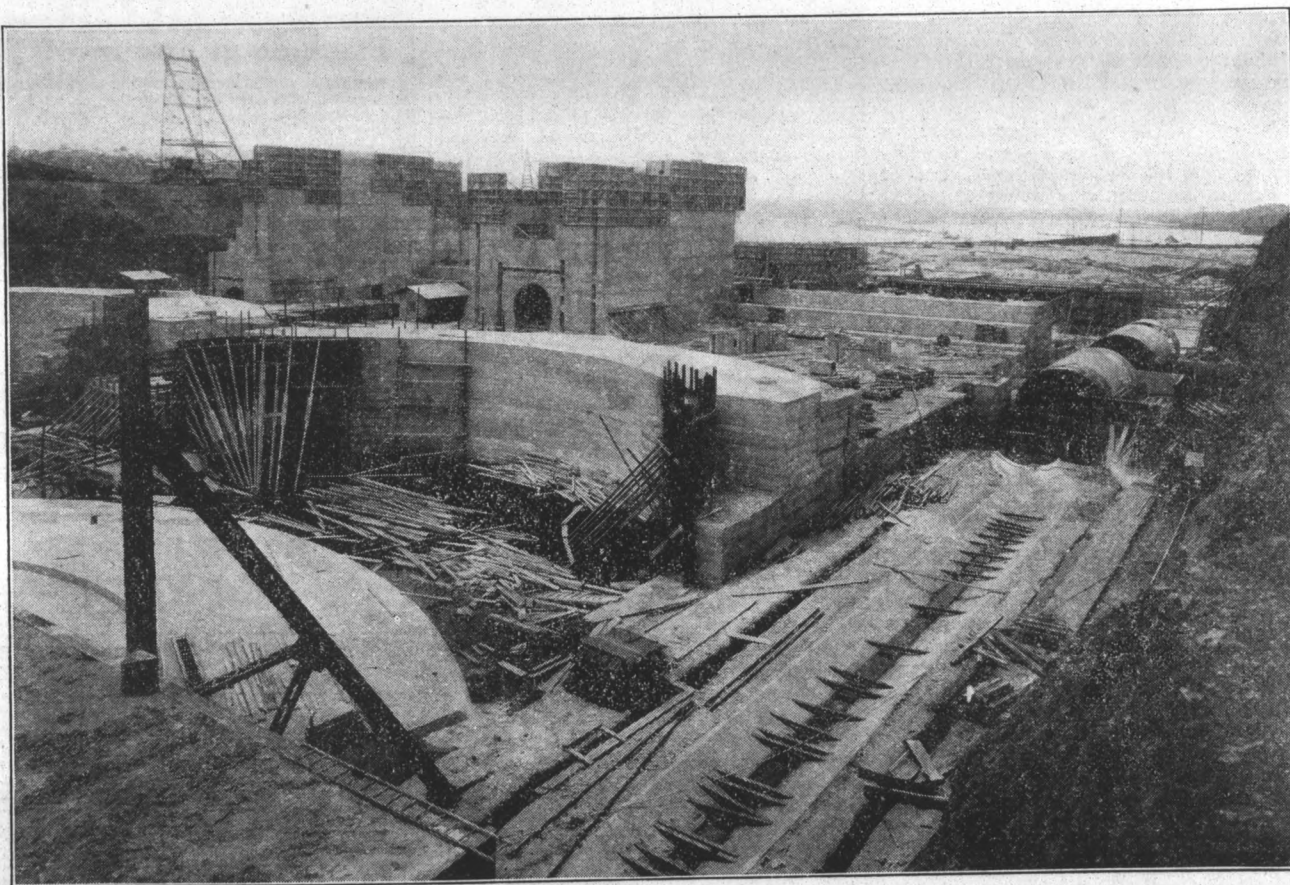
many and varied professions as the great men, with the thousands of mechanics and laborers, are the actual diggers of the canal and who are making the dirt fly.

First of all are the engineers with their splendid organization into divisions to meet every requirement of the work. Following in importance, but absolutely necessary to the scheme of operation, is

quarters, disbursing, and recreation for the employees. The army of workers, numbering about 45,000, of which more than 12,000 are white, is thoroughly organized into a highly efficient force.

The total length of the canal from deep water in the Caribbean Sea to deep water in the Pacific is exactly 50 miles, but, because of the dredged channels in Limon Bay and the Bay of Panama, the portion lying wholly in the Isthmus is reduced to 40½ miles. Of this portion a stretch of 32 miles will have a summit elevation of 85 feet above the sea, to be reached by a flight of three locks at Gatun, on the Atlantic side, and by one lock at Pedro Miguel and a flight of two locks at Miraflores, on the Pacific side. The summit elevation will be maintained by a large dam at Gatun and a small one at Pedro Miguel, making a great Gatun lake, which will have an area of 164½ square miles. A small lake about two square miles in area, with a surface elevation of 55 feet will be formed on the Pacific side between the lower face of the Pedro Miguel lock and dams and Miraflores, the valley of the Rio Grande being enclosed by a small dam and the locks at the latter place.

Intense activity characterizes the operations of every department along the entire line of the canal, and such progress has been made that, if the rate of digging that has been maintained during the last two years is continued to the end, that result will be reached on or very near the first of July, 1912. On the Atlantic side near Colon two steam shovels have been at work during the year cutting through the Mindi Hills on the axis of the canal and three old French ladder dredges have been used in the canal prism in Limon Bay between Mindi and deep water in the Caribbean. A 16-inch suction dredge was also employed at the mouth of the Mindi River and elsewhere, and the dipper dredges, Chagres and Mindi, were working



Gatun Upper Lock, Looking South from West Bank, Showing Progress up to April 30, 1910.

in the cut of the old French Canal. The seagoing suction dredge Ancon worked with a double crew in Limon Bay over the line of the canal and removed more than 3,000,000 cubic yards of material within the year. With the aid of another dredge of the same type the excavation of the canal has been extended in July, 1910, to the crossing of the old French Canal, a little more than a mile north of the Gatun locks.

Construction has been started on the outer breakwater of this harbor. On the Pacific side four old French ladder dredges and one dipper dredge have been used during the year mainly in cutting a new channel from the deep water channel to connect with the French canal which, under the approved plans, will be utilized. The seagoing suction dredge Culebra, after a journey of 12,000 miles from an Atlantic port in the United States, was put to work in the outer channel, and excavated 3,960,153 cubic yards of material in the year. A 20-inch pipe-line suction dredge was used nearer shore. A full complement of tugs, barges and launches was employed as auxiliaries by both dredging divisions.

The canal zone itself is divided into three general divisions, under the department of construction and engineering, the division engineers reporting direct to the chief engineer. The first or northern division, is designated as the Atlantic division and includes all work north of a line drawn just south of the Gatun dam and locks. This takes in those works and the harbor improvements. The second is the central division and extends from the south end of the Gatun works to the northern extremities of Pedro Miguel, including the work through the Culebra cut and the Gatun lake. The third division is the Pacific, constituting the southern portion from Pedro Miguel, the dams and lock, the works of the same nature at Miraflores and the canal cut from the latter point to the deep water channel to the Pacific.

Of all the work on the Isthmus that at Culebra presents problems of almost spectacular solution. It is here that the huge slice is being cut through the continental divide, which at the Isthmus is the lowest on either continent. The summit is 314 feet above the sea level, and when cut down to grade of the canal, or 40 feet, will represent a slice nine miles in length, a half mile in breadth at the top and 300 feet at the bottom, and from 50 to 274 feet in thickness. Of this enormous excavation the old French companies took off but little more than the summits.

During the fiscal year ending June 30, 1910, the excavation in the Culebra and Chagres sections (central division) amounted to 17,832,177 cubic yards, which was a little more than one-half the total quantity of earth and rock removed from the entire canal prism and accessory works in that time. This very satisfactory result was accomplished by a full quota of laborers, numbering 8,035, and a complete equipment of machinery. The total number of steam shovels assigned to these works was 75, comprising three sizes, namely, 1½, 2½ and 5 cubic yards dipper capacity. The number of cubic yards excavated per hour, while under steam, by shovels averaged 150 for the 12 months as compared with 121 for the previous year, an increase of 24 per cent.

As all the spoil has to be entirely removed from the canal prism, entailing a haul of from one to 24 miles with an average of 12 miles, the transportation problems are of the first magnitude. When it is remembered that a cubic yard of earth or rock weighs about one and one-tenth tons, a simple mental calculation gives a total of nearly 21,000,000 tons haulage for the Panama railroad, in addition to the heavy regular traffic passing over the line. Within the nine miles of the Culebra cut there are 194 miles of standard tracks, all laid with 70-pound American rails. Along the bottom of the canal from the summit to Las Cascadas, a distance of about four miles, there are three main tracks, while toward the south as far as Pedro Miguel, about the same distance, there are four tracks, all in very satisfactory condition for heavy traffic. The motive power and other railroad equipment used at Culebra, consists of 197 locomotives, 36 plows, 28 unloaders, 36 spreaders and 2,514 dump and flat cars of various capacities.

Within the past year the general rule was adopted of running trains direct from the shovels to the largest dumping grounds, which has resulted in an increase of capacity for the transportation equipment. Quicker trips can be made by this method than by that formerly employed of hauling the cars from the

shovels to switching yards where they were made up into trains and hauled over the main line of the Panama railroad to the numerous dumps.

Considering the total output in Culebra for the year, the average cost per cubic yard, including mining, loading, transportation, dumping, tracks, division office and supervision, but not including the plant and general items, was 54 cents. In comparing this cost of work upon the Isthmus and especially in Culebra cut, with similar work in the United States, certain conditions existing in the former locality must be taken into consideration. The wages paid for skilled labor on the Isthmus are, on an average, from 40 to 70 per cent higher than are paid for the same class of labor in the temperate zone. The working day is but eight hours in length, and the climate is not one conducive to great physical and mental activity. The rainfall is very heavy, averaging about 95 inches in Culebra, and it interferes considerably with the rapid prosecution of the work. The coal used in the section amounted to 169,192 tons, costing on an average, \$6.35 per ton—more than twice the cost in many localities in the United States.

The Chagres section which connects that of Culebra with the Colon or Atlantic dredging section, extends from the northern limit of the Culebra cut, at Gamboa, to Gatun, a distance of about 23 miles. The canal follows very closely the general direction of the Chagres river, but, as the stream in its winding course among the hills crosses the center line of the canal 23 times, the work is liable to interruption from the overflow of the river at times of high flood. Up to July 1, 1907, no excavating had been done in this section by the United States; but surveys were in progress, the center line of the canal was marked, and the amount of excavation determined to be 10,627,300 cubic yards. During the 12 months following 1,774,124 cubic yards of earth and rock were removed, leaving 8,973,176 yards yet to be taken out. The operations were at San Pablo, Caimito, Matachin and Santa Cruz, and in the second half of the year from 10 to 12 steam shovels were in use with increasing output. The work consists chiefly of cutting deep channels through the peninsulas formed by the river in its tortuous course through the valley, and are designated as Point 1, 2, 3 and so on. The excavations are 500 feet wide on the bottom, and average about 50 feet in depth, being from one-fourth to one-half mile in length. As much of the material excavated was rock, nearly 400 tons of dynamite were used in blasting. In hauling off the spoil, 26½ miles of construction track were laid, 50 locomotives, of which 47 were of the old French equipment, were in use, and 645 dump cars. The number of employees in this section was 2,001, and the cost of excavation, including all items, was 61½ cents per cubic yard. During the fiscal year ending June 30, 1910, the work in this section was prosecuted with vigor and is now practically completed. As soon as a point was completed the water was turned from the river through it, and the old bed of the river then utilized as a dump for the material from other points.

The amount of material excavated by the Old and New French Canal Companies was 78,146,960 cubic yards, but of this great quantity only about 29,908,000 cubic yards of the prism excavation will be useful in the main line of the new canal. At the beginning of the work by the United States, in May, 1904, the total estimated excavation required, based on the present working plans, was 174,666,594 cubic yards. This includes 18,000,000 cubic yards necessitated by the change of plans in locating the lower flight of locks on the Pacific side at Miraflores (instead of at La Boca, now called Balboa), and constructing a sea-level canal between those points, and also about 32,000,000 cubic yards of excavation for increasing the width of the Culebra cut from 200 to 300 feet on the bottom, for a distance of about nine miles. Within the last fiscal year the total excavation, including the dredging operations in the outer channels, amounted to 32,177,198 cubic yards, which added to the previous excavation since the beginning of operations, makes 110,763,623 cubic yards. Deducting this amount from the total estimated excavation required, leaves 63,992,971 cubic yards yet to be removed. This sum total includes a liberal estimate for excavation from time to time necessitated by the slides along the deep cuts, which are expected in such works and are troublesome only in the removal of the material. On July 1, 1910, nearly 64 per

cent of the total excavation for the canal had been made. This does not mean, however, that so large a percentage of the work of constructing the canal has been accomplished, for there are many other engineering feats to be realized.

But aside from the great excavating operations going on, there is another and equally important work, that of construction. This department embraces the Gatun dam and locks section, the Pacific section of dam and locks, and also of meteorology and river hydraulics. Of these, the Gatun dam and locks are by far the greatest construction feature and, being the keystone of the whole work, the site finally selected and the plans have been matters of exhaustive study and experiment by the engineering staff.

In considering the plans for the Gatun dam, the mind is incapable of a just conception of its vast proportions, and the imagination must be drawn upon for an idea of this great engineering work. It will be a mammoth embankment of earth and rock, nearly two miles in length, over a third of a mile in breadth at its base, and 115 to 150 feet in height. Across the top there will be a level roadway, 100 feet wide which, with the downstream slope, is to be covered with gravel to a depth of two feet. The lake slope, which runs off at an easy grade, will be covered for about half its length from the top with a thick layer of rip-rap, with end supported by a selected rock fill, and its base by a strip of gravel five feet thick. The center portion of the dam will be filled by hydraulic dredges and the material when placed will be impervious to water. Directly beneath the rip-rap section of the slope there have been driven two rows of triple-sheet piling, a little less than 300 feet apart, to render the foundations impervious to seepage. Near the downstream end there will be a third row of sheet piling, as an extra precautionary measure. The piling extends five feet above the sea level. In locating suitable material for constructing the earthen dam, the soil surveys were made by wash drill borings along the Chagres river, which indicates that there is available, within one and one-half miles of the dam, suitable material in sufficient quantity for the building of the entire earthen work. To test the quality and value of the hydraulic methods, a model dam was built of material similar to that to be used in building the actual dam. It was constructed by means of a centrifugal pump taking material from a barge in which it was brought up the river. The material was dumped into the model dam, or rather discharged into it, at the downstream toe and allowed to grade itself toward the upstream face. The dam, which was of one-half scale, was then tested with a corresponding head of water, and the results were exceedingly satisfactory.

Construction during the 12 months was in the spillway, the spoil from which was largely used in the fills at toes of the dam. Three steam shovels were in use in the spillway work, requiring six locomotives with the usual number of cars. The spillway excavation was completed in September, 1908. Construction work consisted of laying the concrete floor, from one to four feet in thickness, and building up the walls to an average height of 25 feet, which progressed rapidly to completion. The Gatun locks which join the northern end of the dam are also engineering works of great magnitude. They are in pairs, nearly three-quarters of a mile in length, the chambers having a usable length of 1,000 feet, and a width of 110 feet in the clear. The excavation for the locks was continued throughout the year, and nine shovels were assigned to this work. The total amount removed from the site was 1,882,544 cubic yards, the waste being dumped on the south toe of the dam and on an embankment of the re-located Panama railroad. In this work the number of locomotives required was 10, and the dump cars were 110.

In August, 1909, concrete work was started on the locks and such progress has been made within the year that fully 25 per cent of this work has been accomplished, and the amount of concrete being laid is increasing each month. The daily output exceeds 3,000 cubic yards at Gatun, and about 1,000 cubic yards at the Pedro Miguel and Miraflores locks. The preparatory work at the latter places has not yet reached the stage where the entire equipment of plant can be used to its full capacity, but by the time this account is in print, operations there will be conducted on the scale contemplated.

(Concluded next week).

WINCHESTER



401 CALIBER
MODEL 1910
Self-Loading Rifle

It Strikes
A Blow of 2038 lbs.

This new Winchester shoots a heavier bullet and hits a harder blow than any other recoil operated rifle made. It is more powerful than the .30 Army, of big-game hunting fame. The loading and firing of this rifle are controlled by the trigger finger. It

HITS LIKE THE HAMMER OF THOR

Send for illustrated circular fully describing this new rifle which has strength and power plus.

WINCHESTER REPEATING ARMS CO.,
New Haven, Conn., U. S. A.



HARTSHORN SHADE ROLLERS

Bear the script name of Stewart Hartshorn on label. Get "Improved," no tacks required.

Wood Rollers Tin Rollers

THE BEST LIGHT

2¢ A WEEK

MAKES and burns its own gas. Produces 100 candle power light—brighter than electricity or acetylene—cheaper than kerosene. No dirt. No grease. No odor. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog. Do not delay.

THE BEST LIGHT CO.
280 E. 5th St., Canton, Ohio

SHORES-MUELLER CO.
Wanted
Farmer or Farmer's Son

with rig in every County to introduce and sell Family and Veterinary Remedies, Extracts and Spices. Fine pay. One man made \$90 one week. We mean business and want a man in your County. Write us.

SHORES-MUELLER CO., Dep't C, Tripoli, Iowa

LEARN AUCTIONEERING at the world's greatest school. No failures where students apply themselves. Every branch of auctioneering taught by instructors of unquestionable ability. Winter term opens December 5th, following International Stock Show. Tuition includes free admission to the Show. We are anxious to send you catalog with full particulars. **JONES NAT'L SCHOOL OF AUCTIONEERING**, 256 Washington Blvd., Chicago, Ill. Carey M. Jones, Pres. Orval A. Jones, Mgr.

Telegraph Operators
Are in Demand

You can earn a good salary as a telegraph operator. Now is the time to study it. Young men and women wanted to fill railroad and government positions. Expenses for course of 24 weeks tuition, board, room, including typewriting, \$80. Positions secured graduates. Write for catalog.

MARION TELEGRAPHIC School, Box 15, Marion, Indiana.

Don't Go to the City
unprepared to seek a position. Quality at home as a Stenographer and Fast Touch Typewriter. We teach you by mail. Get our plan. **SERVICE CORRESPONDENCE SCHOOL**, 22 Press Bldg., Ann Arbor, Michigan.

SALESMEN WANTED—To sell FRUIT TREES & PLANTS. Free outfit. Commission paid weekly. Write for terms. **Mitchell's Nursery, Beverly, O.**

Let Me Start You in Business!
I will furnish the advertising matter and the plans. I want one sincere, earnest man in every town and township. Farmers, Mechanics, Builders, Small business men, anyone anxious to improve his condition. Address Commercial Democracy, Dept. D30, Elyria, Ohio.

Wanted—Agents to sell Farmers Account Book. Quick Seller. Big inducements. Highly Indorsed. **L. L. SYMPERS, Ft. Wayne, Ind.**

WANTED—First-class single middle-aged man for dairy farm, near Detroit. Good wages and place for winter. Must have good references. **H. M. F., Box 488, Detroit, Mich.**

THE NEST I DID NOT FIND.

BY HATTIE WASHBURN.

Still clinging to the naked bough,
From which the leaves are fallen now,
Is the nest that I did not find
When with its feathered treasures lined.

Like pages from a volume torn,
I longed to read, though soiled and worn,
Chapters are gone I might have read
Had I looked ere the birds had fled.

What treasures rare lay there concealed,
What wondrous truths were unrevealed
I may not know; the birds are flown,
The empty nest swings there alone.

In life joys may take wing and fly
If they are passed unheeded by;
Too late the empty nest is found
When leaves are drifting to the ground.

O'er many joys we have passed by
Our hopes are turning old and dry,
While leaves, floating down the wind,
Reveal the nests we did not find.

"CHINKO."

BY HELEN MATHIE.

We had formed the habit of spending the hot months of summer at beautiful Cedar Lodge, beside the cool clear waters of Lake Willoughby. There we bathed and boated, slept and sunned ourselves, were active or idle, as the spirit moved us. The children romped and grew brown and round faced. They ate like pigs, slept like pigs, and grew like pigs. Sometimes we older people thought they squealed like pigs, but as they were growing fast and strong in nature's own way we did not mind these things. We, too, ate and slept with much gusto and grew

to place peanuts and candy near his entrance. He took them readily enough and soon searched for them if they were not handy. Step by step they coaxed him nearer to them until he would take peanuts from their hands, scampering away in sudden panic as soon as he had seized the coveted dainties.

After a time he became tame enough so that he would run up on the hammock and over whoever might be reclining there, searching for peanuts, and even into the pockets of the gude mon, when he was with us. It was hard for the children, five and eight years of age, to hold back their delighted giggles as they watched Chinko darting about over their father's six feet of length as he lay in the hammock, but the slightest sound sent the squirrel flying back to his nest, so they repressed every sound, often with dimpled hands pressed tight over their mouths.

It was a funny sight to see Chinko with a big doughnut. Lois always teased to have an extra large one fried purposely for him. He always had an appreciative audience when he disposed of it. Sitting up with the enormous doughnut clasped in his paws he would nibble entirely around it, turning it between his paws. This was about as much as he needed for one meal, so when he had completed the girdling process he would drag it away to his nest.

The gude mon sometimes played tricks upon Chinko. After he became so tame that he had no longer any fear of any of us, he used often to come into the camp and run about at his own sweet will. One

day we had visitors in camp. The children, of course, had to show off their pet squirrel. The gentleman of the party, a tall heavy man, was much interested and watched Chinko for a long time. The whistle of the steamer attracted his attention and he turned to watch the Eagle as she glided by. Chinko was shelling a peanut close to his feet, wholly un-

shop. The groceryman liked to see him scampering about his premises but had never noticed that he meddled with anything but the peanuts that were always given him. On inspecting the supply of chocolates the groceryman found he had lost about three pounds, as nearly as he could estimate it.

One day we had visitors in camp. The children, of course, had to show off their pet squirrel. The gentleman of the party, a tall heavy man, was much interested and watched Chinko for a long time. The whistle of the steamer attracted his attention and he turned to watch the Eagle as she glided by. Chinko was shelling a peanut close to his feet, wholly un-

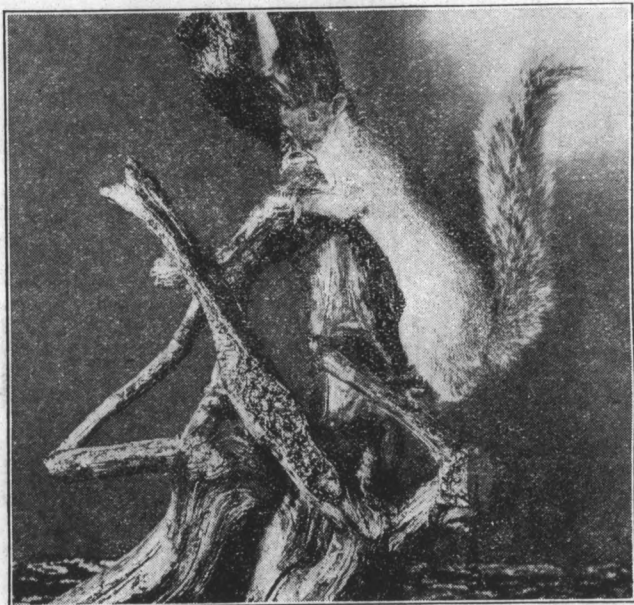
knew, too, that if she cared to confide in me she would without any effort on my part.

She piled the cards carefully and shoved them into the case. "It's another remedy," she announced, and a twinkle gleamed in her tired eyes. "Not a new one this time, but one that has the sanction of extreme age. It was used by the Egyptians centuries and centuries ago. It must be at least four or five thousand years old. I wonder if any of the court physicians ever tried it on a Pharaoh. I can't imagine that even Joseph possessed the necessary courage to suggest it."

Eight years ago, Kate held a good po-



Beautiful Cedar Lodge in the Woods of Northern Vermont.



"Chinko" as he Appears Today.

contented with life and the world at large. But it is not of this delightful idling that I wish to tell, although to us it seemed well worth the telling.

It is of Chinko, the pet squirrel, that I wish to write. He was a beautiful gray and had a nest in a hollow tree at the corner of the camp near which the hammock swung. He entered it through a hole at the base of the tree and ascended to his nest, which was about on a level with the eaves of the camp. Day after day as we lay in the hammock, Chinko would dodge in and out many, many times. The children, Lois and Helene, were very much interested in him and kept very still that they might see him bring in nuts and pieces of food that he had picked up. After a little time he minded them not at all, and they began

ing wrathfully, he essayed to gnaw the wire but it was too hard for his teeth. Not to be beaten he took the peanut in his paws, shelled it and ran away with the kernels. Day after day we used to see him scurry into his hole with something brown in his mouth. It looked like no kind of nut that grew near the camp and we wondered for some time what it could be. One day the gude mon laid a chip over the hole, then lay down in the hammock to watch for Chinko. Along came the squirrel with another brown morsel in his mouth. To remove the obstruction that barred his entrance he laid down his burden. It was a chocolate cream. There was a small grocery, fruit, and candy shop in the grove, and inquiries here elicited the information that Chinko was a frequent visitor at this

afraid. A quick backward step and the man had set his heavy foot upon poor little Chinko. The children screamed and the gentleman stepped forward again quickly but not quick enough to save the squirrel. He was hurt past recovery and died in a few minutes. The children were inconsolable and we older folks carried sore hearts for many a day because of the loss of the trusting little friend, who had lost his life because of his trustfulness of his human associates.

Not for the world would the gentleman have harmed a hair of the children's pet, yet unwittingly he had nearly broken their hearts and they never quite forgave him. We carried the little body to a taxidermist, who mounted it beautifully. The children value it highly and can look at it now and tell of Chinko's cunning ways with no apparent heartache, but to me it always brings a pang. I see only the pretty husk and remember sadly the little life that once animated it. Like all dead things, it is fraught with sorrow.

AN OLD, OLD REMEDY.

BY ANNA GIRMUS.

Kate was playing Napoleon's solace at St. Helena. "Come in," she called as soon as she heard my step on the porch. "Take a chair and make yourself comfortable."

I followed instructions, drew the chair up to the table and watched her place the black ten under the red jack and proceed in the search of a red nine.

"I think I have him this time," she bragged. And in a few moments a neat row of twos stood at the head of the table.

I knew that something was troubling her, for Kate never plays solitaire during the day unless she wishes to cheat memory or some other mental faculty. I

sition in a high school, but in some way she got rheumatism, not the intermittent kind, but the kind that, like the poor, is always present. For two years she struggled on with binomial theorems, truncated prisms and rheumatism; then she came home to nurse her swollen joints. And straightway she had plenty of aid, for she is blessed with several brothers, all of whom consider it a fearful waste of her college education that she can no longer teach. As there are plenty of remedies they keep her well supplied. It's hard to tell which she dreads more, the twinges of the disease or the remedies.

They have shipped her to hot springs where she was boiled, steamed and rubbed until, when she came back, she could not walk four blocks. They have hustled her across the continent to try the balmy Pacific breezes, when she had to be lifted on and off trains. They have supplied liniments and tablets until Kate's very soul rebels. She has consumed barrels of buttermilk and abstained from the victuals in which she delighted.

"It's bees this time," she actually laughed, for she is also blessed with something of a sense of humor. "You have heard of it?"

"Why, yes," I admitted. "I have read of it somewhere. When are you going to try it?"

"This very afternoon. Charley has gone for them now. He was telling Jake Strong about it. Did you read that account of the man in New England somewhere, trying it?"

I had not read it.

"Well, I wish Charlie had not, but he has and so has Jake. Charley came out from town this morning and of course stopped to talk with each of the neighbors as he came along, and Jake offered to donate a hive of bees, so Charley has gone for them."

"Not honey bees?" I questioned. My mind had only taken into consideration six or seven hornets or yellow jackets and I had thought that Charley was out in the meadow catching them. Charley is Kate's youngest brother.

"Honey bees of course. You didn't think it was bumble-bees, did you?" Kate laughed again. "You'll have a chance to see the fun. Nothing so plebian as hornets, yellow jackets or bumble-bees would do."

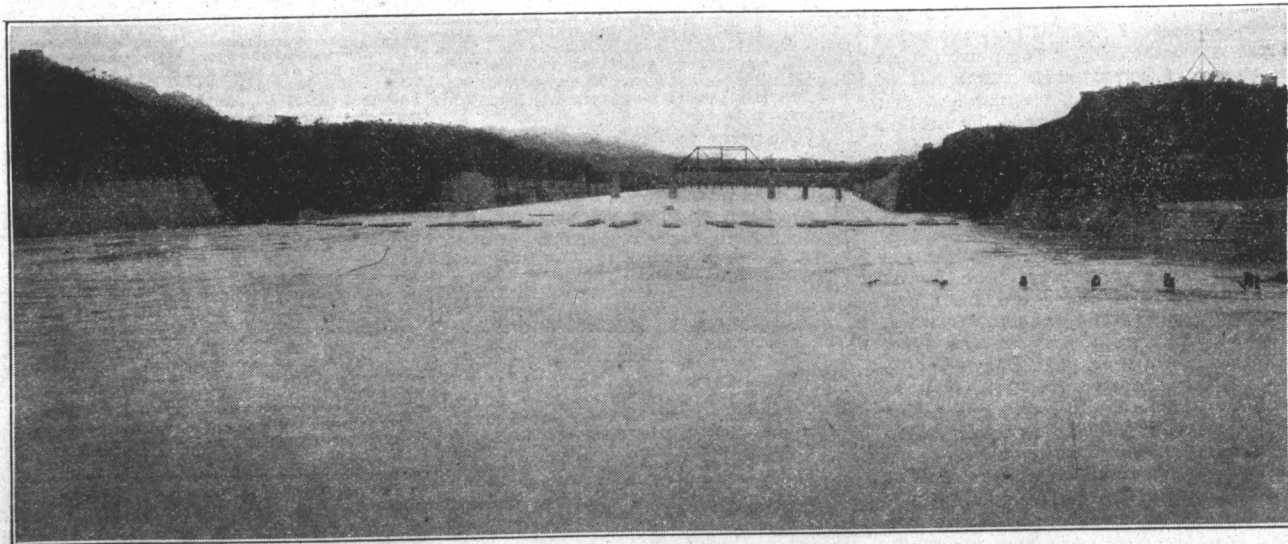
It was not long before Charley drove up carefully. Jake Strong was with him.

"Well, get ready," he called from the gate. "Helen bring out that cot." Helen is Mrs. Charley. She dragged a cot out to the porch and he helped carry it to the lawn where they set it up.

Kate turned a little white, but she stepped to her room and when she came back she had on a wingy-sleeved kimono and bed-room slippers. She looked at Jake a little impatiently.

"I thought I'd come along and help Charley," he explained.

"You know it's for the best, Kate,"



The Spillway at Gatun, Another Imposing Feature of the Great Panama Canal.

BOYHOOD AND ALCOHOL

There are some things too awful to contemplate—one is the giving of alcohol in the guise of medicine to boys.

We believe

Scott's Emulsion is the only preparation of Cod Liver Oil that contains absolutely no alcohol, drug or harmful ingredient of any sort.

ALL DRUGGISTS

Cornish One Year's Free Trial

Cornish Instruments for real merit, are unexcelled by any other, whatever the price or name or reputation.

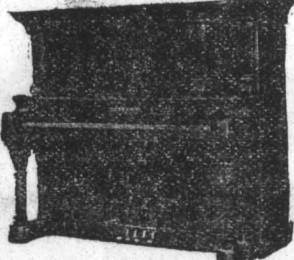


This is our offer to you—select any Cornish piano or organ, from the least expensive to the finest ever built and we, without one bit of obligation on your part, will send the instrument to you direct from our factory with the distinct understanding that if the instrument does not come up to your fullest expectations you are not to keep it, and that the

Trial Will Cost You Absolutely Nothing

If the instrument does not prove better value for the money than you can get anywhere else—if it is not as good an instrument as you can buy for one-third more than we ask—if at any time within a year you feel that you have not a good bargain, send it back; we won't find one word of fault with your decision, and you will not be one cent out of pocket for freight or for use of the instrument.

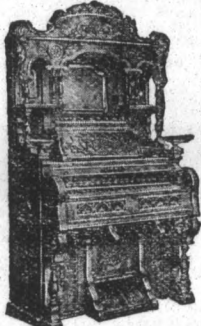
Two Years Credit If Needed



We Save You \$100 and more on a Piano

The Cornish Bond Protects You

Easy Terms



Buy On The Cornish Plan—Save One-Third

and holds us strictly to this offer. You are to have the privilege of any terms of payment that you may choose. You risk nothing. We assume all responsibility, because we know all about the great beauty of material and workmanship in Cornish pianos and organs and we know all about the pure, sweet, rich tone quality of our instruments and we know what a quarter of a million satisfied purchasers think of them.

If you keep the instrument it will cost you the Rock-Bottom Factory Price, not one cent more, and you will receive with it our Bonded Guarantee which insures the instrument for 25 years against defect in material or workmanship.

Send For The New Cornish Book

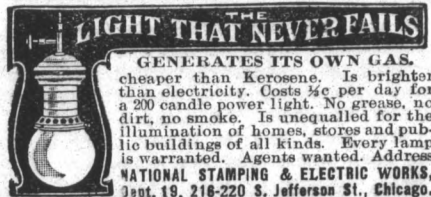
Don't think of buying before reading it. It is the handsomest piano and organ catalog ever issued. It explains things you ought to know whether you buy from us or not and it is yours for the asking. Write for it now and please mention which you are interested in—piano or organ.

Cornish Co. WASHINGTON, N. J. Established Over Half a Century

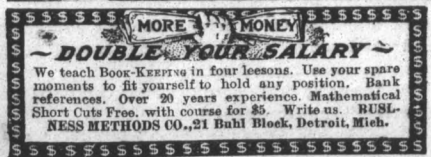
Tailors' Cutters Always Command Splendid Salaries.

\$35 to \$75 a week—are you making that now? We open the way—investigate.

SUCCESS SCHOOL OF CUTTING, Kimball Building, Jackson, Mich.



GENERATES ITS OWN GAS. Is brighter than electricity. Costs 1/2¢ per day for a 200 candle power light. No grease, no dirt, no smoke. Is unequalled for the illumination of homes, stores and public buildings of all kinds. Every lamp is warranted. Agents wanted. Address: **NATIONAL STAMPING & ELECTRIC WORKS, 1911, 216-220 S. Jefferson St., Chicago.**



DOUBLE YOUR SALARY We teach Book-Keeping in four lessons. Use your spare moments to fit yourself to hold any position. Bank references. Over 20 years experience. Mathematical Short Cuts Free. with course for \$5. Write us. **BUSINESS METHODS CO., 21 Buhl Block, Detroit, Mich.**

Charley began. "It may hurt, but just think if you get well you can go to teaching again and be independent of all of us."

"You surely are not going to let that whole hive of bees sting her?" I remonstrated in surprise.

"Why, yes, of course, just one side of her. That's what that man did." Charley looked at me as much as to say, that settles it.

"Maybe it would be better to let just eight or ten sting her," interposed Grandma, who had come from the front room. "You know she is so weak."

"Oh, she may be sick for a while; that man was, but Helen will stay to take care of her. If she's ever to get well, we must try something."

"Might as well die for a goose as a gosling," Kate smiled grimly. "If it must be, let's get over with it. There's one thing though, that you must see to, and that is that they sting right off. I don't want the miserable little pests crawling over me, searching for some particularly thin, easy spot where they can drill through my skin. As soon as they light they must get to work, if you have to pull their tails. Do you understand? And don't have them flying around an hour before they find me, either."

"You needn't be afraid," both the men assured her. "We'll do our part."

"You'd better watch from a distance," she admonished me. "Stay in the house and keep the screen door closed. Grandma, you'd better go into the front room and shut the door. Don't open it, no matter what happens."

Grandma is Kate's mother. "All right," she promised. "I will." She has learned from past experience that very often Kate's advice is worth following.

By that time the cot was ready. Kate hobbled out and they fastened her down so that she could not move easily. Then they carefully covered her, face and all with a sheet, leaving only one arm exposed to the shoulder and one leg to above the knee.

"Do I look like a mummy or a sleeping ghost?" she called to us. I knew that she was talking to keep up courage, for I have seen her cry just as ineffectual tears as the rest of us do.

"I never heard of ghosts sleeping," Helen argued. "All the ghosts I ever heard of were very busy beings."

I heard the front room door click as Grandma closed it. Jake and Charley carefully carried the hive from the back of the Concord and placed it near the cot. Helen and I watched as they fastened a line to one corner of it. I was glad that Kate could not see.

Then Jake started for the porch and Charley, with the line in his hand, followed.

The bees must have been nervous from their ride, or Charley, possibly, jerked the rope sooner than he had intended, for suddenly the air became black with the insects. The men's backs were toward the hive, but instinct seemed to tell them what had happened. With a shout they jumped for the porch. Helen and I saw the angry things start in our direction and we were seized with an uncontrollable desire to get as far away as possible.

I sprang into the front room and had the door locked as if expecting the little pests to force it open. Helen, I learned afterward, took the same precaution in the kitchen.

"What is it? What is the matter?" Grandma demanded in frightened tones as she heard the dining-room door slam, and chairs fall, and a tramping as if ten men were chasing each other about the room.

Poor, little, old lady, she actually started for the door. I realized fully the value of Kate's forethought. "You must not go out there," I commanded. "It's full of bees. You must not get stung and you can do nothing." I managed, by holding her, to prevail on her to leave the door locked.

For a time we listened to the commotion. Then it occurred to us to look out at Kate. There she lay, patiently waiting for the little doctors. After a while she began to wriggle uneasily. She moved her arm out from under the sheet and gradually removed the swaddling clothes. Then she sat up, looked at the hive, which had rolled over when Charley made his dash for the porch, and listened to the noise in the dining-room. She pulled on her slippers, pulled down her sleeve and started for the house.

We heard her step on the porch and then her voice in the dining-room. Gradually the commotion stopped. At last we heard only her slow quiet step.

"You can come now," she called. "They

are all out again or dead and we need some help. "Open the door," I heard her call again, but it was not at our door. "I want the ammonia."

Grandma and I ventured out. There sat Jake and Charley near the table, and Helen was helping Kate soak their swellings in ammonia while the latter, in cool low tones was delivering a lecture on the chemical action of ammonia, salt she called it, on acids in general and on a particular acid which she said the bees carry and use in their quarrels with human beings—forensic acid, I think she called it.

Maybe the term is too strong, but it appeared to me that there was an evidence of unholy joy in her eyes as she lifted the thick lashes for a moment. Kate has fine eyes for a woman of her age. At any rate, there were all sorts of curves and wrinkles about her mouth and they did not make her face look particularly mournful.

They told us that she had brushed those miserable, contrary bees from the faces of the two experimenters and driven them from the room with a rag and not one single sting did she receive.

The experiment, however, was not by any means a failure, for it made respectable, law-abiding citizens of both men for at least two weeks. Neither one attended the ball game the two following Sunday afternoons, although "The Merry Vale Tiges" were the opponents and had defeated our nine so many times that we hated to think of it.

It happened that on these two Sabbaths the local team won both games and it was a real privation to both men not to witness at least one of the victories.

Then, too, Kate has remarkable forethought. "Of course, I may have the honey?" she inquired while she was still applying the ammonia.

"You're welcome to it," Jake growled. "I guess I can go home now."

"You'd better stay to supper," she invited, hospitably. "We'll have hot biscuits and honey." But Jake would not stay.

I was invited next and staid. The honey was good and so were the biscuits. Charley, however, did not seem to enjoy either.

KINKS.

Kink I.—In the Sheepfold.

THE LAMBS.

The first lamb you see can't walk very well. The second in the water you'll find; The third associates off with green peas. The fourth gives light to mankind. The fifth lamb plays on the surface of things.

The sixth takes your good name away; The seventh's a slugger, and the eighth on the list Will weep and "take on" all the day.

THE RAMS.

The first ram will wander, the second will branch, The third one's in every drug store; The fourth's in the army, fifth's in the navy, The sixth grows over your door. Seven's a defense, eight a ram with four sides, Nine an outline of something to be. The tenth goes running through air on a wire, And the last one runs under the sea.

Kink II.—Four-letter Word Square.

1. A number.
2. An imaginary monster.
3. To play with motives.
4. A chain of rocks.

Prizes for Straightening Kinks.—To the sender of each of the ten nearest correct answers to all of the above Kinks, we will give choice of a package of 50 postcards of general interest, an imported dresser scarf, or a lady's hand bag. Where contestant or some member of his family is not a regular subscriber a year's subscription must accompany answers. Answers must not reach us later than Nov. 12, as correct solutions will be published in issue of Nov. 19. Address answers to the puzzle Department, Michigan Farmer.

Answers to Sept. 17 Kinks.

Kink I. Illustrated Puzzle.—He felt the left theft.

Kink II. Charade.—Wordsworth.

Sept. 17 Prize Winners.

For correct solutions to Kinks of Sept. 17 prizes are awarded to the following: Leighton Cox, Wm. Campbell, B. S. Moore, Rhoda Parkinson, Sara A. Smith, Mildred M. North, Myrtle M. Dean, Wm. E. Archer, Nellie E. Ruchoff and Bertha Frith.

Lake View, Mich. June 12, 1910.

I received the machine on May 20 and think it fine. I have used most every sewing machine made and consider this one as good as any and better than most of them. Have recommended the machine to Mrs. Diamond, of Kaw, Okla., and expect you have the order by now. Thanking you for your promptness in delivery, I remain,

Yours truly,

A. C. DIAMOND.

Post Toasties

A bowl of these crisp fluffy bits served with cream or milk is something not soon forgotten.

What's the use of cooking breakfast or lunch when Post Toasties, ready to serve direct from the package, are so delicious?

"The Memory Lingers"

Postum Cereal Company, Ltd.
Battle Creek, Mich.

Remington AUTOLOADING SHOTGUN

The Great Duck and Goose Gun That Has No Rival for Bagging the Limit.

Autoloading—absorbs the recoil—easy on the shoulder. The recoil ejects the empty, throws a loaded shell in place, and cocks the gun, to the tune of five shots—three to stop the cripples. Your trigger finger does it all—never a lost motion at the time when quickness counts.

"Game Laws for 1910" mailed free.

THE REMINGTON ARMS CO.
Agency:
299 E. 4th Ave., New York City

AMAZING NEW LIGHT FROM KEROSENE (Coal Oil)

Wonder Oil Lamp Burns common Coal Oil but six times brighter than electricity—cheapest—most brilliant—most satisfactory in the world. White, steady, incandescent, 100 candle power light. 40,000 families now using.

FREE LAMP TO AGENTS

Men and women, everywhere, making up to \$20 a day—no experience needed—showing, recommending—greatest invention of the age. Write quick—get free lamp for your own home and make big profits. Send name and address today.

Factories Sales Co., Dept. 402, Kansas City, Mo.

Grab's Foot Scraper

A Boon to the Housewife.

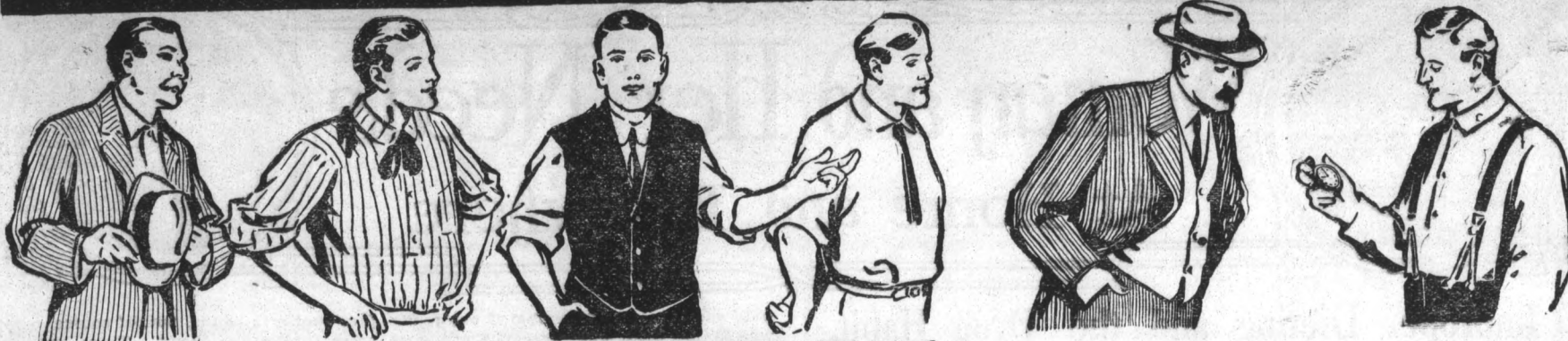
Most practical and useful article of the kind made. Brushes sides of shoes and scrapes sole in one operation—keeps dirt, mud and snow out of the house. Saves cleaning and tanning. Grab's Foot Scraper has ten parallel cleaning plates. Brushes are made of best stiff bristles. Entire scraper handily enameled. Can be easily cleaned or rotated and swept under. Fastens on doorstep or handy place. Users claim it indispensable. Price 75c.

If your dealer WON'T supply you, accept no substitute and send us your order at once.

VICTOR M. GRAB & CO., 56, Ashland Block, CHICAGO, ILL.

PATENTS IN CASH DEMAND

Many deals closed by our clients—one recently for \$60,000.00—our proof of Patents that PROTECT. Send 8c. postage for our 3 books for Inventors. B. S. & A. B. Lacey, Div. 89, Washington D. C. Estab. 1869.

Runs slow
for this manRuns fast
for this manKeeps perfect time
for this manRuns fast
for this manRuns fast
for this manRuns slow
for this man

Why a Good "Mail Order Watch" is Pure Luck

No watch, not even a "South Bend" Watch, can be made to keep time in every man's pocket unless personally adjusted to the wearer. It must be readjusted to each man's *personality* while he carries it.

This means that every good watch is affected by the position in which it is carried, by the jolting it gets, by quick movements and other conditions under which a watch is used.

Some people lean over a great deal of the time. Their watches tend to run fast. Others who don't lean over much have trouble keeping their watches from falling behind.

A watch has a tendency to run faster lying flat than when standing upright; there is more friction on the bearings when it stands upright; that's the simple reason.

Some people ride a great deal over rough roads, and that makes their watches vary. A "South Bend" Watch is adjusted by the expert retail jeweler from whom you buy the watch so that it will keep absolutely perfect time for you. It might, however, steadily gain for Neighbor Smith and steadily lose for Neighbor Jones.

You and Mr. Smith and Mr. Jones all

move and live differently and the watch has been adjusted and regulated to *your way*. All you need do is bring the watch in at intervals for the jeweler to look at and adjust and you have a perfect watch.

Only high-grade watches are capable of such fine adjustment. A cheap watch, which doesn't run very well anyway, is like some men and some horses—you just can't train it to do anything.

A "mail order watch" is usually a cheap watch though you pay almost as much for it as for a "South Bend."

But the point about a "mail order watch" is that the retail jeweler doesn't sell it, hence it doesn't get that *personal adjustment*.

When you get one that keeps time for you, you are plain lucky.

Now, a "South Bend" Watch is so finely made and so perfectly regulated and adjusted *before it leaves the factory* that when it does get to the jeweler it is capable of the *most accurate personal adjustment* possible.

It takes as long to make a "South Bend" Watch as it does to construct the largest skyscraper.

It takes six months to make a "South Bend" Watch and then sometimes six months more, merely to give it the *adjustment and regulation* we deem necessary to a good watch.

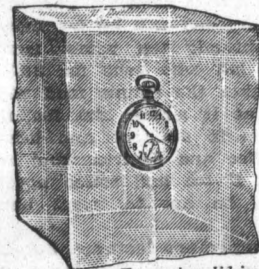
A "South Bend" Watch is inspected more than 250 times, mostly under a double magnifying

glass, before we are satisfied that it is up to the "South Bend" standard. There are more than fifteen hundred different operations in the making of a "South Bend" Watch. One hundred and fifteen of these are on the dial alone.

In no other factory in the world can there be found such skill as is employed here. Nowhere else in the world can a skillful workman earn more money.

These are some of the reasons why you should carry a "South Bend" Watch. You want a watch to be proud of—you can be proud of a "South Bend" both as to its looks and its performance. You want a watch that will last—you can have a "South Bend" down to future generations. It doesn't pay to buy a common watch or a "mail order watch" when you can get a "South Bend" Watch. Don't buy a "mail order watch" till you know all about watches.

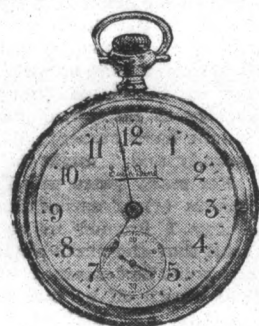
Let us tell you all about watches along with a few more highly interesting facts about the "South Bend" before you decide on a watch.



Frozen in solid ice—keeps perfect time.

Our book contains it all and it's free. Just say on a post card, "Send free book, 'How Good Watches Are Made.'"

South Bend Watch Co.
Dept. E,
South Bend, Ind



The Newest Railroad Watch

—a "South Bend" Watch called "The Studebaker"

The new "South Bend" Watch—"The Studebaker"—is the very highest grade watch you can get.

It is made with 17 and 21 jewels. The 17-jewel "Studebaker" sells for \$24 without a case. The 21-jewel movement is priced at \$35 without a case.

These watches have fairly jumped into fame because of the "perfect scores" they get from the regular railroad inspectors.

You ought to have one. Your jeweler can show you this great watch.

If he hasn't one, send us his name and we'll tell you the name of a dealer who has.

Drop in on your jeweler today. But first write for our book.

The "South Bend" Watch

Sold by 14,680 Retail Jewelers in the United States

"Perfect Time for All Time"

(21)

A Kalamazoo Direct to You

—And Gas Stoves Too

Spend One Cent For This Big FREE Book

We pay the postage on our Big Free Kalamazoo Book to you—over 100 pages—fully illustrated—gives wholesale prices—explains our plan and our high Kalamazoo quality. Sold only direct to homes. Over 140,000 satisfied customers in 21,000 towns—some near you—to refer to. \$100,000 bank bond guarantee. Every Kalamazoo sent ready to use—handsomely finished and blacked—safe delivery guaranteed. We give you

—30 Days' Free Trial
—360 Days' Approval Test
—Freight Prepaid

Thousands of farmers and town and city people everywhere are our regular customers on this plan. You are absolutely protected and safe in ordering a famous Kalamazoo from us for

Cash or Credit



All our cook stoves equipped with even thermometer—makes baking easy.

We trust responsible people—give you time, easy payments. Write a postal for our book today—shows over 400 styles and sizes, more than any ten stores can show you in stock—and you save \$5 to \$40 cash. No better stoves or ranges than the Kalamazoo could be made—at any price. Prove it before we keep your money. Be an independent buyer. Send name for Free Catalogue No. 113.

Kalamazoo Stove Company, Mfrs.
Kalamazoo, Michigan

Values shown with factory prices in this book have saved \$5 to \$40 for over 140,000 satisfied farmers and home-folks.



SEE FREE BOOK

Over 400 Styles and Sizes to Select From



Kalamazoo "Radiant" Base Burner
—Over 15,000 in most satisfactory use. Most perfect hard coal burner.

Does the Most Disagreeable Work On the Farm—Saves Time and Money

HERE'S the machine that farmers say is the best investment they ever made. Let us send you proof. Enables you to clean your barn in one-third the time. Keeps manure and poisonous ammonia and other gases away from barn, yard and stock. Does the dirty work. Saves the liquid manure. Makes money every year for a lifetime. It's too profitable an investment for you to let go by. The

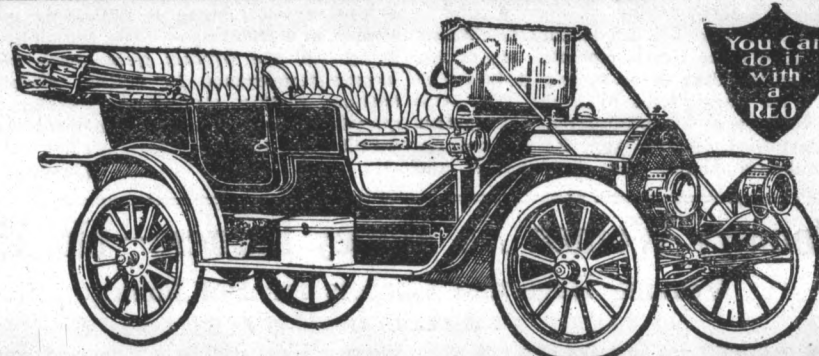
Great Western Carrier

has so many important features that we haven't room here to tell all. Big Carrier Book Free—write for it. Read about the rigid and rod track construction with splice connection which enables you to run carrier to every nook and corner of your barn on rigid track no matter what size or shape, and on rod track from barn to terminal—only one post in yard—no inconvenience—and absolutely automatic. Carrier dumps and returns itself. Read about the hinged wheel frame—goes around curves without friction. Roller bearings in wheels—a loaded carrier travels out and back surely—on 12-inch rise while others need 2 or 3 foot rise. Many adjustment features—and many advantages in construction, materials and workmanship. Satisfaction or your money back guaranteed. Send name on postal now for the big Free Book No. 1533.

Smith Manufacturing Co.
158 E. Harrison St., Chicago, Ill.

and Insures Healthy Cows

Write For Free Book



Reo "Thirty" Five-Passenger Touring Car, \$1250
Top and Mezger Automatic Windshield Extra

New York to San Francisco

in 10 days, 15 hours, 10 minutes—what that means to you

The thing that counts most is getting-there-and-back, ability to do the work you want done the minute you want it done—without fuss or delay—and this astonishing record proves absolutely that the Reo "Thirty" will do that for you.

Think of a car that keeps on going for 10½ days, day and night, over all the kinds of roads there are between New York and San Francisco—good roads, bad roads, awful roads, no roads at all but only deserts and mountain tracks, through mud, through sand, fords and all that—and gets there 4 days and 11 hours quicker than a \$4,000 car, and 14 days quicker than any other car that tried it!

Will the Reo do what you want? Is it strong enough? Has it power enough? Has it the endurance and reliability?

Then take a ride in it. You never got into a car that had such spring, such quick getting-away, such comfort, such fun.

Reo "Thirty" Four-passenger Roadster same price, \$1250. Reo "Twenty-Three" Four-cylinder Runabout, \$850.

Send for a Reo catalogue, also "Coast to Coast in Ten Days." Better yet, get next to a Reo dealer and let him take you out.

R M Owen & Co Lansing Michigan General Sales Agents for Reo Motor Car Co
Licensed under Selden Patent



Woman and Her Needs

At Home and Elsewhere



Improper Dieting and the Drug Habit.

WHEN I was a small child I was much moved by the tale of the poor young man who had inherited an appetite for drink and was tempted to indulge in the flowing bowl after eating a piece of his mother's mince pie which she had flavored with brandy. This story so impressed me that for years I refused to eat mince pie for fear someone might have surreptitiously poured in some brandy and I might be tempted to drink. For many years was I deprived of the pleasure (?) of eating this dainty, until one day I learned in a scientific cookery book that the small amount of alcohol which would be contained in one pie would all be drawn off by the heat of the oven in baking, and that when the pie got to the young man it would be absolutely harmless in so far as the brandy was concerned. Then I ate mince pie. But after eating a slice or two I really couldn't blame the young man for taking to drink.

Seriously, while I do not believe for a moment that the small amount of wine or brandy a mother might use in baking would start her boys drinking, I do believe that a large percentage of the drunkards in the world are made so by the things they are given to eat and drink when they are small children. And I do believe that many good and pious mothers have a deal to answer for in the wrecked lives of their offspring. Of course, it is ignorance in many cases which leads mothers to feed improperly their little ones. But ignorance is no excuse in this day of excellent, cheap magazines, and when the government itself is devoting hundreds of dollars to collecting information about dieting and giving it away for the asking.

Mothers who are supposedly intelligent will give their babies sip after sip of tea and coffee that is so strong it is really unfit for grown folks to drink. The little nerves are so overstimulated, the system undermined and an appetite created for stimulants before the child leaves the

mother's breast. What wonder, then, that when the child becomes the man he demands something stronger than tea and coffee. Those drinks have lost their power to stimulate him, and his system, from babyhood kept up by false strength, craves the excitement to be derived from alcohol and drugs.

Not only do I condemn tea and coffee for children, but with it in its evil effects I class all rich and highly seasoned foods. Rich pastry and cakes, condiments, an unlimited supply of candies and nuts, combinations of various foods, greasy soups and gravies, all, to my way of thinking, combine to give a false appetite which keeps demanding stronger and stronger things. Parents, mothers, should consider it a duty to cultivate in their children a liking for plain, wholesome, simple viands. I have said before, and I must say again, that a child who is fed rightly from babyhood if given a choice will choose plain bread and butter and a cup of milk rather than a slice of heavily frosted cake and a cup of coffee. And I wish to add that the child who will choose the coffee today will be far more apt to choose brandy ten years' from today than the lad who asks for milk. The boy who takes the simple food will have learned that it leaves him feeling more comfortable in stomach and head than do tea, coffee and pastries, and he will reason that if tea and coffee upset him, liquor will be apt to upset him more.

I am not a temperance lecturer, but if I were I should stop hammering away on arguments which science has disproved, and which, of course, have lost all power to influence men and women, and should devote myself instead to educating men, women and children on sane principles of living. If the coming generations were taught temperance in eating, sleeping, bathing, resting, playing and working the question of over indulgence in intoxicants would solve itself.

DEBORAH.

Country Women As Money Earners—No. 15.

Weaving Rugs and Carpets for Pin Money.

By L. L. D.

READING not long ago of a girl who, having her heart set on a college course, wove fancy rugs as a means of obtaining the necessary funds set me to thinking why not? Of course, in the case of the girl it was the usual fairy story of easy work and kind friends to help by buying the rugs and otherwise strewing her pathway with roses while she worked, but I found on looking around that while there may be easier ways of making money, the woman who has the will to succeed can do it without weaving fancy rugs. Weaving just the ordinary rag rugs and carpets (that so many of us rebelled against sewing rags for in our childhood days), will bring in a fairly good income, and one does not need to furnish the rags either.

Bent on getting all the possible information on this subject, I paid a visit to Mrs. Rachel Collins, of Vernon, who finds weaving a pleasant way of earning the extra pin money we all enjoy so well, and whose nice, even, smoothly woven rugs and carpets are the pride of many a good housewife's heart. There I found that the number of weavers can not nearly supply the demand for carpet. In less than one week Mrs. Collins turned away over 200 yards of carpet besides a number of rugs and still had plenty of work to keep her busy for months.

Of course, the first thing needed for this work is one of the old-fashioned looms, such as were used by our grandmothers; and every neighborhood usually has two or three stored away in the garrets or lumber rooms which can be bought for the proverbial song. Next, in

weaving rugs, will be a supply of warp, as the weaver furnishes her own warp for rugs, while for carpet the customer provides her own.

Then, there must be good taste in arranging the colors, and here is where a study of ready made rugs and carpets comes in play. Great care should be used to copy only the best, as nothing so surely spoils the looks of a room as a glaring combination of colors. One may take ever so much pains cutting and sewing the rags, but if the colors are fighting the result is simply a cheap rag carpet, even if it has been woven as evenly and smoothly as human hands can make it. While the same colors, rightly arranged, will give a carpet which will be a joy forever, for the memory will remain long after the carpet is worn out.

So much for the colors. Now for the material. One very pretty rug was made of an old Paisley shawl for the center with a border which harmonized. The result was a rug that caused a feeling of envy in more than one heart. Another of the best parts of worn cotton blankets with the colors in the fancy stripe on the ends worked into a border was also very much admired. Gray woolen underwear, the blue print or gingham aprons or dresses that have outlived their days of usefulness, all make handsome durable rugs and the colors are more lasting than home dyed.

At the usual price of 35 cents for rugs one and one-half yards long in a fancy weave, or 14 cents per yard for plain carpet weaves, one can readily see that not only a college course but other things as

well would not be impossible if one really wished for them and were not afraid of hard work.

This is for rugs alone. Now let us look at the carpet side of the question. Mrs. Collins easily weaves five yards a day besides taking care of her house which is no small task. So the person who could devote her whole time to weaving could make good wages at the price which she charges, 14 cents per yard. In weaving carpets the same material is used as in making rugs, with this difference, that, unless the rugs are to be a plain weave, the rags for them are torn finer.

Taking into consideration the facts that one can work at home and that only the oldest clothes need be worn while working, what more independent way of earning money can be found than weaving?

TO KEEP BABY WARM.

BY MILDRED M. NORTH.

I have a Christmas gift which I prize very highly—a bag to keep baby warm when riding. It is made of a yard and a half of cream eider down, with a lining of outing flannel put in with cat-stitches, which can be taken out and bag washed like any wool goods. Sometimes the lining does not need washing, but the outside is soiled. Even if



both are to be washed they will dry more quickly if separate, on account of the thickness of the eider down. It takes only a few minutes to rip up the lining and replace it.

The eider down was folded in the middle and stitched together, the lower corners being rounded and cut off. The top was folded down two inches and stitched. Ribbons could be used for these. Mine twice to form a heading, and casing in which two draw strings were run, has white cords with tassels.

Baby is wrapped in a soft shawl or cape to keep the clothes in place, slipped into this bag and the strings drawn snugly about the neck. The feet and hands cannot get uncovered and become cold.

This gave me an idea how to keep baby's hands warm at night. A baby almost always sleeps with its hands up and no matter how carefully I covered them I would wake to find them blue and cold.

So I bought a yard and a quarter of gray eider down and took the middle crosswise for the center back. I folded the ends to meet and lap about three inches over this. I sewed it up at the bottom, and nearly across from each side at the top, leaving a neck place in the middle. I laid baby into it, pinned it at the neck and down the front with safety pins, and had no more trouble. The hands go up into the corners, and baby is warm and snug. The wool side is inside.

FASHION'S FANCIES.

This is a sorry season for the woman who likes smooth cloths and much be-trimmed hats. Severely plain suits of rough goods are strictly the thing, suits so plain that most of them have not even the faced collar and lapels we have long loved. Pleated skirts, some with the modified hobble effect and many without, are practically all one sees in the suits, while the coats are extremely mannish, with short lapels and plain, tailored coat sleeves. The coats are short, 30 inches or 32 being the rule. Gray tweeds are

first choice in cloths, but, of course, many other fabrics are shown. There are basket weaves in many colors, including plum, zibelines, and fancy mixtures. Mixed browns are good, and brown, by-the-way, is almost as good a color as gray again.

In separate coats long effects are away in the lead. For a dressy coat nothing is quite so good as chiffon broadcloth, though covert has many admirers as it does not show soil quite so quickly as broadcloth. A delicate champagne, almost a cream, is about the only color shown. Black is good for older women, but the younger matrons and girls will choose the light color.

For general wear the motor coat, or polo coat is the thing. This is a semi-fitted or loose coat reaching to the bottom of the dress. It is always in a rough cloth and usually shows a shawl collar and cuffs of a checked goods, the checks being white, and the color of the coat. One such coat in a gray and white zibeline has the cuffs and collar of gray and white checked cloth of similar texture. The cloth is soft to the touch, almost as soft as messaline, but of great strength and warmth. Another coat illustrates the fad for fringes. It is of brown and white with collar and cuffs of brown and white check and a fringe trimming the collar and bottom of the coat.

BANK ACCOUNT VS. WHOLESOME HOME LIFE.

A certain farmer said that he would not buy his wife a vacuum cleaner so that the housework would be less, for the reason that the farm was not directly benefited. He said, "Show me something that will bring in good interest on the investment and I will buy, and gladly." This farmer's frame of mind is an excellent illustration of that of many farmers who are known in their communities as industrious and level headed. The reason for the narrow view taken was, that the business insight was not very well developed and that there was absence of appreciation of what may be called a reasonable home life. It is not necessary to go through the particulars of showing that an indirect benefit is as real and important as any direct benefit you can hit upon. Anything that will lighten the burden of the good farm wife is an economy and it should not be necessary to possess the wisdom of a statesman to come to that conclusion.

The farmer, as a rule, will not hesitate to buy a manure spreader, an expensive driving horse or even an automobile. On the other hand, before he purchases his wife a good sewing machine, an inexpensive meat chopper, a sanitary covering for the kitchen floor, a bath tub or just a common sink, he has a spell of blues that sometimes will last a week. When prices for farm products were low there may have been a reason for not providing the machinery which is necessary to make the physical equipment of the home such as it should be. Now that the tillers of the soil are taking expensive trips about the states and are sending their sons and even their daughters to colleges and expensive universities, it does not seem reasonable that the life of the average farm family should be so devoid of what the public speaker calls the unprecedented progress of the twentieth century.

Foreigners and those of our own country who have lived for a while in Europe tell us that the Americans can not see much that is either above or below the almighty dollar. The money making trait of the American is his most marked characteristic. It is not generally known that the natives of this country, not the original Indian but the great and bustling citizens of the United States, are looked down upon by the English, the German, and the French nations for that very reason. We have not passed out of the semi-civilized state where money is worshipped for its own sake.

The city man, with his neat suit and buttonholed carnation is, without a doubt, intent upon getting all he can get out of the difficult business deal he has before him this morning. He is more likely than not to make friends with only those who are his financial equals or superiors. Should his daughter marry into a poor family, the average business man considers himself disgraced. Yet, besides being a machine for the getting of money and the piling up of power, the business man of the city rarely forgets the welfare of the family. In the country, the contrary is often true. You can bring to mind several long settled sections in Michigan where the outlook for the young is not very bright and for no other cause than that the male head of the family has not considered important the small things that go to make up the home life. What is more disheartening to the young sons and daughters than a mechanical existence, a life that lacks the opportunity to enjoy the society of those who can think logically and kindly?

The readers of the Michigan Farmer have, of late, heard much that is enlightening about the business side of farming. There is need also for some good papers about home life. The social side of farm life is a side that develops after the farm has been made to pay or is being made to pay. If it were not for the fact that man is a social animal capable of hating, loving, coveting, slandering and praising, and besides, of being improved as a human being, what a dreary one-color life this would be. Money, indeed, is necessary; but often a community is very rich in money and at the same time shamefully poor in the common affections which are the flesh and blood of normal human nature and humane toleration.

The people who live in the country need to hear more about the simple facts of life and what they mean to that mass of minority which is continually going out of and coming into the world. The Country Life Commission came to the conclusion that the most difficult problem the rural people have to deal with is the social problem. The reason is, the value of a given amount or quality of human nature cannot be easily reckoned in the terms of the coin which bears the inscription, "In God We Trust."

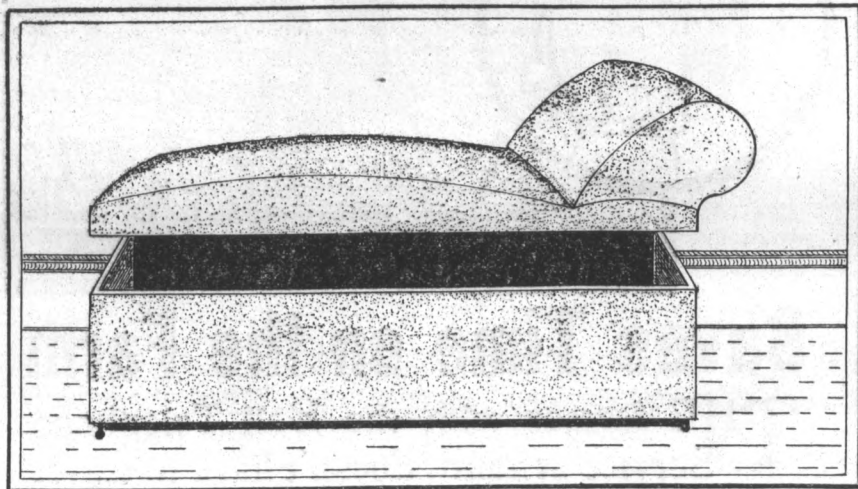
Wayne Co.

W. K. W.

A BOX COUCH.

BY J. E. BRIDGMAN.

A box couch, such as shown in the illustration herewith, will be found a most welcome addition to any living or dining-room, and its construction is easily within the mechanical possibilities of any



man or boy, who is handy with tools. A good size for this couch is six feet long, and two feet wide. However, some would prefer it slightly longer, while others on account of the size of the room or for some other reason, would prefer the couch some smaller.

In building, simply make two boxes of $\frac{3}{4}$ or $\frac{1}{2}$ -inch lumber, of the desired size, the lower box about 12 inches deep, and the top or upper box two or three inches deep. The top is fastened to the lower box with good strong hinges, and two pieces shaped as shown for the head rest. The top is covered with burlap or canvas, and stuffed with moss, hair, or excelsior, care being used to shape the top and head rest as shown. When the top has been properly stuffed and tufted, the entire couch is covered with any material to suit your fancy, and fastened in place with small invisible upholsterers' tacks. Or, if desired, the large headed tacks may be used. These come in leather, brass, cloth, etc., and may be secured of any furniture store, or mail order house.

Perhaps the cheapest and best covering

for one of these couches is the imitation leather which comes 50 inches wide, in all colors, and will cost about 80 cents per yard. If one cares to, and has the ability, the couch will be much improved if springs are used in the top. However, a couch finished as described, will be found very handy and neat in appearance. It may be used for holding books, shoes, hats, shirt waists, etc., and is an ornamental piece of furniture.

PORK IS A GOOD WINTER MEAT.
No. 26.

BY MRS. ALTA L. LITTELL.

WHEN I was a child on the farm, years ago, butchering time was a season of the year to which we youngsters looked forward with delight. In those days towns were not so easily reached as now, and grocery wagons and meat wagons seldom or never were seen. We depended on the time for butchering for fresh meat and our annual respite from the salt pork barrel. Even the odor from "trying out lard" could not dampen our delight at the thought of spareribs, tenderloins and fresh, home-made sausages.

That festive time seems to have passed away largely with the logging bees, the husking bees and the other jolly times of long ago. Indeed, I am not sure but that it was those same bees, with their hard manual labor, which called for the fresh pork to supply the body with energy, and that when modern machinery and methods forced out the old ways, pork went with them. Or perhaps it is the trusts that have bought up all the pork, or the modern way of buying meat from "the wagon" which has caused a diminution of butchering at home. Anyway, I don't hear very much of it any more, and though most families butcher occasionally, it is no such festival as it used to be.

There is no better heat-maker among meats than pork, a reason, perhaps, why it formerly stood so high in favor, modern, well-heated houses having done away with so much of man's need to obtain bodily heat from foods. Because of its heat value it is a better meat for winter than for summer. In fact, the only part of pork which should be served in summer is ham or bacon. Fresh pork is indigestible, roast pork requiring nearly five hours time in the stomach. In roasting, pork should be put into a moderate oven instead of a hot one, and at least 25 minutes allowed to the pound, the oven being kept at a moderate temperature.

All fresh pork should be well cooked, as the flesh often contains trichinae, or larvae, of tapeworms, which are only killed at a temperature of 212 degrees,

and will mature in the human body unless destroyed.

Nearly every part of the pig can be utilized for food, the hind legs furnishing hams, which are usually cured and smoked; the fore legs furnishing the shoulders which are delicious fresh, but often smoked and sold to unwary city purchasers as "picnic hams." The side meat is either used as salt pork or is smoked and known as bacon, than which there is no better breakfast dish if sliced thin and broiled or fried just to transparency. Headcheese is made from the heads; the hocks and feet are boiled and pickled; the flank fat is tried out for lard; the loin and ribs are sold for roasts and chops, and the scraps of fat and lean are ground together for sausage.

As for food values, the loin contains the highest per cent of protein, 14.1 per cent; ham comes next with 13.3 per cent; bacon, 9.2 per cent, and salt pork, 1.8 per cent. On the other hand, the loin has, too, the highest per cent of refuse, 15.8; the ham, 14.4 per cent, and bacon only 0.8 per cent.

The Countrywoman's Clothes

With Designs in Pictures and
Written by a Countrywoman

The fashion-magazine has thus far ignored the clothes of the countrywoman. Now she will get her due, for she will have, hereafter,

A Department of Her Own in
The Ladies' Home Journal

Her work-clothes, her house-dress, her visiting-dress, her church-dress—all will be shown in pictures, and written about by a woman who knows—a countrywoman herself.

The new department begins in the number for October 15—the American Fashion Number, with 250 pictures.

10 Cents Everywhere
\$1.50 a Year For 24 Numbers

The Curtis Publishing Company
Philadelphia

A CONVENIENT HOLDER FOR LIDS.

The lids of my cooking vessels are all blue and white enameled ware and piling them or throwing them into a drawer was both inconvenient and sure to nick them. At last I thought of a way to dispose of them that keeps them from being nicked and also shows me at once the location of the size I want at the moment.

I took a piece of unbleached muslin four feet long by two feet wide and double hemmed it. I put on a series of pockets beginning at the top and extending clear across. The depth of the first pocket is two-thirds the diameter of my smallest lids. I divided this shallow pocket by stitching three or four rows up and down the middle of it. That makes two pockets.

The next pocket overlapped the first by one-half. This also was divided and held my two pie plates.

Each pocket is simply a strip of muslin, double hemmed for strength, double stitched on and overlapping the one above it, and just deep enough to allow about one-third of the lid to show. The whole is then nailed to the wall. I used thin, flat strips of molding and nails for the lids weigh heavy.

Don't make the mistake of making the pockets too shallow or they will sag outward. The double hem keeps mine flat. Oilcloth, unless reinforced across the top, will sag, too.

Washington.

G. R. FUNK.

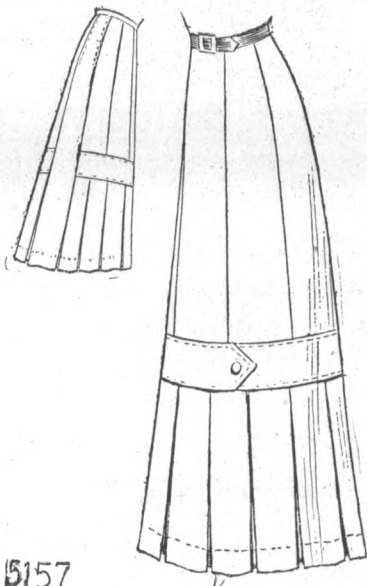
PAPERING A ROOM.

BY LALIA MITCHELL.

When a room is to be papered always go over each wall very carefully and remove all the old paper that is loosened or that can be loosened. A dull knife slipped under wherever one sees a puffed place will assist in locating sections that need tearing off. After removing loose paper make a paste, using skimmed milk instead of water and adding a little alum and some sugar, being sure to boil it thoroughly. Paste made in this way can be used over old paper as well as on blank walls and will always stick. The amateur paper hanger should remember that after paste is applied to paper it should be hung with as little delay as possible, otherwise it will stretch and then as it dries on the wall it is apt to crack.

THE NEW "HOBBLE" SKIRT.

A stylish skirt in instep length is here pictured, which will develop well in the heavy materials. The "banded in" effect is made use of here, which gives the style without causing the wearer any of the discomfort of the actual fact. The model is cut in eight gores, all except the back one stopping at knee depth, where a box-plaited flounce is attached beneath a



5157

band. The centerback gore gives the box-plain effect and extends to the hem of the skirt. The band at the head of the skirt may be made of contrasting material, but it must be of the same color to be in the best of style. The closing is at the left side of the back. Serge, homespun, cheviot, basketweave or other semi-rough mixture will make up best in this design. The pattern (5157) is cut in sizes 22 to 32 inches waist measure. To make the skirt in medium size will require 4½ yards of material 44 inches wide.

The above pattern can be obtained by sending 10 cents to the office of the Michigan Farmer. Be sure to give waist measurement and number (5157) when writing.

SHORT CUTS TO HOUSEKEEPING.

This department is opened as a means of exchange of new and successful ideas in homemaking. If you have learned something in cooking, sewing, child raising, fancy work, economy, anything which is helpful, and new, send it in. Twenty-five cents will be paid for every article used, but none will be returned. Keep your suggestions short.

Do not throw away the leaky pan or basin that is not worth taking to the tinner. Use a small piece of putty; it is just as good when dry.—E. L.

Try keeping a box of wooden toothpicks handy to test cake when baking. It will save running for a broom straw, to say nothing of being far more sanitary and appetizing.—Mrs. W. C. M.

Drop a few extra potatoes and a couple of eggs, washed clean, into the dinner pot. Then a little minced onion, salt and vinegar completes a salad for supper with very little trouble.—Mrs. W. C. M.

Mothers, when asking baby if he wants water or cookies, etc., say "water, please," or "cookies, please," and always say "thank you" if he hands you something, or if you give him anything, thus forming the habit of politeness while young.—"Busy Bee."

Use denim to make a short round apron with a large pocket covering the lower half. Keep clothespins in this pocket and they are always handy. On wash day, all one has to do, is put on this apron and the clothes pins are in the easiest possible place to get.—Mrs. L. L. G.

To clean photos and nice book-binding, place common brown butchers' paper on article to be cleaned, press with medium hot iron. This will draw soiled marks into the paper.—E. A. C.

HOUSE PLANTS IN WINTER.

BY LALIA MITCHELL.

The care of house plants in winter is never a burden if rightly undertaken, but the housewife should first make up her mind to be systematic. Plants watered three times a day for the first week and once in three weeks later in the season will never prove a delight. Coleus, begonias, and similar varieties should be watered daily except during extremely cold weather. Once in two or three days is often enough to water palms, geraniums, roses, etc.

Begonias, fuchsias, ice plant, etc., do well in the back of the window farthest from the light while roses and coleus need all the sunshine possible. Instead of spraying the leaves for insects, powdering the soil, etc., try putting a tall stand in the center of the room and setting the plants under it once in three or four weeks. In the center of the circle of plants set a deep vessel, put in a little twist of paper, sprinkle it with tobacco leaves and apply a match. When the tobacco begins to burn, be careful not to have too much of it, throw an old quilt over the top of the stand, thus confining the smoke. The result will be death to all animal life on stalks or leaves without injury to the plant.

Many remedies have been given for the small white worm that infests the earth about plants, but my experience has been that all will fail. The surest plan is to fill a baking dish or old basin with fresh earth from the supply which every plant lover places in the cellar in the autumn for the filling of pots for new plants. When filled set it in the oven and bake for at least six hours, remove and set out of doors until thoroughly cool. Take the plants from the pots, shake every particle of earth from the roots and set them in a basin of water to which has been added three or four drops of carbolic acid. Repot the plant, throw away the old soil and be sure that you will have no more trouble with white worms.

HOME QUERIES EXCHANGE.

M. B. P.—The bearskin coats are easily dyed. Use any of the standard dyes. For graham cookies use one-third cup butter; one cup sugar; white of one egg; half teaspoon soda; two teaspoons cream tartar; half cup water; graham flour. Cut in squares with a knife and bake until crisp.

Mrs. S.—Very good peanut butter is made by simply putting the nuts through the food chopper, using the pulverizer.

Haste and Waste

Stop and think for a moment the next time you are about to buy soda crackers.

Instead of hastily buying soda crackers that go to waste because broken, soiled or soggy, buy

Uneeda Biscuit

in separate five-cent packages. Soda crackers in large packages soon become broken, stale and unpalatable. On the other hand, Uneeda Biscuit in handy, moisture proof packages are *always* fresh, clean, crisp and whole—not one wasted.

(Never Sold in Bulk)

NATIONAL BISCUIT COMPANY



Saves Time on the Farm

THE farmer with the Bell Telephone Service at hand, doesn't have to travel in rainy weather.

The Bell Telephone Service saves him all that.

There are always a lot of rainy-day chores about the farm.

Instead of spoiling a day in going to town, the farmer goes to his Bell Telephone and does his business. The time saved can be spent profitably.

That is why he would not think of being without the Bell Telephone Service. It is poor economy to try to get along without it. Consult our local manager.



Michigan State Telephone Company,
Detroit, Michigan.

200,000 TELEPHONES IN MICHIGAN!
Connections Everywhere.

Try This Home-Made Cough Remedy

Costs Little, But Does the Work Quickly, or Money Refunded.

Mix one pint of granulated sugar with 1/2 pint of warm water, and stir for 2 minutes. Put 2 1/2 ounces of Pinex (fifty cents' worth) in a pint bottle; then add the Sugar Syrup. Take a teaspoonful every one, two or three hours.

You will find that this simple remedy takes hold of a cough more quickly than anything else you ever used. Usually ends a deep-seated cough inside of 24 hours. Splendid, too, for whooping cough, chest pains, bronchitis and other throat troubles. It stimulates the appetite and is slightly laxative, which helps end a cough.

This recipe makes more and better cough syrup than you could buy ready-made for \$2.50. It keeps perfectly and tastes pleasant.

Pinex is the most valuable concentrated compound of Norway white pine extract, and is rich in guaiacol and all the natural pine elements which are so healing to the membranes. Other preparations will not work in this formula.

This plan of making cough syrup with Pinex and Sugar Syrup (or strained honey) has proven so popular throughout the United States and Canada, that it is often imitated. But the old, successful formula has never been equalled.

A guarantee of absolute satisfaction, or money promptly refunded, goes with this recipe. Your druggist has Pinex or will get it for you. If not, send to The Pinex Co., 232 Main St., Ft. Wayne, Ind.

Does Your Husband Snore? Does Your Wife Snore? OUR "SILENT SLEEPER"

placed on the head when retiring will break one of snoring. Promotes natural breathing and thereby fortifies the throat and bronchial tubes against coughs and colds. Sent to you, postpaid, in plain wrapper. Price, \$1.00.

ADAMS & ADAMS, Box 411, Detroit, Mich.

SALES AGENTS WANTED—Responsible Men or Women, every county. Pleasant, dignified employment, all or part time. Exclusive contract, good pay. Stophar Sales Agency, Box 107, Grand Rapids, Mich.

FARM WANTED—I would like to purchase a small farm well located, near Kalamazoo, Michigan. Must be in good state of cultivation, well stocked and up-to-date. C. B. WING, 4th Natl. Bank Bldg., Cincinnati, Ohio.

WANTED—FARM

80 to 160 acres; on clear lake or stream; good soil; fair buildings; near town and schools. Give full description and lowest cash price. No agents. JULIEN, OGDEN BUILDING, CHICAGO.

FARMS AND FARM LANDS FOR SALE OR EXCHANGE

FARMS FOR SALE—\$35 to \$100 per acre. Stock, dairy and truck farms. State kind and size wanted. D. R. REES, 724 Dollar Bank Bldg., Youngstown, Ohio.

133 ACRES Oakland Co., \$35, an acre. Excellent stock and grain farm, good buildings, good soil, 2 1/2 miles from town, on Electric R. R. L. R. WOLFE, Orionville, Mich.

The Best Located and Improved Farms in Mich. for the money. E. N. PASSAGE, Plymouth, Mich.

FARMS FOR SALE—in Livingston County, Mich. Prices right. FRY & MANNING, Brighton, Mich.

MICHIGAN FARMS—Rich agricultural district. Write for list. TOLBERT & Co., Charlotte, Michigan.

FARM FOR SALE—320 acres good land 4 miles from school. 40 acres cleared, fair buildings. Price \$5,500. Address MENNO GROSZ, Gladwin, Michigan.

\$1875.00 takes 218-acre fertile farm, plenty wood, timber and fruit; 7-room house; two large barns; abundance water; 1 m. school and church; 3 m. creamery; B. R. town. 1/2 Cash, bal. time. Write for desc. b'klet. Valley Farm Agency, Owego, N. Y.

FOR SALE—A Good Investment—\$1,000 Profit in this first-class improved 100-acre farm, Benzie County, Michigan, near Manistee; practically all under cultivation; good house; large barn; tool and hog house; must have cash at once for quick sale \$2,500; mtg. \$500; balance cash. Address owner. John D. Westenhaver, Vancouver, British Columbia.

OWN A HOME—The Saginaw Valley has great inducements for the homeseeker. Write today. UNITED REALTY CO., Saginaw, Michigan.

MICHIGAN FARMS—Improved fruit, stock and Eaton counties, \$25 to \$75 per acre; splendid water, schools and roads. Low taxes. Write for List No. 4. BUCKLES & MATTHEWS, Hastings, Mich.

A Bargain—160 Acres, 8 miles from Jackson, Mich., \$8,000, half down. Good soil, market and schools; good house, fine rock well, new wind mill, new barn 32x60, granary, shop, etc., 2 miles wire fence. Plenty of wood. Good farm for all crops, especially potatoes. C. Horton, R. D. 5, Albion, Mich.

WHY PAY RENT when you can buy the Best Land in Michigan at from \$6 to \$10 an acre near Saginaw and Bay City. Write for map and particulars. Clear title and easy terms. Staffed Bros., (owners) 15 Merrill bldg., Saginaw, W. S., Mich.

MICHIGAN FARMS FRUIT, STOCK AND GRAIN FARMS IN BARRY AND EATON Counties—1 to 300 acres, from \$35 to \$100 per acre; good water, roads and schools. We have one of the leading farm real estate agencies in Southern Michigan. References, any bank or merchant in Hastings. Send for free list No. 3. C. R. BISHOP & CO., Hastings, Michigan.

(Continued from page 310).

mills, elevators and grain dealers report no wheat marketed in September. The per cent of acreage sown this fall compared with the average for the past five years in the state is 104, in the southern counties 103, in the central counties 102, in the northern counties 108 and in the upper peninsula 95. The average date of sowing wheat in the state and central counties is September 16, in the southern counties the 17th and in the northern counties and upper peninsula the 15th.

Rye.—The per cent of acreage shown this fall compared with the average for the past five years in the state is 87, in the southern counties 83, in the central counties 89, in the northern counties 93 and in the upper peninsula 116. The estimated acreage of rye harvested is 372,300 and the estimated yield 5,956,890 bushels.

Barley.—The estimated yield per acre in bushels, in the state and southern counties is 24, in the central counties 26, in the northern counties 25 and in the upper peninsula 23. The estimated acreage harvested is 73,400 and estimated yield 1,761,600 bushels.

Oats.—The estimated average yield per acre in bushels, in the state is 31, in the southern counties 32, in the central counties 34 and in the northern counties and upper peninsula 26. The estimated acreage harvested is 1,498,000 and estimated yield 46,438,900 bushels.

Corn.—The estimated average yield per acre in bushels, in the state is 32, in the southern counties 30, in the central counties 34, in the northern counties 33, and in the upper peninsula 29. The estimated acreage harvested is 1,698,900 and estimated yield 54,364,800 bushels.

Potatoes.—The estimated average yield per acre in bushels, in the state is 86, in the southern counties 80, in the central counties 84, in the northern counties 98 and in the upper peninsula 131. The estimated acreage is 298,000 and estimated yield 25,628,000 bushels.

Beans.—The estimated average yield per acre in bushels, in the state is 13, in the southern counties 12, in the central counties 14, in the northern counties 15 and in the upper peninsula 16. The estimated acreage harvested is 470,250 and estimated yield 6,113,250 bushels.

Sugar Beets.—The estimated average yield per acre in tons, in the state, southern and northern counties is 9, in the central counties 10 and in the upper peninsula 12. The estimated acreage that will be harvested is 100,000 and estimated yield 900,000 tons.

Buckwheat.—The estimated average yield per acre in bushels, in the state, central and northern counties is 15, in the southern counties 14 and in the upper peninsula 20. The estimated acreage harvested is 51,900 and estimated yield 778,500 bushels.

NATIONAL CROP REPORT.

The Crop Reporting Board of the Bureau of Statistics of the United States Department of Agriculture estimates, from the reports of the correspondents and agents of the Bureau, as follows:

Condition Compared with Normal.

Crops.	Oct. 1, 1910.	Sept. 1, 1910.	Oct. 1, 1909.	Oct. 1, 1908.	Oct. 1, 1907.
Corn	p.c. 80.3	p.c. 78.2	p.c. 73.8	p.c. 77.8	p.c. 78.4
Buckwheat	81.7	82.3	79.5	81.6	83.3
Potatoes	71.8	70.5	78.8	68.7	75.6
Tobacco	80.2	77.7	81.3	84.1	83.0
Flaxseed	47.2	48.3	84.9	81.2	83.4
Rice	88.1	88.8	81.2	87.7	86.1
Apples	46.4	46.8	43.9	48.4	53.8

CROP AND MARKET NOTES.

Genesee Co., Oct. 8.—Weather continues fine. Late beans not yet all secured. Potato harvest now going on. Corn mostly secured in good condition. Early beans which have been threshed yielding very well. Clover seed crop about an average; late pastures good. Alfalfa fields which are now quite common look extremely well and show up to good advantage with a thrifty growth even now. Farmers as a rule are well pleased with the result of the season's work. Local market quotations as follows: Wheat, 93c; corn, 57c; oats, 33c; beans, \$1.95; butter, 24c; potatoes, 60¢@65¢; baled hay \$12.50@14; dressed hogs, \$11@12 cwt; beef, \$8@15.50 cwt.

Shiawassee Co., Oct. 10.—Rain more or less during the past week. Ground well saturated with water and too wet to till. Heavy frosts on low land. Corn crop about cut, although a few fields are yet standing at this writing. A large number of silos have been filling the past week in face of the fact the weather has been very unfavorable for the work. Late potatoes are yet green and doing well. The apple crop at best is a poor one and far below last season. Wheat is coming on in fine condition and making an excellent fall growth. Rye is looking well. Clover seed is being cut and promises a fine yield. A few farmers have threshed their beans and marketed the crop on the early market. The yield is about an average with former years. A few fields of late beans still unharvested. Sugar beets suffering from wet weather and promise only a fair crop. Lamb feeders are beginning to secure their material for winter operations. A few cars have already arrived and many more coming in a few days. No cattle yet on feed and probably will not be. The hog outlook is very slim and no prospects for more. A few teams of horses have changed hands at a good price. Dairy cows are in strong demand. Livingston Co., Oct. 10.—The past week we have had two killing frosts but it did not do much damage as nearly all of the corn crop was in the shock. It might have been better for potatoes had it held off another week but they were fairly well matured. Some corn is being husked

(Continued on page 321).



SELZ ROYAL BLUE B76

Gun metal calf blucher Hito; tan on brass rosette eyelets and hooks; double sole; military heel.



SELZ WABASHAW J303

Rhino Calf Blucher full leather gusset, black eyelets, rawhide laces, 2 full soles, triple fastened.



SELZ IRRIGATION BOOT

Best rubber boot sold at any price.

YOU'VE often thought you'd like to find shoes that check up with what is said about them; that are really as good as they sound. You'll find that kind when you buy Selz shoes.

Selz Royal Blue is the best welt shoe for all-around use that's made. You can get it at \$3.50, \$4, \$5.

Selz Wabashaw is a waterproof shoe for the heavy work of the farm; no wet feet to breed trouble; wears like iron. Selz shoes in this leather, \$3, \$3.50, \$4, \$5.

Selz Irrigation Rubber Boot is made for ditching, tiling and all sorts of irrigation work. It's the best boot we know how to make; guess that means the best that can be made.

Try these three; if they're not all we claim for them, your dealer is authorized to make it good.

Sold by best dealers everywhere; if your's can't supply you, write to us.



Largest makers of good shoes in the world

We Want Your FURS

You want good prices. Liberal assortment and prompt returns. Therefore send at once for price list and ship to M. F. Pfeiffer & Co., 6 E. 12th St. (Desk 4), New York City.

FARM AT AUCTION

An Excellent Farm of 270 Acres, good buildings; well fenced; nicely located within one mile of the beautiful village of OVID, MICHIGAN, will be sold at public sale on

Thursday, Nov. 17th, 1910

This farm is a heavy producer, well watered with but little waste land, being equally good as general purpose or stock farm; located in one of the best agricultural sections of Michigan. For full particulars address

JARVIS & MARTIN, Auctioneers & Real Estate, Ovid, Mich.

Good Farm For Sale—I offer my 120-acre farm for sale, which is a dark, rich, clay loam; and in a high state of cultivation, all cleared but 9 acres of woods, large 12-room house, 2 large barns, (drive barn, hog pen, 100 ton silo, new) good well and wind mill, water in house and barn, well fenced, school house across the road. This farm is in a fine location, 3 miles north of Yale. I want to sell at once. Nelson Bechtel, R. F. D. No. 1, Melvin, Mich.

GOOD INVESTMENT—\$3,000 Profit in this first-class improved farm, Pope County, Minnesota, 375 1/2 acres; practically all under cultivation; good house; extra large barn; granaries, hog and chicken house, grove and orchard; must have cash at once, for quick sale \$30, mortgage \$5,000. Address owner, JOHN D. WESTENHAVER, Vancouver, B. C.

Fertile Farms in Tennessee \$5 to \$10 per acre

Fortunes are being made on fertile Tennessee farms raising big crops of grain and grasses of all most every kind, also Cantaloupes, Cabbage, Tomatoes, String Beans, Green Corn, etc., also Horses, Cattle, Sheep, Swine, Poultry and Eggs. Write me at once for Free Literature, which advises how to get one of these splendid farms for \$5 to \$10 per acre. Act quickly! H. P. Smith, Prof. Agr. N. C. & St. L. Ry. Dept. F. Nashville, Tenn.

CHOICE VIRGINIA FARMS

Along the Chesapeake & Ohio Railway as low as \$10 per acre.

Rich soil, mild winters; nearby Eastern markets. For handsome illustrated booklet "Country Life in Virginia" (100 pages) and low twice-a-month excursion rates address G. B. WALL, Real Estate Agent, C. & O. Railway, Box 2, Richmond, Va.

Stock, Machinery and Crops 250 acres, only \$2,400 cash.

51 head of livestock, including 28 splendid dairy cows, 12 heifers, 3 horses, calves and hogs, a large flock of poultry, a complete set of modern farming machinery, small tools, dairy utensils, and all crops, growing or harvested. Thrown in if taken immediately with this money-making Delaware County dairy farm; smooth, rich, rolling fields, pasture for 50 cows, large quantity of wood and timber; fine two-story 15-room house, running water, 8-story over-shot barn 44x64, silo, other outbuildings, all in first-class repair; near neighbors, school, easy drive to railroad station; owner very old, has made money, wants to retire; everything goes for \$7,700, \$2,400 cash, balance easy terms. Full details and photograph of beautiful maple-shaded residence, page 31 "Strout's Biggest Farm Bargains," just out, copy free. Station 101 E. A. STROUT, Union Bank Bldg., Pittsburg, Penna.

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. & I. Agt. for Florida, A. & I. Agt. for Virginia, Jacksonville, Fla., and the Carolinas, Wilmington, N. C.

Live Stock in the Southeast

There is money in raising live stock and in dairying in the Southeast, where good lands are only \$10 to \$40 an acre. The climate is the best in America. The largest varieties of grasses and forage plants give stock raisers advantage over other sections. Alfalfa yields four to six crops a year. Corn yields by good farmers highest in the country. Beef and pork are made at 8 to 10 cents a pound. Dairy products command highest prices. Government experts recommend Southeast for horses, cattle, sheep and hogs. We will give information about best locations. Write for Homeowners' Rates.

M. V. RICHARDS Land and Industrial Agent, Southern Railway 18 1/2 Pennsylvania Avenue, Washington, D. C.

MARKETS

DETROIT WHOLESALE MARKETS.

October 12, 1910.
Grains and Seeds.

Wheat.—The bears got hold of the market early this week and shoved prices down; the average for the week, however, is comparable with the average for the previous period. The government crop report showed that a better crop of winter wheat had been harvested in the northwest than was counted on by traders, which with the heavy increase in the visible supply in Europe, where the large part of the demand for grain from this country was expected to come from, was the reason for the bulls weakening. The struggle for higher prices was sought upon the grounds of drought in Argentina, a decrease in the United States visible supply and an attempt to stampede the market on news that the grain of the northwest was spoiling in the stack, but to no avail. The crop report indicates that the country has grown a 700,000,000 bushel crop this year; this is 15,000,000 bushels more than was expected before the report came out. One year ago the price for No. 2 red wheat was \$1.20 per bu. Quotations for the week are:

	No. 2	No. 1	Red.	White.	Dec.	May.
Thursday	.99	.96 1/4	1.01 1/4	1.06 1/4		
Friday	.99 1/4	.96 1/2	1.01 1/2	1.06 1/2		
Saturday	.98 1/4	.95 1/2	1.01 1/2	1.06 1/2		
Monday	.98 1/4	.95 1/2	1.01 1/4	1.06 1/4		
Tuesday	.96 1/4	.94	.99 1/2	1.04 1/2		

Corn.—There is to be a bumper yield of corn, the government report indicating a crop two points above the crop of last year and also of the ten-year average. The showing did not have the depressing effect upon the trade as was noted in wheat circles; however, the deal is a little easier, because of the report and the influence of the other grain. There are no important deliveries from country places, the trade excusing the situation on the ground that farmers are busy gathering the crop. One year ago the price for No. 2 corn was 63c per bu. Quotations for the week are:

	No. 2	No. 2	Mixed.	Yellow.
Thursday	.53 1/2	.55		
Friday	.53 1/2	.55		
Saturday	.53 1/2	.55		
Monday	.53 1/2	.55		
Tuesday	.53	.54 1/2		

Oats.—The final figures of the government regarding the crop are to the effect that 90,000,000 bushels more oats were grown in the country than a year ago. The average yield per acre was nearly two and one-half bushels more than for the ten-year average. Traders are keeping prices up in spite of the showing, a constant demand of large magnitude aiding in the situation. The local market is steady and quiet. One year ago the price for standard oats was 42c per bu. Quotations are:

	Standard.	No. 3	White.
Thursday	.36	.35 1/2	
Friday	.36	.35 1/2	
Saturday	.36	.35 1/2	
Monday	.36	.35 1/2	
Tuesday	.36	.35 1/2	

Beans.—There was a little dealing on the local market last week. Prices have gone down. The state crop report indicates a crop of over 6,000,000 bu. Threshing is in progress. Quotations are:

	Cash.	Nov.
Thursday	\$2.10	\$2.05
Friday	2.10	2.05
Saturday	2.10	2.05
Monday	2.07	2.02
Tuesday	2.07	2.00

Cloverseed.—Prices average a little higher. Some sections are enjoying a good yield while others show a complete failure. Many fields have been used for pasture. Alsike is steady. Quotations are:

	Prime Spot.	Dec.	Alsike.
Thursday	\$9.20	\$9.35	\$9.00
Friday	9.10	9.15	9.00
Saturday	9.10	9.15	9.00
Monday	9.10	9.15	9.00
Tuesday	9.00	9.05	9.00

Rye.—Market is improved and shows more life. Quotation for No. 1 is 75c per bu., which is 2c above the price of a week ago.

Visible Supply of Grains.

	This week.	Last week.
Wheat	34,309,000	34,968,000
Corn	4,422,000	5,041,000
Oats	18,737,000	18,801,000
Rye	406,000	353,000
Barley	2,630,000	2,444,000

Flour, Feed, Provisions, Etc.

Flour.—The flour trade is firm at last week's figures. There is a good demand at present. Quotations are:

Clear	\$4.60
Straight	4.80
Patent Michigan	5.10
Ordinary Patent	4.90

Hay and Straw.—Market steady. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$16@16.50; No. 2 timothy, \$14@15; clover, mixed, \$14@15; rye straw, \$7@7.50; wheat and oat straw, \$6.50@7 per ton.

Feed.—All kinds of feed rule steady. Carlot prices on track: Bran, \$27 per ton; coarse middlings, \$24; fine middlings, \$27; cracked corn, \$27; coarse corn meal, \$27; corn and oat chop, \$24 per ton.

Potatoes.—The week has developed a weakness in the potato deal. Buyers are getting the tubers fairly easy and consequently have put on an air of indifference with the result that values are down more than 10c. The national crop report indicates a smaller yield for the country than a year ago but an improvement in the crop since September 1. In car lots Michigan potatoes are selling at 45@50c.

Provisions.—Mess pork, \$22.50; family pork, \$23; medium clear, \$20@21.50; smoked hams, 15@16 1/2c; dry salted bris-kets, 14 1/2c; shoulders, 13 1/2c; picnic hams,

11 1/2c; bacon, 20@21c; lard in tierces, 13 1/2c; kettle rendered, 14 1/2c per lb.

Dairy and Poultry Products.

Butter.—Another week has passed without change in butter values. Conditions are reported to be unaltered and production is not falling off much just now. As the cows have enjoyed an improvement in pastures and feeding has started. Extra creamery 29 1/2c; firsts, do., 27c; dairy, 23c; packing stock, 22c per lb.

Eggs.—The demand upon the egg trade is not being well met by the offerings, so prices have advanced again for the week. The deal is strong at the new figures. Fresh receipts, case count, cases included, are quoted at 25c dozen.

Poultry.—There was a fairly good supply of poultry coming to the market last week and the market is lower for most kinds. The trade is quiet and easy. Spring chickens are lower and now selling at 13 1/2c; hens also lower and going at 11@12 1/2c; turkeys are down to 17c; geese steady at 10@11c; ducks easier at 14c.

Cheese.—Michigan, late made, 15c; Michigan, fall made, 17 1/2@18c; York state, 17 1/2@18c; limburger, old, 17@18c; Swiss, domestic block, 21@22c; cream brick, 16 1/2@17c.

Fruits and Vegetables.

Apples.—The week noted a fairly liberal supply of apples. Offerings are not grading as high as in most years. Choice consignments are selling at \$3@3.50; common kinds and grades, \$2@3 per bbl.

Cabbage.—Lower. Selling at \$1.50 per bbl. for new.

Peaches.—The season for peaches is getting well along and offerings are becoming less numerous and smaller. Prices are steady and range from 75@82 for Michigan products.

Tomatoes.—Market steady. Generally quoted at 60@65c per bu.

Grapes.—Concord, 10-lb. baskets, 25c; Niagara, 25c; Delaware, 35@40c.

Pears.—Unchanged. Bartlett, \$1.50@1.75 per bu.

OTHER MARKETS.

Grand Rapids.

Potatoes have dropped fast during the past week and this week local dealers are offering only 25c at northern Michigan loading stations, and 30c in the Grand Rapids freight zone. It is not thought, even by the buyers, that prices will go much if any lower than this. Potatoes in small loads sold on the Grand Rapids city market Tuesday morning at 40@50c. Tomatoes are bringing 40@50c; celery, 12 1/2@15c; cabbage, 50c. Dressed hogs have gone still lower, selling at 11@11 1/2c. Poultry is off, live fowls and chickens selling at 10c. Eggs are a trifle higher, jobbers paying the country merchants 24@24 1/2c. The butter market is unchanged, dairy 25c and creamery 29c. The bean market has been slipping off and dealers are now quoting on a \$1.80 basis to the farmers. Wheat is 2c higher than last week, No. 2 red bringing 94c; No. 1 white 92c.

New York.

Butter.—Steady, with a slightly improved undertone. Creamery specials quoted at 30 1/2c; extras, 29c; thirds to firsts, 24@25c.

Eggs.—Ordinary eggs are selling for better prices than last week while the fancy grades are steady. Nearby eggs quoted at 33@40c; fresh gathered extras, 27@28c; firsts, 25 1/2@26 1/2c doz.

Poultry.—Live poultry is easy, while dressed fowls have a quiet trade. Live, Springers, 15c; fowls, 17c; turkeys, 12@15c. Dressed stock quoted as follows: Western broilers, 17@20c; fowls, 14@18c; spring turkeys, 14@25c.

Chicago.

Wheat.—No. 2 red, 97 1/4@97 1/2c; December, 95 1/2c; May, \$1.01 1/2 per bu.

Corn.—No. 2 mixed, 50 1/2c; December, 48 1/2c; May, 51 1/2c.

Oats.—No. 2 white, 32c; December, 32c; May, 35 1/2c.

Butter.—The appearance of weakness has given way to a firm tone at last week's values. Creameries, 24@28c; dairies, 23@27c.

Eggs.—Deals show a stronger trade at advanced figures for best grades. Quotations are: Prime firsts, 26c; firsts, 24c; at mark, cases included, 18 1/2@21 1/2c doz.

Hay and Straw.—Market steady at a 50c@51 advance on all grades of both hay and straw. Quotations are: Choice timothy, \$19.50@20.50; No. 1 timothy, \$18@19; No. 2 do. and No. 1 mixed, \$16@17.50; No. 3 do. and No. 2 mixed, \$14@15.50; rye straw, \$8@8.50; oat straw, \$6.50@7; wheat straw, \$6@6.50 per ton.

Potatoes.—Prices have suffered another 10c decline due to the depressing influence of heavy receipts. Choice to fancy are quoted at 50@55c per bu; fair to good, 38@45c.

Toledo.

Clover Seed.—The market prices have been altered but general trade is about steady with a week ago. Closing quotations were: Cash, \$9.15; December, \$9; alsike, cash, \$9.20; December, \$9.20.

Boston.

Wool.—The trade continues to be rather irregular, some of the houses completing deals amounting to a fairly large business, while others appear to do nothing. For some time back the movement of wool has been unusually slow. It still is, but the activity of some houses, as indicated above, gives the market an improved appearance, to producers. The prices hold firm and steady. There are more calls for fleeces than were noted in past few weeks. Leading domestic quotations are as follows: Ohio and Pennsylvania fleeces—Delaine, washed, 34c; XX, 30, fine unmerchanted, 24@25c; 1/2-blood combining, 28@29c; 3/4-blood combining, 28@29c; 1/2-blood combining, 26 1/2@27 1/2c; delaine unwashed, 26@27 1/2c; fine unwashed, 21@23c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 19@21c; delaine unwashed, 26@27c; 1/2-blood unwashed, 27@28c; 3/4-blood unwashed, 27@29c. Kentucky, Indiana and Missouri—3/4-blood, 28@29c; 1/2-blood, 27@28c.

Elgin.

Butter.—Trade firm at 29c per lb., which is on a par with the price of last week. Sales for the week amounted to 694,700 lbs., as compared with 702,300 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

October 10, 1910.

(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle, 150 cars; hogs, 22,400; sheep and lambs, 17,000; calves, 1,500.

With 150 loads of cattle on our market here today, and 25,000 reported in Chicago, and 27,000 in Kansas City and lower, all the fat grades of cattle on our market were 10@15c a hundred higher, and the common and low grades were barely steady.

We quote prices as follows: Best 1,200 to 1,400-lb. steers, \$7.25@7.50; good prime 1,200 to 1,300-lb. steers, \$6.50@7.10; best 1,100 to 1,200-lb. shipping steers, \$5.85@6.40; medium butcher steers, 1,000 to 1,100 lbs., \$5.25@5.65; light butcher steers, \$4.75@5.15; best fat cows, \$4.75@5.40; fair to good cows, \$3.75@4.50; common to medium do., \$3.25@3.75; trimmers, \$2.75@3; best fat heifers, \$5.50@6.25; good do., \$4.50@5; fair to good do., \$4@4.35; stock heifers, \$3.50@3.75; best feeding steers, dehorned, \$5.25@5.50; medium to good feeding steers, \$4.50@4.75; stockers, all grades, \$3.75@4; best bulls, \$5@5.25; Bologna bulls, \$4@4.50; light thin bulls, \$3.50@4.50; best milkers and springers, \$7@8; good do., \$5@6; common to good do., \$3.50@4. A few fancy export bulls brought 5 1/2c today.

We had a heavy run of hogs here today, 140 double decks. Market opened from 30@40c per hundred weight lower than last Saturday's best time; about a 9c market all around today. Market closed steady at the opening, with a fair clearance of all that got yarded in time for the market.

We quote: Heavies, \$8.75@8.90; mixed and medium, \$8.90@9; yorkers, \$8.90@9; pigs, \$8.90@9; roughs, \$7.50@7.60; stags, \$6@6.75.

The lamb market opened up active today, with prices about 75c higher than last Monday; most of the best lambs selling at \$7.60@7.65; closing steady, about all sold. Look for shade lower prices last of week. Handy sheep were strong today and prospects are for about steady prices on sheep balance of week.

We quote: Spring lambs, \$7.60@7.65; wethers, \$4.50@4.75; cull sheep, \$2.50@3; bucks, \$2.50@3; yearlings, \$5@6; heavy ewes, \$4@4.10; handy ewes, \$4@4.25; northern Michigan lambs, \$7.50@7.60; veals, choice to extra, \$10.50@11; fair to good do., \$7.50@10; heavy calves, \$6@7.

Chicago.

October 10, 1910.

Cattle. Hogs. Sheep. Received today . . . 30,000 26,000 70,000 Same day last year . . . 28,737 20,416 44,087 Received last week . . . 65,256 85,998 218,345 Same week last year . . . 63,353 82,962 153,785

Another week starts off with a heavy supply of cattle, and the run of sheep is estimated at 70,000 head or more, another record-breaker. Hogs are in moderate supply, as usual, but that makes no difference with the course of the market, which is sharply downward, a break of 15@20c taking place. Hogs are selling slowly, especially heavy packing lots, which are going at \$7.80@8.15, while the best light shipping hogs are selling at \$8.65@8.95. For the first week in a long time, the average weight of the hogs received shows a falling off, last week's arrivals averaging 261 lbs., compared with 264 lbs. a week earlier, 228 lbs. a year ago, 210 lbs. two years ago and 247 lbs. three years ago. The decline in prices appears to be hastening shipments of hogs in numerous cases. Cattle receipts today include about 10,000 from western ranges. The better class of farm and range cattle are going at steady prices, but others are slow and partly a shade lower. Sheep and lamb receipts are heavy enough to stagger the market in ordinary times, but there is such a big feeding outlet that no marked change is seen, with lambs selling at \$5@7, and a sale of fancy lambs was made at \$7.15. Ewes are salable at \$2@4.25; wethers at \$4@4.50; bucks at \$2.50@3.25, and yearlings at \$4.50@5.50. Breeding ewes are selling at \$4@5.50, and feeders pay \$4@6.70 for lambs, \$3.50@4.25 for wethers and \$4.50@5.40 for yearlings.

Cattle have not been in any increased general demand for a week past, and the rally that took place in prices during the middle of the week was altogether attributable to the marked falling off in receipts, owners apparently reaching the conclusion that it was about time to check the rapid downward movement by lessening the supply for sale. A large share of the farm-fed steers offered went at \$5.50@7.25, with inferior light killers selling as low as \$4.40 on Monday. The choicer heavy shipping steers went at \$7@7.75, and a car of fancy 981-lb. Angus yearlings brought \$8. Good fat killers sold at \$6.50@7.25, and good to prime yearlings were taken at \$6.25@7.10. Cows and heifers on the butchering order found buyers at \$3.30@5.50, a limited number of choice to fancy heifers bringing \$5.75@6.75. Canners sold at \$2@2.75, cutters at \$2.80@3.25 and bulls at \$3@5. Calves were disposed of at \$3@10.25, prime light vealers being particularly active and remarkably high. The supply of western range cattle was very well maintained, and they sold at better prices as a rule, steers going at \$4.25@7.10 and cows and heifers at \$3.25@5.50. The stocker and feeder branch of the market was about as lively as ever, with stockers wanted at \$3.25@4.90 and feeders at \$4.60@5.75, with few sales above \$5.50. Milkers and springers were active on a basis of \$30@75 per head, a few fancy springers bringing as high as \$90. Tak-

ing a look into the future of the cattle trade, the prospect seems to favor finishing well-bred stock in good shape where cheap feed is plentiful. Corn will be a big crop, and it is expected to sell at a low price. The great danger seems to lie in paying too high prices for feeders at the start and making them cost too high by the time they come back to the market. There is going to be a great deal of feeding the coming winter.

Hogs have continued to be shipped to market in only moderate volume here and elsewhere, but part of the lack in numbers is made up by their remarkable gains in weight compared with former years at this time. Eastern shippers have not been taking a great many hogs, their dearthness checking the demand everywhere, yet this outlet is large enough to act as a restraining influence in the downward tendency of prices for light shipping hogs. After light hogs the best sellers are a little heavier butchering hogs, and extremely heavy hogs sell worst of all. Good butcher weights around 200 lbs. have sold with the choice light hogs and rather better than the light class weighing under 175 lbs. At various times quality has been poorer, with too generous a percentage of coarse, heavy sows. Prices have been uneven, moving down and then up, with the better class of hogs developing the most strength. The spread in prices between the best and the poorest hogs has been wide, as is usual in October, and packers report a good demand for fresh pork, but only a moderate call for cured meats.

Sheep and lambs have continued to market in extremely liberal numbers for still another week, the rush from the ranges being well kept up, and at times buyers have been able to knock off prices to a fair extent. The sellers have been aided materially, however, by the continued extremely large demand for feeder lambs and sheep, and a good share of the range contributions came under the feeder class. There has also been a good demand for range and native breeding ewes, and goodly numbers of these sheep have gone to various parts of the corn belt states, where the sheep industry is becoming unusually popular. The range flocks must come at this season, and owners are making a clean sweep of stock not desirable for wintering, but the case with stock feeders is different, and there is little excuse for sending so many sheep and lambs prematurely where feed is plentiful. The prospect is good for finishing them and then marketing, and after the range shipping season is over it will be strange if better markets are not seen.

Horses were in good demand last week so far as the better grades were concerned, the call being more for heavy drafters than for any other kind. These animals went at \$175@235 per head, with sales apt to be largely around \$225. Heavy loggers sold at \$165@250, and some fancy heavy pairs went at \$550@600 for northern shipment. A few prime heavy pairs of drafters weighing 3,500 to 3,800 lbs. were taken by a New York coal company at \$650@725. Southern chunks had a good sale at \$70@125 per head, and young, blocky draft feeders were in better demand at \$165@225. Drivers are in moderate supply and demand at \$150@300, not many going higher than \$225. F.

LIVE STOCK NOTES.

Recent reports are that the corn crop of the United States will exceed three billion bushels, and some authorities expect to see the price fall to 50c a bushel in the Chicago market. The southern states are reported as having the largest reserves of old corn known in recent years and the biggest crop of new corn ever raised. The only outlet the south will have for its surplus corn will be in the east and abroad. Central Illinois was never so full of feed as now, and similar reports come from other states. The east has big corn and forage crops, and with an abundance of roughage, there is a powerful incentive for fattening cattle, hogs and sheep throughout the country. So far as hogs are concerned farmers are generally unable to do much feeding, there being everywhere a serious shortage, and scarcely a farmer can be found who will part with any stock hogs, while brood sows have sold on the farm this year as high as \$50 per head. Cattle will be fed extensively, however, and more sheep and lambs will be fed than ever before.

J. P. Dunsmore, of Indiana, eighty years old and still engaged in marketing horses, showed up recently at Chicago with a consignment of drivers and general-purpose horses. He said that Indiana farmers are taking increased interest in breeding horses for the market, raising more drafters than ever before.

There has been a good call in the Chicago market recently for good feeding cattle that are capable of being finished off for the beef cattle market in 75 to 100 days, the demand being for good weight cattle carrying good flesh, and weighing from 1,100 to 1,200 lbs. The heavier they are the better buyers are pleased.

Besides suggesting to farmers the importance of saving their straw, the Minnesota University farm is urging the importance of saving all cornstalks, to accompany the straw as winter roughage, thereby making a saving in hay, an article so scarce as to require unusual economy in its use.

The market for milkers and springers at Chicago has developed renewed animation, but buyers are very particular and cannot be persuaded into buying common cows. Such choice cows as are offered are mostly taken to ship east, and the general demand from all points is chiefly for good forward springers and big milk producers. A few fancy cows have sold up to \$90 per head.

The market for timothy hay has been hardening recently under decreasing receipts. Fortunately, pastures are in excellent condition generally, and the country will raise a big crop of late forage, which will mean a great saving on the hay crop.

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.

October 13, 1910.

Cattle.

Receipts, 1,015. Market dull at last week's prices on all grades.

We quote: Best steers and heifers, \$5.75@6.25; steers and heifers, 1,000 to 1,200, \$4.75@5.25; steers and heifers, 800 to 1,000, \$4.50@4.75; grass steers and heifers that are fat, 800 to 1,000, \$4.50@4.75; grass steers and heifers that are fat, 500 to 700, \$3.75@4.25; choice fat cows, \$4.25@4.50; good fat cows, \$3.50@4; common cows, \$3@3.25; canners, \$2@2.50; choice heavy bulls, \$4; fair to good bolognas, \$3.50@3.75; stock bulls, \$3@3.50; choice feeding steers, 800 to 1,000, \$4.50@4.75; fair feeding steers, 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$4@4.50; fair stockers, 500 to 700, \$3.75@4; stock heifers, \$3.50@3.75; milkers, large, young, medium age, \$4@60; common milkers, \$25@35.

Roe Com. Co. sold Rattkowsky 13 butchers av 683 at \$4.10; to Breitenbeck 24 do av 775 at \$4.50; to Thompson Bros. 15 do av 566 at \$3.75; to Fry 13 do av 700 at \$4; to Breitenbeck 28 do av 700 at \$4.10.

Bishop, B. & H. sold Goose 8 butchers av 453 at \$3.75; to Kamman 10 do av 740 at \$4.40; to Kamman B. Co. 12 cows av 1,023 at \$3.35, 11 butchers av 706 at \$4.35, 1 bull weighing 570 at \$4; to Sullivan P. Co. 2 heifers av 775 at \$3, 13 do av 706 at \$3.75, 3 cows av 750 at \$3, 1 heifer weighing 730 at \$4.25, 3 bulls av 883 at \$3.50, 11 butchers av 812 at \$3.70, 1 bull weighing 1,460 at \$3.70, 2 cows av 800 at \$3, 4 do av 990 at \$3.75; to Gerish 11 steers av 821 at \$4.85, 6 do av 736 at \$4.60; to Rattkowsky 5 butchers av 806 at \$4.25; to Parker, W. & Co. 19 do av 741 at \$4.25; to Regan 26 do av 551 at \$3.70, 1 heifer weighing 510 at \$3; to Bresnahan 9 butchers av 541 at \$3.60; to Cohen & Co. 3 do av 750 at \$4.25, 3 cows av 953 at \$3.50; to Sullivan P. Co. 1 steer weighing 1,270 at \$6.25, 1 cow weighing 930 at \$3, 1 bull weighing 1,080 at \$4; to Parker, W. & Co. 1 cow weighing 1,050 at \$4, 2 do av 950 at \$3.25, 1 do weighing 740 at \$2.50, 3 do av 1,023 at \$4; to Miller 2 steers av 825 at \$4.75; to Green 6 butchers av 743 at \$4.35, 3 do av 650 at \$3.75.

Haley & M. sold Newton B. Co. 2 bulls av 950 at \$3.75, 1 cow weighing 820 at \$2.60; to Marx 11 butchers av 780 at \$4.40; to Lawson 7 do av 906 at \$4.50; to Rattkowsky 3 do av 700 at \$3.90; to Burr 2 steers av 1,065 at \$4.75; to Goose 7 butchers av 507 at \$3.70; to Rattkowsky 1 bull weighing 920 at \$3.80, 1 cow weighing 890 at \$4, 2 do av 935 at \$3.75; to Goose 7 do av 930 at \$3.40; to Rattkowsky 2 bulls av 580 at \$3.50, 2 cows av 745 at \$3.50; to Webber 7 stockers av 590 at \$4; to Parker, W. & Co. 22 steers av 903 at \$5.10; to Sullivan P. Co. 3 cows av 1,053 at \$3.60, 1 do weighing 660 at \$3, 11 do av 960 at \$3.90, 2 do av 935 at \$3.25, 1 do weighing 1,140 at \$3, 4 do av 947 at \$2.85; to Youngs 5 stockers av 600 at \$4; to Fromm 4 heifers av 532 at \$3.80, 3 bulls av 543 at \$3.50; to Schumann 13 butchers av 726 at \$4.60; to Applebaum 10 do av 730 at \$4.05; to Regan 14 do av 600 at \$4.05; to Simms 7 stockers av 512 at \$4; to Lawson 9 butchers av 907 at \$4.25.

Spicer & R. sold Kull 3 steers av 1,163 at \$5.25, 2 do av 990 at \$4.60, 5 butchers av 714 at \$4.20, 4 butchers av 850 at \$4.50; to Mich. B. Co. 7 cows av 1,043 at \$3.50; to Goodwin 7 butchers av 836 at \$4; to Bresnahan 5 cows av 976 at \$3, 1 do weighing 750 at \$2.50, 2 do av 950 at \$2.50, 7 cows and bulls av 808 at \$3.60.

Meehan sold Marx 7 steers av 736 at \$4.20.

Same sold Bresnahan 2 cow and bull av 910 at \$3.35.

Sharp sold Sullivan P. Co. 3 steers av 1,037 at \$5, 2 cows av 850 at \$3.25, 4 butchers av 742 at \$4.25.

Wagner sold same 1 steer weighing 1,040 at \$6, 2 do av 745 at \$4.60.

McLaughlin sold Schuman 5 heifers av 576 at \$4, 1 bull weighing 550 at \$3.

Robb sold Regan 2 heifers av 510 at \$3.65.

Same sold Gerish 4 steers av 725 at \$4.75.

Veal Calves.

Receipts, 468. Market steady at last Thursday's prices. Best, \$9.50; others, \$4@9; milch cows and springers steady.

Spicer & R. sold Gordon & B. 2 av 135 at \$9.50; to Parker, W. & Co. 12 av 140 at \$9.25; to Schuman 6 av 150 at \$9; to Burnstone 2 av 170 at \$9.50, 7 av 160 at \$9.25, 5 av 165 at \$9.50, 1 weighing 120 at \$7; to Goose 3 av 180 at \$6, 4 av 300 at \$4, 6 av 250 at \$4.50, 7 av 150 at \$3.

Haley & M. sold Hopp 4 av 275 at \$5.75; to Parker, W. & Co. 10 av 295 at \$5, 11 av 300 at \$5.

Bishop, B. & H. sold Nagle P. Co. 3 av 100 at \$7, 24 av 130 at \$9.50, 5 av 150 at \$9.25, 2 av 180 at \$9.50, 4 av 140 at \$9, 3 av 150 at \$9.50, 5 av 150 at \$9.25, 9 av 180 at \$9, 4 av 160 at \$9.25, 2 av 275 at \$4.50; to Sullivan P. Co. 3 av 125 at \$9; to Burnstone 10 av 151 at \$9.50; to Parker, W. & Co. 7 av 150 at \$9.25; to Nagle P. Co. 17 av 140 at \$9.25, 33 av 150 at \$9.50, 1 weighing 200 at \$9.50, 3 av 175 at \$9.50; to McGuire 3 av 155 at \$9.50, 8 av 150 at \$9.50.

Sheep and Lambs.

Receipts, 7,628. Lambs 25c higher than last Thursday; sheep steady; heavy run. Best lambs, \$6.75; fair lambs, \$6.25@6.50;

light to common lambs, \$5.50@6; fair to good sheep, \$3.50@4; culls and common, \$2@2.50.

Spicer & R. sold Gordon & B. 6 sheep av 110 at \$3, 3 do av 95 at \$3, 5 yearlings av 90 at \$5.25, 23 sheep av 115 at \$3.65; to Nagle P. Co. 47 lambs av 80 at \$6.65; to Young 106 do av 80 at \$6.75; to Mich. B. Co. 48 do av 68 at \$6.50; to Sullivan P. Co. 24 do av 70 at \$6.35; to Barlage 11 sleep av 100 at \$3.35; to Stocker 5 do av 70 at \$3.75, 15 lambs av 62 at \$6.10; to Newton B. Co. 44 do av 77 at \$6.75, 6 do av 60 at \$5; to Felknapp 110 do av 80 at \$6.65, 23 do av 80 at \$6.65; to Fitzpatrick Bros. 22 do av 70 at \$6, 49 sheep av 80 at \$4.

Bishop, B. & H. sold Parker, W. & Co. 89 lambs av 75 at \$7; to Sullivan P. Co. 26 do av 78 at \$6.75; to Hammond, S. & Co. 7 do av 68 at \$6.50, 39 sheep av 80 at \$4.25, 44 lambs av 60 at \$6.25, 48 do av 70 at \$6.75, 35 do av 60 at \$6.25; to Mich. B. Co. 13 sheep av 110 at \$3.25, 23 do av 115 at \$3.85; to Nagle P. Co. 365 lambs av 77 at \$6.75, 74 do av 75 at \$6.60, 25 sheep av 100 at \$2.50; to Bordine 272 lambs av 60 at \$6.50, 18 do av 70 at \$6.50; to Breitenbeck 19 do av 60 at \$6.50; to Mich. B. Co. 22 sheep av 110 at \$4.25; to Gordon & B. 30 do av 85 at \$3, 17 do av 90 at \$2.50; to Sullivan P. Co. 73 lambs av 75 at \$6.40, 7 do av 65 at \$5.50, 5 sheep av 115 at \$3.75; to Fitzpatrick Bros. 16 do av 110 at \$3.75, 8 lambs av 65 at \$6, 57 do av 80 at \$6.75, 34 sheep av 110 at \$3.50, 51 do av 85 at \$4.40; to Thayer & B. 205 lambs av 60 at \$6.50.

Roe Com. Co. sold Mich. B. Co. 32 sheep av 120 at \$4; to Thompson Bros. 46 do av 90 at \$4; to Mich. B. Co. 15 do av 100 at \$3.50; to Newton B. Co. 142 lambs av 80 at \$6.50.

Taggart sold Hammond, S. & Co. 68 lambs av 75 at \$6.75.

Hodwell sold same 63 lambs av 75 at \$6.75, 13 sheep av 85 at \$3.75.

Wagner sold Sullivan P. Co. 66 lambs av 70 at \$6.35.

Johnson sold same 46 do av 75 at \$6.50, 10 do av 51 at \$5.50, 14 sheep av 110 at \$3.50.

Haley & M. sold Nagle P. Co. 175 lambs av 75 at \$6.80, 122 do av 85 at \$6.60, 23 sheep av 115 at \$3.75, 6 do av 92 at \$2.75, 28 do av 112 at \$3.75, 72 lambs av 85 at \$6.50; to Breitenbeck 13 sheep av 75 at \$3.25; to Gordon & B. 3 do av 112 at \$4, 8 lambs av 77 at \$6.50, 49 do av 53 at \$6, 18 do av 80 at \$6.50, 7 sheep av 95 at \$4; to Thompson Bros. 24 do av 125 at \$3.90; to Hammond, S. & Co. 132 lambs av 70 at \$6.50, 20 do av 82 at \$6.60.

Boyle sold Michigan B. Co. 12 sheep av 110 at \$3.50, 105 lambs av 70 at \$6.70, 72 do av 75 at \$6.70.

Johnson sold Nagle P. Co. 7 sheep av 95 at \$4.60, 108 lambs av 85 at \$6.65.

Bennett & S. sold Fitzpatrick Bros. 52 sheep av 90 at \$3.25.

Hogs.

Receipts, 4,596. Market steady at last Thursday's prices.

Range of prices: Light to good butchers, \$8.75@8.90; pigs, \$8.75@8.90; light yorkers, \$8.75@8.90; stags one-third off. Bishop, B. & H. sold Hammond, S. & Co. 1,890 av 190 at \$8.90, 678 av 160 at \$8.85, 148 av 150 at \$8.80.

Same sold Jerry Sullivan 558 av 185 at \$8.90.

Roe Com. Co. sold Sullivan P. Co. 81 av 160 at \$8.90.

Sundry shippers sold same 460 av 180 at \$8.90, 110 av 170 at \$8.85.

Haley & M. sold Parker, W. & Co. 275 av 160 at \$8.90.

Spicer & R. sold same 315 av 155 at \$8.90.

Sundry shippers sold same 317 av 175 at \$8.85.

Friday's Market.

October 7, 1910.

Cattle.

Receipts this week, 1,159; last week, 1,028. Market steady at Thursday's prices.

We quote: Best steers and heifers, \$5.60; steers and heifers, 1,000 to 1,200, \$4.75@5.25; steers and heifers, 800 to 1,000, \$4.50@4.75; grass steers and heifers that are fat, 800 to 1,000, \$4.50@4.75; do., 500 to 700, \$3.75@4.25; choice fat cows, \$4.25@4.50; good fat cows, \$3.50@4; common cows, \$3@3.25; canners, \$2@2.75; choice heavy bulls, \$4; fair to good bolognas, \$3.50@3.75; stock bulls, \$3@3.50; choice feeding steers, 800 to 1,000, \$4.50@4.75; fair feeding steers, 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$4@4.50; fair stockers, 500 to 700, \$3.75@4; stock heifers, \$3.50@3.75; milkers, large, young, medium age, \$4@65; common milkers, \$25@35.

Veal Calves.

Receipts this week, 644; last week, 557. Market steady at Thursday's prices. Best, \$9.50@9.75; others, \$4@9. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 4,567; last week, 5,651. Market steady at Thursday's prices; quality common. Best lambs, \$6.50@6.60; fair lambs, \$6.25; light to common lambs, \$5.50@6; fair to good sheep, \$3.25@4.25; culls and common, \$2@2.50.

Hogs.

Receipts this week, 6,728; last week, 5,916. Market 5@10c higher than on Thursday. Range of prices: Light to good butchers, \$9; pigs, \$8.80@8.90; light yorkers, \$8.80@8.90; stags one-third off.

Officials of the International Live Stock Exposition have selected Richard G. Carden, the greatest authority on Short-horns in Ireland, to decide these classes at the International in Chicago this autumn. Mr. Carden's fame as an arbiter at live stock exhibitions extends throughout the British Isles, for he has made the principal awards at the Irish fairs, and has also judged Aberdeen-Angus cattle at Perth, Scotland, and Hackney horses and hunters in England. Mr. Carden expects to make a visit through Canada in the interest of cattle breeding before going to Chicago. After the Chicago stock show he will return to Ireland in time to judge at the Dublin show in December. B. H. Heide, secretary of the International Live Stock Exposition, announces

that there will be an increase in the cash prize list this year, several of the breeding associations having offered added purses in some of the classes. The prize list will amount in the aggregate to something like \$75,000. For the first time in the history of the show, the National French Draft Horse Association of America is offering a list of special prizes, which exceeds \$500 in value. Richard O'Malley, the noted foreign authority on Clydesdale horses, will attend the show.

Patrick Cudahy, the Milwaukee packer, said recently: "I think there are several reasons why pork products should sell lower. The principal reason is that meat eating people of the world, since prices have been so high, have learned how to economize to the extent of 25 to 30 per cent compared to when values were normal. We all know that the country is full of corn and pigs, and these pigs will soon be fat hogs. January product has been selling on the basis of seven cent hogs, while corn, which we make hogs with, has been selling on the basis of five cent hogs. England is getting quite a lot of provisions from China, Serbia and other countries. The lard trade is only fair, and generally the demand for product is poor. Instead of buyers running after us, we are running after the buyers."

CROP AND MARKET NOTES.

(Continued from page 319).

and the bean crop is nearly all secured. What has been threshed is yielding about 60 per cent of a crop of fair quality. Nearly everyone attended the Fowlerville Fair last week and while the weather was very bad the fore part of the week there were thousands of people there the last two days. The horticultural and stock buildings were well filled notwithstanding that new buildings had been added for stock. Wheat seeding all completed and rye nearly all sown. Feeding lambs are in good demand.

Kent Co., Sept. 30.—Wheat has been sown early and late in this community, covering a period of more than a month, with indications that an unusual acreage will be sown this fall. The unusually fine quality and heavy yield of the wheat crop this year has effected an awakening of the old wheat-growing spirit, not seen for years past. The corn crop has become more important to the average farmer than the wheat crop and is not in most instances inferior to that crop. Corn in this section easily outranks other crops in size and quality, which means much to dairymen and feeders, and small farmers as well. Our late potatoes have been attacked by blight. Another thing worth noting is that where a barnyard manure was applied there is little or no blight, by which we infer that its application seems to have rendered the vines immune to this disease.

Branch Co., Oct. 6.—Corn cutting about over at this writing, and being much delayed this week by rainy weather. Corn has generally matured well with, as yet, no frost to injure it, but the stand is so poor the yield will not be above the average. Some second crop clover cut for seed, but most of it waiting for dry weather. It is only fairly well filled. A large acreage of wheat has been sown and weather so far has been very favorable for it. Some western lambs being brought in for winter feeding; more would be fed if hay was not so scarce.

Northern Isabella and Southern Clare Co's., Sept. 27.—Fine growing weather since August 22. Bean threshing commenced and the crop is yielding from six to 20 bu. per acre, but think 11 bushels will be about the average. Sugar beets have made a fine growth since rain came and will be a fair crop; corn nearly cut and will not be over 75 per cent of a crop. Potatoes very few in a hill but good size. Winter wheat nearly all sown and twice the acreage of former years. Fall pasture excellent and stock doing well. No frost to speak of up to this date. Auction sales plentiful and everything selling at top notch prices. Very little fruit, scarcely any apples at all.

Indiana.

Clinton Co., Oct. 7.—September was a good month for growing crops up to about the 15th, when we had several hard rains, keeping the ground in no condition for seeding, making wheat later than it would otherwise have been. Late rains have made good pastures, as green as any time in spring. Corn is ready to cut, and cutting is the order of the day, as fast as weather will permit. Help is very scarce and many farmers are waiting to get corn cut, in order to seed to wheat. Corn is down, making hand cutting necessary in places. September 20th found many fields of clover not threshed owing to weather conditions. Farmers having old corn on hand, are disposing of it at 50c a bu., which is considerably less than prices paid a while ago. High prices for young hogs, as well as feeding steers, keeps many from investing in that line. Pork has dropped one dollar on a hundred in the last two weeks. Wheat, 92c; oats, 30c; butter, 24c; eggs, 22c.

Ohio.

Carroll Co., Oct. 5.—Farmers started to cut corn. Not many pumpkins this year, because the bugs ate the vines last spring. Some making cider. Some winter apples picked already. We have very fine and warm weather here now. Wheat came up nicely. Potato digging is about half done. Not much pasture around here. Lots of clover seed not hulled yet. Most farmers busy cutting corn, as the warm weather made it ripen quickly. Eggs, 22c doz; butter, 24c lb. Not many plums this year but the few that we have are ripe. Grapes were a poor crop.

Lucas Co., Oct. 5.—Warm weather with almost daily showers for the past few weeks has caused nearly everything in the vegetation line to start growing. Some forest trees have shed their foliage and started a new growth of leaves. Some meadows would cut nearly as much hay now as they did at haying time. The early sown wheat is apt to get too big. Late corn seems to be growing as rapidly and ripening as fast now as at any time

during the summer, and late potatoes are growing nicely and where there is a good stand will be a fair crop. Clover seed is a good crop, the most of it being hulled. Some farmers report as high as eight bushels per acre, but the most of it is going about two bu. per acre. On account of the high prices for hogs and lambs a great many have been shipped to market, causing a sharp decline in the price. Hogs selling at \$8.60@8.90, and lambs, "choice," \$6@6.75 in the Toledo market. Poultry has also taken a drop, bringing 9@10c; ducks, 10@11c; apples, 50@75c; quinces, \$1@1.50 per bu; peaches, \$1@1.50; pears, 50c@1; onions, 50c; eggs, 22c doz; butter, 22@25c lb; Hubbard squash about 1c per lb, or \$1.50 per doz; potatoes, 60@75c bu; turnips, 40c bu. Sugar beet fields are looking as green as they usually do in August and but few have been lifted at this writing. While they may not be gaining much in sugar they are certainly gaining in tonnage.

Wisconsin.

Ashland Co., Oct. 3.—Continued rains have thoroughly soaked the ground so fall plowing is now being done at a rapid rate. No frosts at this date. All vines green as ever. Corn is all in shock and well ripened. A great many are lamenting because they did not plant more corn. Threshing all done. Wheat, oats and peas all good crops, better than hoped for. Hay is very scarce, farmers that have any not offering it for sale. \$20 is the lowest price heard on any outside hay being delivered. Potato digging under full swing. Very large, no small potatoes, average yield and good quality. Pastures good for this time of year and stock still doing fine without any other feed. Butter selling at 30c; eggs, 28c; bagas, 60c; potatoes, 70c; oats, 50c.

CATALOGUE NOTICES.

The Lawrence Williams Company, 1013-17 Oregon Ave., Cleveland, Ohio, send a booklet describing the merits of Gombault's Caustic Balsam for the treatment of various ailments of the horse, as well as other live stock and certain ailments of the human family. It contains many testimonials regarding the satisfactory use of this proprietary remedy which is warranted to give satisfaction.

The Grand Rapids Veterinary College located at 38-40 Louis Street, Grand Rapids, Mich., have issued a catalogue describing their courses and illustrating their equipment for the scientific teaching of veterinary medicine and surgery. This catalogue also describes the short courses for cow testers and herdsmen which are given in this college during the winter season.

Make Big Money Training Horses!

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

At Home or Traveling

Prof. Jesse Beery is acknowledged to be the world's master horseman. His exhibitions of taming man-killing horses, and conquering horses of all dispositions have thrilled vast audiences everywhere.

He is now teaching his marvellously successful methods to others. His system of Horse Training and Colt Breaking opens up a most attractive money-making field to the man who masters its simple principles.

Competent Horse Trainers are in demand everywhere. People gladly pay \$10 to \$25 a head to have horses tamed, trained, cured of habits to have colts broken to harness. A good trainer can always keep his stable full of horses.

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

Write and Prof. Beery will send you full particulars and handsome book about horses—FREE; also big free circular of Beery Exhibition. Address

Prof. Jesse Beery, Box 42, Pleasant Hill, Ohio

When, Where and How to Trap

OUR new illustrated Trappers' Guide—yours free for the asking—is the biggest and most reliable guide published. Reveals valuable trapping secrets and the carefully guarded methods of successful trappers. What we tell you on Animal Baits is as important to any trapper as traps. Full

directions on preparing skins for shipment and how to get the most money for them. This book will increase the catch of experienced trappers as well bring success to the inexperienced. The Game Laws of all the States and Canada are given in concise, unmistakable form, with the information you want shown at a glance. We will send you this book free if you write us before all the books are gone.

F. C. TAYLOR & CO.
Greatest Fur House in the World
240 FUR EXCHANGE BLDG. ST. LOUIS, MO.

DON'T PAY TWO PRICES FOR STOVES & RANGES

You Save \$18.00 to \$22.00 on

Hoosier Ranges and Heaters

Why not buy the best when you can buy them at such low, unheard-of Factory Prices. Hoosier Stoves and Ranges are delivered for you to use in your own home 30 days free before you buy. A written guarantee with each stove backed by a Million Dollars. Our new 120 improvements on stoves absolutely surpass anything ever produced. Send postal today for free catalog.

HOOSIER STOVE FACTORY
130 State Street, Marion, Indiana

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

ICE ON THE DAIRY FARM.

This is the time to begin making arrangements for next winter's ice supply. Too few avail themselves of the many advantages to be had from ice during the summer months. Ice is valuable upon all farms but particularly so upon dairy farms. With those who make butter or retail milk and cream, ice is an actual necessity in securing the highest results attainable.

Farm butter commands the best price when put up in one-pound prints, provided the prints are sufficiently chilled to retain their attractive rectangular form. We know, too, that cream churned during the summer months must frequently be cooled with ice water to obtain a churning temperature low enough to get an exhaustive churning and a good-bodied butter.

Milk and cream intended for retail trade require more cooling than is possible with uniced water, if they are to reach the consumer in the best state of preservation. With cream a low temperature has the additional advantage in that it gives it a heavier body, making it look richer.

Ice should be had wherever cows are kept, to make possible a regular indulgence in that delicious dessert, ice cream. How many city dwellers there are who envy the dairyman's rich supply of cream, yet how few are the dairymen who regularly indulge in ice cream! Many eat ice cream only when they get to town where they are likely to get ice cream made from old, stale, more or less, adulterated cream. It is only on the farm where ice cream can be had in its most wholesome and appetizing form, and at the same time at the least cost.

Then there is that cheap, wholesome and delicious dish, commonly called junket, which is made from milk that has been sweetened and flavored and then curdled with rennet extract. This dish must be thoroughly chilled with ice to be eaten with the greatest relish.

In laying in a supply of ice, the first thing necessary is a satisfactory ice house. This need not be expensive but to be effective must embody three essentials in its construction: (1) good insulation; (2) good drainage at the bottom, and (3) abundant ventilation at the top.

Good drainage and insulation at the bottom may be secured by laying an eight-inch foundation of stones and gravel and, on top of this, six inches of cinders, the whole being underlaid with drain tile unless there is a good natural slope. One foot of sawdust should be packed upon the cinders and the ice laid directly upon the sawdust.

Satisfactory walls are secured by tacking water and acid-proof paper on both sides of the studs and then covering the outside with matched lumber and the inside with common rough boards. The space between the studs may be left empty. The ice should be separated from the walls by one foot of sawdust.

Where no solid foundation walls are provided, earth must be banked around the icehouse to prevent the entrance of air along the base. Openings in the gable ends as well as one of two ventilating shafts projecting through the ridge of the roof, should be provided to insure a free circulation of air under the roof. This will not only remove the hot air which naturally gathers beneath the roof, but will also aid in keeping the sawdust dry.

The ice must be packed solidly, using no sawdust between the cakes. The top of the ice, like the sides and bottom, must be covered with at least one foot of sawdust and more is better.

As a matter of convenience in filling and emptying the icehouse a continuous opening, extending from the sill to the gable, should be provided and fitted with sectional doors.

In calculating the amount of storage space needed for the amount of ice that is likely to be used, allow 57.5 pounds per cubic foot of ice. For a herd of twenty-five cows an icehouse ten feet square by fourteen feet high will usually answer. These dimensions provide storage for twenty-two tons of ice, allowing one foot space all around the ice for sawdust.

Always select the cleanest ice available. Where a natural source of ice is at too great a distance, an artificial pond may be made upon ground with a reasonably impervious subsoil and with a natural concave formation. If such a piece of ground is flooded with water during the

coldest weather, an ample supply of ice will be available in a short time.

Where ice can be obtained at a reasonable distance, the cost of cutting, hauling and packing should not exceed \$1.50 per ton.

Wisconsin.

JOHN MICHELS.

CAUSE OF COWS SHRINKING IN MILK FLOW.

Some of my cows are shrinking on their milk from six to eight quarts to almost nothing, at once. They are not sick and eat good. They run in a swamp pasture. Can it be they eat something that caused their milk flow to stop? Lelanau Co. R. P.

It is difficult and always unsafe to attempt to tell the cause of anything of this sort from so meagre a description of the facts. One on the spot and familiar, ought to be in a much better position to judge the cause, and if R. P. cannot, it is doubtful if I can help him. I would hardly think that the cows get anything to eat that would dry them up, provided it did not affect the appetite or general health. I would be more inclined to think that the result was due to the cows not getting all they wanted to eat. Isn't the pasture getting short, or the grasses getting tough and indigestible so they do not get as much nourishment out of this food as earlier in the season? I would suggest that you supplement this pasture with a grain feed. Try corn meal and wheat bran mixed equal parts by weight. Feed one pound of grain for every four pounds of milk the cow gives.

WILL ACORNS DRY UP COWS?

Would like to ask if acorns will dry up cows. I have been told by some people that they will and would like your opinion on the matter. Jackson Co.

SUBSCRIBER.

I think not. I cannot answer from actual experience but I do not believe it. It is not, of course, an important question at this day and age of the world, as acorns are getting to be pretty scarce, even in Michigan. However, there is a principle involved in feeding such foods that is worth considering. Acorns are a carbonaceous food like corn meal. Both these have a high fat content and are fattening foods. But my experience don't go to show that corn meal will dry up cows. It will tend to make cows fat, even when they are giving milk, but if you feed liberally of corn meal, cows will, for a period of lactation at least, give a good flow of milk. Such feeding, I believe, would if continued, ruin a good dairy cow, but I don't think it would when fed a short period only, that is, with other ordinary feeds as part of the ration.

RAG WEED AND CORN FOR SILAGE.

How will it do to fill a silo with corn about four feet high and half ragweed? And how will it affect the milk and the cows? I would like to know a little more about the silos. Allegan Co. A. G. H.

It is safe to say that ragweed will not make very good silage. If there is as much of this weed as stated, that is, as much ragweed as corn, then I would not advise putting it into the silo, for it certainly will not make a good food for cows or other stock. In traveling through the country I have seen fields that seemingly were as described, and in such cases I would advise cutting the corn by hand and leaving the rag weed in the field to be plowed under.

Sometimes, where in places the corn becomes killed out and weeds grow up in its place, you can't help but get some weeds in the ensilage, but usually the proportion of weeds to the corn is very small, and there seems to be no trouble therefrom. But 50 per cent weeds, especially rank weeds like ragweed, would in my judgment, spoil the ensilage as food. Animals would not eat it unless starved to it. It might be better than a snow bank this winter, but I think it would pay to borrow some money to buy good feed than to feed such food.

HOW AND WHEN TO FEED SILAGE. BEST GRAIN TO FEED WITH IT.

I am interested in dairying and have just completed a silo. I would like to know how to feed and when to feed ensilage and what is the best grain ration? My idea was to feed ensilage night and morning, grain and hay at noon. Would barley meal make a balanced ration or would it be better to sell the barley at \$1.25 a hundred and buy cottonseed meal at \$1.85 per hundred? What do you feed with your ensilage? Ingham Co. V. E. C.

As corn silage is not a balanced ration containing too large a per cent of carbohydrates in proportion to the protein, and as it is a succulent food, it is not best to

Remember This About Cream Separators

No manufacturer of cream separators can drive farmers into buying his machine. When a manufacturer's business grows to be the biggest of its kind in the world, it is because the farmers of the world prefer his machine above all others. The

Sharples Tubular Cream Separator

factory is the largest of its kind in the world. We have branch factories in Canada and Germany. Tubular sales easily exceed most, if not all, others combined. Tubulars probably replace more common separators than any one maker of such machines sells. This is because farmers, everywhere, consider Tubulars The World's Best.

We made the first cream separator manufactured in America. We know, and you can easily prove for yourself, that we are making the best now. Send no money to any one. Pay no freight. Take a Tubular for a thorough and absolutely free trial. Different from and later than all others. Catalogue No. 152 fully describes Tubulars. Write for it.



THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
Chicago, Ill., San Francisco, Cal., Portland, Ore.
Toronto, Can., Winnipeg, Can.

\$1.95 AND UPWARD

AMERICAN SEPARATOR

SENT ON TRIAL, FULLY GUARANTEED. A new, well made, easy running separator for \$1.95. Skims hot or cold milk; heavy or light cream. Different from this picture which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Whether dairy is large or small, obtain our handsome free catalog. Address



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

THE PROOF OF THE HAY PRESS

Is its Capacity—Earning Power. SPENCER HAY PRESS Catalogues make great and definite claims proven by the press in action or no sale. Nature of contract protects you. Covers every claim by actual figures. More tons per hour guaranteed than by any other horse press, same size bale. Write Right NOW

J. A. SPENCER
Dwight, Illinois



MONEY SAVED

—BY USING—

Roy Swing Stanchions

Thousands in use. Made to fit any stable, durable, convenient and cheap. This space costs too much to tell you more. A pleasure to send booklet and price. ROY BROS., East Barnet, Vt.



INTERIOR DAIRY BARN. WINDYACRE FARMS, HOMER, MICH.

LETTER FROM MOUNT & SON, PROPS.

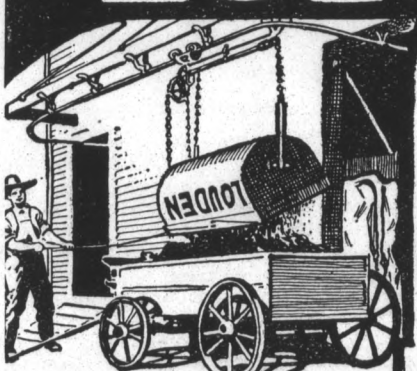
December 31st, 1909.

"Two years ago when we started to investigate the matter of an equipment for our dairy barn, we found that the question as to which was the best from the standpoints of efficiency and usefulness was more or less debatable. Some liked one kind and some another. But to the dairymen who considered clean cows and clean mangers, with the minimum amount of work involved, the James Adjustable Stanchions and Self-cleaning Mangers appealed as being in a class by themselves. Accordingly we purchased the complete James equipment, and now have, what well-informed visitors have pronounced, the cleanest, handiest, and most economical dairy barn in Michigan." Respectfully,
WINDYACRE FARMS, Mount & Son, Owners, Homer, Mich.

Every dairymen should investigate thoroughly before equipping his barn. Investigation is much less expensive and more satisfactory than experiment. Write for complete catalog and information on James Equipment to

KENT MFG. CO., 131 Cane St., Ft. Atkinson, Wisconsin.

The Louden Way



One man with a Louden Litter Carrier on Louden overhead steel track system can clean the barns in half the time that two men would take without it. That's Louden economy. On every up-to-date farm—your farm—the Louden Litter Carrier and steel track system will earn its cost many times a year. Track can be bracketed to barn wall—out one door—in at other, and in this way no switch is needed. Manure loaded direct on wagon or spreader—its full fertilizing value thus saved.

Louden Litter Carriers

are made of heavy galvanized steel—wear for years; have improved worm gear—1 pound on chain lifts 40 pounds in box; box stands at any elevation—raised or lowered any distance up to 25 feet; have many special advantages not found in other makes. Send today for valuable free book on manure uses, and catalog of hay and litter carriers, sanitary steel stalls, cow stanchions, etc., for modern barns.

Louden Machinery Co.,
603 Broadway, Fairfield, Iowa

"We will have full exhibit of our goods at the NATIONAL DAIRY SHOW, to be held in the Coliseum, Chicago, Ill., October 20th to 29th. Come and see us. Bring along a plan of your building and let us figure with you there, where you can make comparisons of all goods on exhibit."



TEST AN IMPERIAL 30 DAYS IN YOUR OWN HOME AT OUR RISK

Has EXCLUSIVE FEATURES not on any other range such as:
Odor Hood—Carries all steam and odors from cooking to chimney.
Ash Sifter—Permits sifting ashes right in range. No dust.
Oven Thermometer—Tells exact temperature of oven. No guesswork.
Stone Oven Bottom—Absorbs and holds heat in oven; a fuel saver.
This is the Old Dutch Oven brought back to life, and restored in our Perfect Imperial, Direct from factory to you at Wholesale Price. Easy credit terms if wanted. Freight Prepaid. 365 Days Guarantee. Write to-day for Free Catalogue and Special Prices.

THE IMPERIAL STEEL RANGE CO., 230 State St., Cleveland, Ohio.

I Want to Send You My Personal Announcement for 1911



for
1911
—"Please
be sure to
send me
your name
this time."

SPECIAL, extraordinary propositions, such as I've got for you right now, don't come but once a year—the first farmer in each neighborhood to write me gets a big 1911 opportunity—worth while in most practical money saving ways. Don't stop to think it over now. But take your own time and use your own best judgment after you give me the chance to tell you my propositions and send you just the books you want.

Which One of these Four Big Books Do You Want—Or You Can Have them ALL?

Let me tell you how the Farmers and the Law of Volume and a lifetime of actual farm and manufacturing experience, have made it possible for me to divide the profit-melon squarely in half with you—make prices based on over 40,000 factory capacity—and do the biggest direct-selling business in implement history. Here are my practical books:

1. Galloway's Grand New 1911 Catalog of Full Line of Manure Spreaders.

2. Galloway's Most Practical Gasoline Engine Catalog Ever Published

3. Galloway's "Oil Bath" Cream Separator Catalog

4. Galloway's Divide the Profit-Melon General Line Catalog.



I don't have to include in my prices to you the expense of salaries of big boards of directors—nor of traveling salesmen—nor brokers', jobbers' and retail agents' profits, or commissions. No middlemen at all come between you and me. All of that is cut right off the top of my prices on all Galloway Machines of highest quality, longest guarantee. My profits are small on every sale, but the Law of Volume is my friend as well as yours. These books and advertisements are my only salesmen. But this is the cheapest way for you and for me to get together. So just write me today, the most convenient way. A pencil does it all. Put it up to me by sending me your name. That's the idea. Will you do it—now?

Write Me Tonight

FREE BOOK FOR HUNTERS AND TRAPPERS
Send 5c for CAMP AND TRAIL, a great 24 page weekly; or 10c for HUNTER-TRAPPER, a big 160 page magazine devoted to fishing, hunting, trapping, etc. With either one we'll give you absolutely free, a 64 page book, "Hints for Hunters and Trappers." Contains all the fur and game laws, many hunting and trapping secrets. Worth hundreds of dollars. A. R. HARDING PUB. CO., Box 279, Columbus, Ohio

feed it alone. In fact, it never should be fed alone, but always in connection with some other dry feed, and also with a concentrate that is richer in protein, than the corn silage, to balance the ration and give the right proportion of protein and carbohydrates.

Silage can be fed at any time, the whole year through. Many dairymen are beginning to believe that it is more economical to have silage capacity sufficient so that they can have all the corn silage the cows will eat, or ought to eat, 365 days in the year. Feed it any time when you have it. But, of course, it is more profitable to feed it in the winter time and during a drouth in the summer time, when the pastures are short, than it is to feed it if you have a good amount of excellent pasture.

The proper way to feed corn silage, of course, is to feed from the top of the silo. With a fork or a rake, take a sufficient amount over the entire surface of the top of the silo for feeding. Do not dig holes into it or feed off a portion of it at once, but take off the entire surface. This prevents any of the silage from spoiling. As it is well understood, if any portion of the ensilage is left exposed for any great length of time, it will spoil by being in contact with the air. In cold weather it is practical to take off enough ensilage in the afternoon for the evening feed and the next morning feed. It will not be injured by laying in the ensilage shute over night, but in the summer time, in hot weather, I would not do this, but would get it down in the morning so as to not leave it exposed to the air too much in hot weather.

The cows should be fed night and morning a feed of ensilage. An ordinary bushel basket about level full, some cows heaping full, is about the right amount twice each day. It is better to feed it after the cows are milked than before because the odor of the silage in the stable just before the cows are milked is liable to impart the silage odor to the milk, and by feeding after milking this is entirely avoided. The very best way to feed grain, when you have corn silage as a roughage is to feed it on the ensilage. Put the ensilage in the manger and then put the grain on the ensilage. It mixes down through the ensilage, and is consumed with it, and is much better than to feed both alone. Dairy cows should have about two feeds of coarse fodder besides the ensilage per day. You can feed them hay early in the morning and then milk and then feed the corn silage. Then again, in the afternoon you can feed them a feed of hay or shredded corn fodder or straw, or whatever roughage you choose to feed them, and then after milking them give them their ensilage and their grain.

Now as to the best kind of grain to feed with ensilage. What you want is a concentrate enough richer in protein than the corn silage or the other roughage to balance up the ration. There are a great many foods to select from. Cottonseed meal, oil meal, gluten feed, dried brewers' grain, peas and oats. It would not be right in theory to feed barley meal with corn silage because barley is not rich enough in protein and it would be much better to sell the barley at \$1.25 a hundred and buy cottonseed meal at \$1.85, because barley only contains about 9 per cent of digestible protein while cottonseed contains 36 or 37 per cent. Therefore to balance up a ration of corn silage, a ton of cottonseed meal would be worth as much as four tons of barley meal.

I raise every year a considerable amount of peas and oats. We grind these and feed them to the cows. Now as long as these last I feed one feed a day of peas and oats and another feed of oil meal, cottonseed meal, gluten feed, or something of that nature. The best rule I know of in feeding grain is to feed a pound of grain per day for every pound of butter-fat which a cow produces in a week. If a cow produces ten pounds of butter-fat in a week, then feed her ten pounds of grain a day, five pounds night and morning on the ensilage. If she only produces four pounds of butter-fat in a week, then feed her two pounds night and morning, or four pounds per day.

A SUCCESSFUL SMALL DAIRY.

Mr. Anning lives in Wayne county. His farm consists of 20 acres, 10 acres of which is occupied by river flats, orchard and building ground and the remainder is devoted to crops. He follows a three-year rotation—corn, oats and clover. The manure is applied to the clover sod when plowed for corn. Some tile drains have been laid.

About four years ago this land came

into Mr. Anning's hands. He, having been connected with a creamery, decided to keep cows and develop a small dairy. To start with, all the farm seemed able to do, was to supply the coarse feed for two cows. He soon began the system of farming indicated in the preceding paragraph. A silo was constructed. The grain grown on the farm would not provide the cows with a balanced ration, so concentrates were purchased. These, added to the products grown, were put back upon the land as manure after the cows had manufactured the proteins and solids and fats into milk. Commercial fertilizers are being used.

Last winter Mr. Anning kept seven head of cattle. He secured sufficient silage from three acres of ground to feed these seven head 40 pounds each, every day for 200 days. He has just filled the silo for the coming winter. The corn from two and one-half acres made over 50 tons of silage. The three acres in corn last year, grew a splendid crop of oats this season and a good catch of seeding was secured. He gets enough manure from the stock to completely cover the corn ground. Should nothing happen to disturb the successful system now practiced he will begin in the winter of 1911 to re-cover the land first manured. He believes the capacity of the soil to grow crops is greater than what it has shown since he came into control of the premises.

Considering the kind of season we have had this past year the showing of Mr. Anning is excellent. In spite of the cry that the soil is going to the bad, that even with the high prices generally ruling, the farmer is not breaking even, he is gaining point after point in the battle between exhaustion by crop production and soil building.

VENTILATION FOR SILO.

Would like to ask through The Farmer a few more silo questions: I am building a silo 12 ft. in diameter and 40 ft. high inside; walls 8 in. thick, 5 ft. in ground, of concrete. I am all done but plastering inside and out, and the roof. Thought of making the roof of reinforced concrete and setting a windmill on same. By making a concrete roof it will be practically air tight. What do you think of the plan? Does silage require any ventilation at top of silo? Is there any danger of silage spoiling in silo of this kind? Have enough corn to fill it; would it be advisable to fill it or just put in a little for a trial this year? If corn is frosted should it be put in immediately or does it hurt if left standing a week? Do you add water to silage made from frosted corn? Is there anything with which we can cover silage—cut straw or something of this sort, to keep the top from spoiling? How many cubic feet of space is required for a ton of well settled silage? Are there any objections to mixing turnips, cabbage, beans, pumpkins, and green clover and alfalfa with your corn and cutting it all up for silage? This is my first experience at farming, and I have many questions.

Washtenaw Co.

W. J. B.

You want ventilation in a silo. The cement roof will be all right, but you must have an opening for ventilation. I see no objection to putting a windmill on the silo if your walls are strong enough to support it.

I would advise filling the silo if you have the corn. A little in the silo will keep as well as if you fill it full. If the corn is cut with frost, fill at once. Do not leave longer than necessary.

Add no water unless the corn is very dry. The natural juices of the corn are sufficient. If the corn is shocked and cured out, then it is necessary to add water sufficient to replace the moisture lost in curing.

A cubic foot of silage will weigh on the average 40 lbs. There is no objection to mixing clover, turnips, etc., with the corn when filling.

THE DETROIT MILK AND CREAM CONTEST.

The Detroit milk and cream contest, notice of which was given in these columns in a recent issue, was a decided success. The farmers took advantage of the opportunity to show their city patrons what a good product they were producing, and the city folks appeared to be quite as anxious as the farmers to be instructed in matters pertaining to the production and consumption of these popular foods. Splendid addresses were given before large audiences that met in the Y. M. C. A. building for the purpose. It is noteworthy to remark that the government officials, assisting in the contest, found the quality of the milk delivered to Detroit people of higher than ordinary grade insofar as comparison with samples exhibited at like contests in other large cities, shows.



REASONS FOR BUYING A DE LAVAL CREAM SEPARATOR

De Laval separators save enough over any gravity creaming of milk in butter-fat, quality of cream, sweet skim-milk, labor, time and trouble to pay for themselves every six months.

De Laval separators save enough over other separators in closer separation, running heavier and smoother cream, skimming cool milk, greater capacity, easier cleaning, easier running and less repairs to pay for themselves every year.

Improved De Laval separators save enough over De Laval machines of five to twenty-five years ago in more absolutely thorough separation under all conditions, greater capacity, easier running, and greater simplicity to pay for themselves every two years.

De Laval separators are not only superior to others but at same time cheapest in proportion to actual capacity, and they last from five to ten times longer.

These are the reasons why the world's experienced separator users, including 98 per cent of all creamerymen, use and endorse the De Laval separators.

The De Laval Separator Co.

165-167 BROADWAY NEW YORK
42 E. MADISON ST. CHICAGO
DRUMM & SACRAMENTO STS. SAN FRANCISCO
173-177 WILLIAM ST. MONTREAL
14 & 16 PRINCESS ST. WINNIPEG
1016 WESTERN AVE. SEATTLE

Its Economy and Power Startle the World!

The Engine Runs on COAL OIL at a Fraction of Cost of Gasoline.

Thousands of these marvelous engines—in actual use today—prove beyond question that kerosene is the engine fuel of the future. The success of the "Detroit" Engine is absolutely unparalleled.

Demand is overwhelming. Kerosene (common coal oil) runs it with wonderful economy. Kerosene generally costs 6 to 15c less per gallon than gasoline—and gasoline is still going up. Runs on any engine fuel. Only three moving parts. Light and portable. Does work of engines weighing four times as much. Runs everything.

The Amazing "DETROIT"

The Kerosene Wonder—on 15 Days' Trial—Direct From Factory

Any engine you want, from 2 to 20 H. P., sent on 15 days' free trial—tested immediately before shipping and ready to run. If dissatisfied—every dollar you have paid us for the engine cheerfully refunded. Prices lowest ever known for high-grade, guaranteed engines. The New Book is Ready—WRITE! Tell all about these new wonders that mark a new era in engines. Special introductory price on first "Detroit" engine sold in each community. Quick action gets it. Address Detroit Engine Works, 149 Bellevue Ave., Detroit, Mich.

A FLOOD OF LIGHT FROM KEROSENE (Coal Oil)
Burning common kerosene the ALADDIN MANTLE LAMP generates gas that gives a light more brilliant than city gas, gasoline or electricity. Simple, odorless, clean, safe and durable. **AGENTS MAKE BIG MONEY** in revolutionizing lighting everywhere. Needed in every home. Every lamp guaranteed. Sells itself. Our Sunbeam Burners fit other lamps. Ask our nearest office how you can get a lamp free or apply for Agency Proposition. **THE MANTLE LAMP CO. of America, Dept. 43**
Chicago, Portland, Ore.; Waterbury, Conn.; Winnipeg, Montreal, Canada.

CALVES RAISE THEM WITHOUT MILK, BOOKLET FREE
J. E. BARTLEY, Co., Jackson, Mich.

GRAND RAPIDS VETERINARY COLLEGE
OFFERS A SHORT COURSE for herdsmen, dairy farmers and cow testers, beginning JANUARY 4th, and continuing four weeks. Write for catalog and information to the VETERINARY COLLEGE, Department B, Grand Rapids, Michigan.

Please mention the Michigan Farmer when you are writing to advertisers.

HORTICULTURE

SOME WEATHER FREAKS.

Their Bearing on Late Fall Crops.

Today (September 28) we were looking over the turnip crop and found some surprises. For the late crop we sowed just about our usual time, the first part of August. We waited a little, hoping if possible, to get into the wake of a shower as the ground was very dry. The rain came and the seed was sown but failed to germinate, only here and there a plant coming up. Another heavy rain came and a second sowing was made; but the plants failed to show up for so long a time that we concluded the seed was worthless and so gave up the chase. At last, however, the plants began to come thick and fast and have made astonishing growth. In going through them I pulled some nearly four inches in diameter and from present indications there will yet be a fine crop both as to quality and quantity. There was no show at all for them until about September 1, but since that they have fully made up for lost time. The weather seems to be ideal for them as well as for cabbage. For the latter it is almost too good, for they grow so rapidly that I have lost a good many by bursting open and was obliged to apply the remedy to the limit. It was necessary to go through the patch and loosen many of the roots with the spade, and in many instances turn them nearly out of the ground. The heads are of the finest quality, however, so crisp and tender that they seem ready to crack almost by the handling.

The cucumber vines have done exceptionally well this season, for the late crop especially. As much cannot be said, however, for the early planted ones as very few plants survived the cold weather of early summer which made a shortage that caused high prices until late in the season. For the first time in many years I have not seen a striped beetle this summer, and at the present time the vines are alive with blossoms and loaded with small fruits. During the pickling season I never allow any fruits to mature, or even grow to slicing size except the few that are required for table use, as one good-sized cucumber allowed to mature will exhaust a vine more than a hundred grown only to small pickling size. In this connection, the most profitable of all crops are what are known as blossoms. These are cut when about an inch or a little more in length, and will bring as much per hundred as the small or large pickling sizes. For the consumer they are expensive for it requires many of them to go even a little way; but for the grower they are best of all for they are a very slight tax on the vine. In some instances one will have to create a demand for them as many do not know of, or use them, but once started they are good sellers and many times as profitable as the larger sizes.

Extra Early Sweet Corn.

Our test along these lines was attended with considerable difficulty this year as the weather was so cold in spring that we were afraid of losing the small samples of some sorts. In some instances only very small packages of seed were available, and planted so late as June 8; we still had frosty nights and even snow flurries to contend with.

We had two well established varieties as yet unnamed or introduced that we believed were the earliest we had ever grown. These we fitted in the race with some of the earliest known kinds and one especially said by the introducer to be the earliest in existence. All were given equal chance and like conditions as nearly as possible; but our own came under the wire a week ahead of the earliest. Both are true types of sweet corn and as yet have shown no smut which is the bane of so many extra early kinds. We believe with either or both kinds we can get to the table or market a little ahead of any of our neighbors.

Wayne Co.

J. E. MORSE.

CUTTING RUNNERS AFTER LAYERING.

Would you advise cutting the runners between the old strawberry plants and the young plants as soon as they have taken some root, so they would not draw too heavy on the old plants, or would this method stunt the young plants?

Crawford Co.

H. S., Jr.

I do not think it is necessary to cut, or break the runners so far as any drawing of nourishment from the old plant is concerned. Nature takes care of this by causing the runner to die and lose its

function when the new plant is able to take care of itself. However, it is often convenient to have this runner severed to facilitate hoeing about the plants, and in this case one can hoe through and break the runner after the new plant is well rooted. If the plant will not pull loose in breaking the runner we infer that it is well enough rooted to take care of itself. This can be done a little sooner in moist weather than in dry as the new plant will grow a root system faster and will not be as likely to suffer from lack of moisture. If the plants seem well rooted and the runners are too tough to break in hoeing they may be cut with an old hoe with the shank straightened out and filed sharp; however, I do not believe anything is gained by severing the runner unless it be the added ease of hoeing about the plants.

PACKING AND MARKETING THE APPLE CROP.

Picking apples is now the order of the day and it is a job that perhaps more than any other must be done at just the right time or suffer the loss. Most varieties of winter apples in this section are not sufficiently matured and colored before October 1 to pick unless there have been hard frosts during September to loosen them, but the first few weeks of October should see most of them off. It is safer to pick a little early than to leave too late and run the risk of loss from winds and freezes. Yesterday a very heavy wind lasting for about ten minutes, accompanying a thunder shower, blew a good many from the trees and reminded us that some varieties would better be picked now, October 3, than to run the chances of another wind. We began with the Snows, and have been working on the Jonathans, Greenings and a few other varieties. We will then get the first picking of Spies and probably clean up the Baldwins in one picking, and get the second picking of Snows. Ben Davis, Stark, and Tallman Sweet will be left until the last as they hang better than many varieties. We will give the Snows, Spies, and possibly a few other varieties two pickings. With Greenings and Baldwins there is not so much variation in the time of ripening, and we will probably give them but one picking; though where one has the time and but few trees I believe it will pay to give almost any heavily loaded tree two pickings. If the crop is light they will mature earlier and more evenly and can be secured in one picking.

Packing in the orchard is all right where one has a large orchard of few varieties near home, but where the crop is scattered around in small orchards with but a few trees of a variety in a place it is not practical. When picking time is on we like to devote all fair weather to picking and haul the apples to the barn and pack in inclement weather. We nail up the barrels, take out the heads and pack in a barrel in the barn and take the barrels to the orchards in the morning, fill them with the apples just as they come from the trees, and set them on a platform on the wagon over bolster springs and haul them to the barn without heading. On rainy days or after the picking is done these are sorted and packed. Apples which stand awhile in this way will shrink less after packing and hence will carry better in the barrel, and those which are bruised or are likely to rot early can be detected better when packing, which enables one to put up a grade of fruit that will keep better. The only disadvantage is the extra handling, but by being careful and using a padded packing table this will cause little injury.

We have reports from customers of last year's fruit packed in this way that not a half dozen apples were lost from rot in keeping the barrels until May in ordinary cellars, and these same customers, which by the way, are farmers, have ordered the entire crop this season, to be packed orchard run and shipped to their co-operative elevator in the corn belt where there is no fruit this season, to be distributed among the farmers in the organization. The fruit was ordered several months ago and we sent them a careful estimate of the number of barrels of each variety. The manager of the elevator then puts a liner in the local paper to this effect and checks off the varieties on this list as the orders come in.

It seems to me that this is a very satisfactory way of disposing of an apple crop. It saves the grower the trouble of bothering with numerous orders of small customers, or of paying a commission to the commission man or jobber and the retailer and giving them a chance to double the price or repack with poorer fruit

in the center of the packages. The buyer also has the advantage of dealing direct with the producer, getting the variety he wants if his order is in early, getting the advantage of carload rates, and cutting out several middlemen's profits. It would seem that if the farmers could only co-operate and hold together that they would secure many advantages. In this case I am informed that the farmers organized and purchased one of three elevators in the village. In three years, without putting in any more capital they now own and have paid for all three elevators, and have been getting better prices for their corn than before and are saving many dollars in co-operative purchases. We know that many farmers organizations have not thus prospered, and the reason can nearly always be traced to jealousy among the members or to lack of stick-to-it-iveness when outsiders try to break the organization by offering better prices or by other means, foul or fair. Before these organizations can be generally successful the farmers must learn to trust themselves, and to stick by their organization as the dealers stick by theirs. These occasional examples of successful farmers' organizations show that this can be done.

I have drifted somewhat from the subject of apples but I believe that the most neglected part of the apple business so far as the grower is concerned is the marketing, and I wished to show that organization among farmers not only enables them to sell their products to city people through this organization, but also may create a market for their products among other farmers organized along different lines. If this principle could be carried out to its limit, as it will be some day, these organizations could deal direct with each other for everything not necessary to go through a manufacturer's hands, and they could deal direct with the manufacturer for these commodities. When it comes to going into the manufacturing business themselves I believe they are getting out of their sphere for the present at least, but an organization for buying and selling commodities needed or produced on the farm is legitimate, and economical, and will some day be more successful than it has generally been in the past.

Calhoun Co.

S. B. HARTMAN.

VEGETABLE GROWERS' MEETING.

The Greenhouse Vegetable Growers and Market Gardeners' Association of America closed its third annual convention at Grand Rapids September 29, electing officers for the ensuing year as follows: President, R. L. Watts, State College, Pa.; vice-president, H. F. Hall, Brighton, Mass.; secretary, S. W. Severance, Louisville, Ky.; treasurer, M. L. Ruetenik, Cleveland, O. Next year's meeting will be held in Boston.

More than 200 growers, coming from eighteen different states, were in attendance and the program was full of interest. It was voted to shorten the name of the organization to the Vegetable Growers' Association of America. The association also adopted the recommendation of one of its members, J. H. Rice, of Ohio, that the present "unjust and discriminatory transportation rates, both freight and express," be attacked through co-operation with other organizations. Mr. Rice presented figures to show that largest shipping points in the north pay the highest rates. Freight rate discrimination in favor of the south was shown to be 34 per cent, while the inequality in express rates is 42 per cent.

Other topics that were given special attention in the papers and discussions included size and style of packages, marketing methods, also various details as to methods of growing and handling crops. The value of organized effort through local associations was emphasized by many of the speakers.

Honesty, better methods of grading and packing, neater packages, larger yields and cleaner seed were among the recommendations of C. W. Waid, of New Carlisle, O., the retiring president. He also suggested as a stimulus to the sale of vegetable products that the grower do some missionary work with the grocers, showing them the advantage of making attractive displays at their stores.

Three illustrated lectures were given Tuesday evening, one of the speakers being Prof. Thomas Gunson, of the M. A. C., on "Some Diseases of Forcing Tomatoes." Wednesday afternoon was given up to visiting greenhouses and gardens in and near the city, and in the evening the annual banquet was held, with Prof. Mm. R. Lazenby, of Columbus, O., as toastmaster.

DAME NATURE HINTS

When the Food is Not Suited.

When Nature gives her signal that something is wrong it is generally with the food. The old Dame is always faithful and one should act at once.

To put off the change is to risk that which may be irreparable. An Arizona man says:

"For years I could not safely eat any breakfast. I tried various kinds of breakfast food, but they were all soft, starchy messes which gave me distressing headache. I drank strong coffee, too, which appeared to benefit me at the time, but added to the headaches afterwards. Toast and coffee were no better, for I found the toast very constipating.

"A friend persuaded me to quit the old coffee and the starchy breakfast foods, and use Postum and Grape-Nuts instead. I shall never regret taking his advice. I began using them three months ago.

"The change they have worked in me is wonderful. I now have no more of the distressing sensations in my stomach after eating, and I never have headaches. I have gained 12 pounds in weight and feel better in every way.

"Grape-Nuts make a delicious as well as a nutritious dish, and I find that Postum is easily digested and never produces dyspepsia symptoms."

"There's a reason."

Get the little book, "The Road to Wellville," in pkgs.

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



Established 1802

DYNAMITE IN THE ORCHARD

When dynamite is used to excavate the holes in which fruit trees are planted it loosens up the lower soils and destroys all harmful grubs and beetles in the surface soil. We know of an orchard planted twenty years ago where the holes for some of the trees were dug by hand and those for the rest of the trees were blasted out with dynamite.

The trees which were planted in the blasted holes have borne more fruit and better fruit than the others.

Use Red Cross Dynamite for Tree-Planting

Write for Particulars

E. I. du Pont de Nemours Powder Co.
Wilmington, Del., U. S. A.



ELECTRIC Steel Wheels

Fit all running gears. Get a new wagon just by buying wheels. Unbreakable, almost everlasting. All heights and tire widths. Also new Electric Handy Wagons. Write for book on "How to make old wagons new." Free.

ELECTRIC WHEEL CO., Box 35 QUINCY, ILL.

"SCALECIDE"

Will positively destroy SAN JOSE SCALE and all soft bodied sucking insects without injury to the tree. Simple, more effective and cheaper than Lime Sulphur. Not an experiment. One gallon makes 16 to 20 gallons spray by simply adding water. Send for Booklet, "Orchard Insurance."

B. G. PRATT CO., 50 CHURCH ST., NEW YORK CITY.

Apple & Cherry Trees 10c. Peach & Car-
Other Fruit Trees and Berry plants at lowest prices.
Cat. free. ERNST NURSERIES, Moscow, O., Box 2

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Vice-president—Mrs. C. A. Mathews, St. Johns.
Secretary—Mrs. C. B. Johnson, Metamora.
Treasurer—Henry T. Ross, Brighton.
Corresponding Secretary—N. A. Clapp, Northville.
C. Hallock, Almont; A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard.

Address all communications relative to the organization of new clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto.—

The skillful hand, with cultured mind, is the farmer's most valuable asset.

Associational Sentiment.—

The farmer, he garners from the soil the primal wealth of nations.

CLUB DISCUSSIONS.

Does It Pay to Grow Alfalfa?—The Northeast Venice Farmers' Club met at the home of Mr. and Mrs. Peter Luchenbill, September 8. The meeting was called to order by the president. A selection from the rural songster was sung, after which Mrs. Anthony led the devotional exercises and a good musical program followed. "Does it pay to raise alfalfa?" was the subject of a paper by James Lawcock. He has a crop which he has cut three times and it averaged three-quarters of a ton to the acre. He watched it after he cut one crop and it grew an inch a day for the first 24 days. When pasture was short Mr. Lawcock fed his cows, thus keeping up the flow of milk, while his neighbors complained of a shrinkage. This paper brought out quite a discussion, many attesting to the fine feeding value of alfalfa.

An Interesting Question Box.—The president appointed James Lawcock to take charge of the question box, which contained seven questions.

1. Has the highway commissioner the right to plow in front of property without the consent of the owner? It was generally conceded that he had if the property was not damaged.

2. Is a farmer justified in arresting boys for coming melons? No, unless vines or melons are wantonly destroyed.

3. What is the best milk producing feed for cows? This question brought out a diversity of opinions—some thought green sweet corn, others corn meal and bran with ensilage, while others condemned the use of ensilage for cows.

4. Should alfalfa be condemned without trial? Some thought yes, others no.

5. Should wheat be held for better prices? Most of the farmers thought it will bring a better price later. This closed the question box, after which the roll was called, there being 14 families represented. There were a number of visitors.

Management of Farm vs. Household.—The Conway Union Farmers' Club, of Livingston county, was entertained at the pleasant home of Mr. and Mrs. Franks on Sept. 30. The Club was well represented and there was a goodly number of invited guests. Mrs. S. Grant was given the subject, "Does it require more ability to manage a farm than a household?" She gave a good talk, with leanings decidedly toward the negative side which brought out a lively discussion.

The Ideal Farm Home and Equipment.—Mrs. J. Snyder was assigned the topic, "An ideal farm home and its equipment." She would have the house built of wood as there is less dampness, and the size according to the family. Would have a large kitchen and living room facing the road; a large woodshed well filled; plenty of chamber room, with front and back stairway. Rooms all finished with large windows, hardwood floors and decorated walls, but no paper. A furnace, electric lights, bathroom, and cellar under the whole house, partitioned. The kitchen should be furnished with hard and soft water, plenty of cupboards opening into the dining-room, a large range and full supply of cooking utensils. Of course, she did not think that everybody could have all those things, but she stuck to the subject given her and did think many of us could have more conveniences than we do, if we only would.

Ideal Farm Buildings and Surroundings.—O. E. Carr was given a companion subject, "Ideal farm buildings and their surroundings." He would have a space in front for a house and lawn with vegetable garden and small fruits in the rear and inclosed by a chicken-proof fence. Then back of this a space into which all the other buildings opened so there would be no gates to open and shut in going from one building to another. Would have a round stock barn with silo in center, a windmill for ornament as well as use, and two cement tanks, a large one for a supply and a smaller one for a watering trough, also a horse barn, tool shed, hog pen, chicken coop, etc. A good program was rendered, after which the Club adjourned to meet in October with Mr. and Mrs. J. Grant, at which meeting dinner, instead of supper will be served.

A "Soldiers' Day" Meeting.—The attendance at the meeting of the Ingham County Farmers' Club, held with Mr. and Mrs. Garry E. Sanders, was unusually large for a September meeting. The social spirit seemed to invade the air and it was with great reluctance that the gavel was heard and President Ives said,

"Come to order." This was soldiers' day and the red, white and blue was appropriately displayed. Mr. Ives did not wish to take much time himself with "War Time Reminiscences," but pleasantly introduced Comrade Harry O. Call, who said in part that he was pleased that he was a citizen of the United States, that he was a resident of Michigan, and a soldier from Michigan. He reviewed his life in the army, spoke of the battles and prisons, and said Michigan men were true blue. Of the fighting regiments, Michigan had 50 per cent, New Hampshire 47, while New York, Ohio and Pennsylvania had less than 40 per cent. He spoke of the battles of Gettysburg and Spotsylvania, and of two gallant soldiers lying in our cemetery, sons of Judge Steele. Joseph Jewett spoke of the work of the G. A. R., and read a short poem. W. M. Webb was glad that he, too, was a soldier from Michigan and that the military drill and seeing the country was well worth his time had he not had any pay from the government. War was grand, and while many lost their lives in battle, many, too, died by neglect of caring for the body properly, despondency and homesickness. A good soldier would take care of himself. President Ives spoke about patriotism; thought a meeting of this kind was beneficial in letting the younger generation know something of the hardships of army life, and that war, with the best of officers, must be seen to be appreciated. He was afraid that in a few years one, to go to an encyclopedia, would find the civil war too condensed.

Have Successful Club Fair.—The Cambridge Farmers' Club held their annual fair in October at the home of Mr. and Mrs. John Stafford. Tables were placed under the beautiful trees in the yard to hold the vegetables, fruit and cereals, and a room in the house was devoted to the ladies' exhibits. Ira Mann had 24 articles on exhibit. Butter, jam, fancy work of various kinds, bed quilts, and a very nice cake made by Lena Groger Randall, a little girl 10 years of age, which took first prize, were all worthy of mention. The number of exhibits was 114. The Club voted to give prizes hereafter to be arranged by committee.

Hold Annual Meeting Next Month.—The meeting was called to order by song, "What a Gathering that Will Be." A resolution presented by A. F. Dewey, that we vote one mill on a dollar to apply on road tax, was laid over until the next meeting. The Club question, "The Mortgage Tax Law," was taken up and well discussed. A paper, "Pay What we Owe," by Mrs. Alice Daniels, was interesting. A fine musical program and literary program was rendered. The next meeting will be held with Mr. and Mrs. Boyd Parker, instead of at A. F. Dewey's. The annual election of officers will be held and take notice—the Club question, "Some reasons why women ought to vote," will be answered by Mrs. Myrtle Palmer. Over 100 were in attendance at Mr. Stafford's and it was an enjoyable meeting.

GRANGE

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

THE OCTOBER PROGRAMS.

Suggestions for Second Meeting.

How have home comforts in old houses: (a) heating, (b) running water, (c) disposal of waste materials, (d) lighting (e) ventilating.

Acting proverbs. Instrumental music. Feeding Animals—1. Mutual dependence among men, plants and animals.

1. Man's relation to animal life. 2. Relations of plants and animals. 3. Elements of nutrition, and proportions in plants and animals.

Question box. Roll-call, responded to by each naming a current event. Music and recitation to intersperse in program.

OVER 400 NEW GRANGES IN PAST YEAR.

The number of Granges organized and re-organized from Oct. 1, 1909, to Sept. 30, 1910, both inclusive, is as follows:

Organized.	
California	2
Colorado	10
Connecticut	1
Idaho	10
Illinois	4
Indiana	2
Iowa	11
Kansas	14
Kentucky	1
Maine	6
Maryland	9
Massachusetts	7
Michigan	65
Minnesota	8
Missouri	8
New Hampshire	2
New Jersey	3
New York	25
Ohio	30
Oregon	24
Pennsylvania	35
Rhode Island	1
South Dakota	8
Vermont	11
Washington	105
Wisconsin	4
Total	409
Re-organized.	
Colorado	6
Delaware	2
Kentucky	2
Maine	2
Massachusetts	3
Michigan	3
Minnesota	5
New York	1
Ohio	7
Oregon	1
Pennsylvania	7
Washington	2
West Virginia	5
Total	45

THE GRANGE IN OTHER STATES.

Good Roads in Maine.—The special committee of the Maine State Grange appointed to consider changes in highway laws announced as its belief at a recent meeting that the most feasible scheme of

maintaining the state roads will be by having the work done under the supervision of the state highway department, through its state road inspectors, and that funds for the maintenance of these roads should come from an annual license fee for privilege of operating automobiles, said fees to be graded on the basis of horsepower.

Large Granges.—The largest Granges in New York state are Newark, of 732 members, and Wolcott, of 700, both in Wayne county. In New Hampshire the largest Grange is Amoskeag, with 432 members. There are four Granges in Manchester, with a combined membership of over 900. The last annual report of the Maine State Grange gives Houlton Grange a membership of 1,001, Caribou being second with 562.

Replenishing the Treasury.—A Livingston Co., N. Y., Grange recently turned the neat sum of \$101 into its treasury through the sale of a carload of old papers. The members were asked to contribute all the old papers they could secure, and the result was an entire carload.

AMONG THE LIVE GRANGES.

The Price of Beets.—The members of Monitor Grange, of Gratiot Co., at a recent meeting discussed the price paid for beets by the sugar companies of that section. The consensus of opinion was that, inasmuch as all other lines of farm produce have increased in value, the producers of sugar beets are justified in asking the manufacturers for an advance of \$1 per ton over the present price, and a resolution to that effect was framed and passed by the Grange.

South Arm Out of Debt.—At the regular meeting of South Arm Grange, of Charlevoix Co., Saturday evening, Oct. 1, the fair committee turned over to the treasurer \$25 as the Grange's share of fair premiums. The committee having in charge the recent chicken pie social conducted by the Grange turned in a balance of \$8.25, all of which enabled the Grange to take up a note of \$50 with interest, thus leaving the organization entirely free of debt. After delegates to the county convention had been elected a splendid lecture hour was enjoyed.

Mecosta Co. Patrons have elected delegates to State Grange. Mr. and Mrs. Eugene Ladner were chosen to represent the southwestern part of the county, Mr. and Mrs. Snyder, of Austin Grange, the southwestern part, while Earl I. Streeter will represent the Pomona. Officers of Pomona for the next two years were elected as follows: Master, C. E. Klefer; overseer, J. J. Totten; secretary, William McCombe; lecturer, B. J. Ford; steward, Earl I. Streeter; asst. steward, E. B. Rider; lady asst. steward, Mrs. E. Rider; chaplain, Mrs. C. E. Klefer; gate keeper, Wm. Mosher; Pomona, Eugene Ladner; Ceres, Mrs. Theobald Harter; Flora, Miss Blanche Schoelkopf. The next meeting of Pomona will be held with Aetna Grange in November.

Harmony Grange, of Charlevoix Co., received six applications for membership at its last meeting in September. Bro. O. D. Wilson was given a rising vote of thanks for his efforts in preparing the vegetable exhibit which brought Harmony Grange the third prize of \$10 at the county fair. Delegates were elected to the county convention, to be held at Ironton, as follows: O. D. Wilson, J. A. Newville, Mrs. Myrtle Willson and L. A. Willson. The question, "Is Farming Gambling?" was discussed by nearly all the gentlemen present, the general opinion being that it is not, according to the dictionary definition of gambling, though many farmers seem to take long chances by risking nearly all their energy on some one crop or by not following any established plan.

COMING EVENTS.

National Grange, Forty-fourth annual session, at Atlantic City, N. J., Nov. 15.

Michigan State Grange, Thirty-eighth Annual Session, at Traverse City, Dec. 13-16.

Pomona Meetings.

Lapeer Co., with South Grange, Thursday, Oct. 20. Miss Jennie Buell, state speaker.

Kent Co., with South Lowell Grange, at Alto, Wednesday, Oct. 25. Mrs. E. J. Creyts, state speaker.

Western (Ottawa Co.) with Tallmadge Grange, Friday and Saturday, Oct. 21 and 22.

Ingham Co., with LeRoy Grange, at the farm home of Mr. and Mrs. Henry Briggs, near Williamston, Saturday, Oct. 22.

Mecosta Co., with Aetna Grange, at Borland, Thursday, Nov. 17.

Grange Rallies and Fairs.

Mt. Tabor (Berrien Co.) Grange "Homecoming," at Mt. Tabor Grange hall, Friday, Oct. 21.

BOOK NOTICES.

Nature Myths of Many Lands. By Florence V. Farmer. This book for the third and fourth years is the latest of the Eclectic Readings, and contains fifty-five interesting stories from American, Asiatic, and European sources. Cloth, 12mo, 224 pages, with illustrations. Price, 45c. American Book Company, Chicago.

Dramatic Reader for Grammar Grades. By Marietta Knight. This book contains selections from the works of well-known authors, arranged in the form of colloquies and scenes from plays. Cloth, 12mo, 267 pages, with illustrations. Price, 50c.

Stephen of Philadelphia. By James Otis. The Quaker boy Stephen comes over from England in the good ship "John and Sarah," as he tells us, and helps his father build the family home in the new land. Cloth, 12mo, 166 pages, with illustrations. Price 35c.

Amatite ROOFING



It has a rough surface of real mineral matter on the weather side. It is evident to anyone that it is no more necessary to paint such a surface than it is necessary to paint a stone wall. Stone needs no paint; neither does Amatite. It is strong enough in itself to bear the brunt of rain and wind and sun without a coat of paint.

To paint Amatite would be a waste of time and trouble.

Amatite will last for many years without any care whatever. It is made to be trouble proof as well as weather proof.

No paint is good enough to make a durable roof; a thick layer of pitch, faced with a real mineral surface, is far better—and that means Amatite.

A free sample will be sent on request to nearest office.

BARRETT MANUFACTURING CO.
New York, Chicago, Philadelphia, Boston, Cincinnati, Minneapolis, Cleveland, St. Louis, Pittsburg, New Orleans, Kansas City

My Papa Makes His Land Pay \$500 to \$1200 PER ACRE

YOU CAN DO THE SAME BY CROWING SPECIAL CROPS
By applying business principles to farming. By raising the crops that bring the biggest returns. **My Book, Making High Priced Land Pay Big Money**—tells how I do it. Write for this free book. Find out how you can do it. It is for the wide-awake farmer, written by a farmer, telling of my actual experience covering a period of 30 years raising special crops. If you are not satisfied with the returns your high-priced land is bringing, you need this book. Write for it now—Don't forget it.

THIS FREE BOOK
tells, for example, how one acre of my Alton Improved Red Raspberries pay as much as 40 acres of corn. How one acre of my Grandpa's Pride Globe Onions will pay as much as 30 acres of wheat. The Alton Improved Red Raspberry has withstood the severest winters of the Northwest and never showed signs of winter-killing. It's remarkable in size and flavor and bears its delicious fruit throughout July, August and September. This book is the greatest ever published on the growing of special crops and the preparation of soil. It's free, it's interesting, it's worth its weight in gold to the man who will grow special crops. **WRITE FOR BOOK TODAY.**
A. O. GILBERTSON, Grower of Special Crops, Box 513 Mason City, Iowa.

LET US TAN YOUR HIDE.

Cattle or Horse hide, Calf, Dog, Deer, or any kind of skin with hair or fur on. We make them soft, light, odorless, wind, moth and water proof, and make them into coats (for men or women), robes, rugs or gloves when so ordered. Your fur goods will cost you less than to buy them, and be worth more. Send three or more cow or horse hides in one shipment from anywhere east of Denver and we pay the freight both ways.

Get our illustrated catalog which gives prices of tanning, taxidermy and head mounting. Also prices of fur goods, and big mounted game heads we sell.

The Crosby Frisian Fur Company,
571 Lyell Ave., Rochester, N. Y.

FOR MENDING HARNESS

shoes, tents, awnings, hydraulic hose, pulley belts, carrels, saddles, suit cases, baggy tops, dash boards, or for sewing any heavy material.

It takes a wax thread that feeds from a spool and will do the same work as any \$250 Harness maker machinery. It is an indispensable tool for farmers. Agents wanted. Sent prepaid for \$1.25. Send at once for descriptive circular.

STEWART-SKINNER CO., 45 Hermon St., Worcester, Mass.

RAW FURS HIGHEST CASH PRICES PAID
FOR SKUNK, MINK, MUSKAT, ETC. WE GUARANTEE FULL SATISFACTION OR RETURN FURS FREE OF CHARGE. SEND FOR PRICE LIST AND MARKET REPORTS.
J. HENRY STICHT & CO.
31 W. 20TH STREET, NEW YORK
POSITIVELY THE BEST FIRM TO SELL RAW FURS

Please mention the Michigan Farmer when writing to advertisers.

Get a Steel Shingle Roof That's FIREPROOF!

At manufacturers' wholesale factory-to-farm cost the world's BEST roof is yours! Cuts fire insurance cost 10 to 20 per cent! A \$10,000 Guarantee Bond against lightning, which absolutely protects you.



Edwards "REO" Steel Shingles

will beautify your buildings amazingly! Makes them the neighborhood pride and causes an instant leap in farm's cash value! At manufacturers' prices "Reo" Steel Shingles cost one-half the price of best wood shingles!—and outwear four wood roofs and six composition roofs! They outlast the buildings themselves! Easiest to lay—a hammer and a few nails, a few minutes' light work, and the world's best roof crowns your buildings!

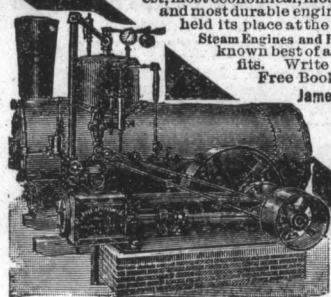
Get Standard Roofing Book

Write today. Also ask for catalog No. 1057—the world standard roofing book.

The Edwards Manufacturing Co.
(The World's Largest Manufacturers
of Steel Shingles and Metal Roofing)
1017-1057 Lock St., Cincinnati, Ohio

Leffel Steam Power Should Be Yours

—because you want the simplest, strongest, most economical, most dependable and most durable engine. Steam has held its place at the top and Leffel Steam Engines and Boilers are the known best of all Steam Outfits. Write NOW for Free Booklet. Address James Leffel & Co. Box 249 Springfield, Ohio



Price \$10 and Up

Earn \$10 a day and more, easily, sawing firewood, lumber, lath, posts, etc., for yourself and neighbors with a

Hertzler & Zook Portable Wood Saw

Fully Guaranteed for One Year

The Hertzler & Zook is the cheapest and best saw you can buy. Direct factory prices—finest tested materials. Easier than other saws to operate because the stick sits low and the saw draws it on as soon as you start work. It is the only saw made, selling at \$10, to which a ripping table can be added. Write for circular and save money. HERTZLER & ZOOK CO. Box 9, Belleville, Pa.



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

13¢ Cents a Rod

For 18-in. 14-4c for 22-in. Hog Fence; 15c for 26-inch; 18-4c for 32-inch; 25c for 47-inch Farm Fence. 48-inch Fencing fence 28 1-2c. Sold on 30 days trial. 80 rod spool Ideal Barb Wire \$1.55 Catalogue free. KITSelman Bros. Box 278 MUNCIE, IND.

WARD FARM FENCE

40 carbon spring steel, extra heavily galvanized. 30 days' free trial. Freight prepaid. Complete free catalogues on Farm, Poultry and Commercial Wire and Wrought Iron Fences. Write now for special offer. The Ward Fence Co., Box 336 Decatur, Ind.

FENCE Strongest Made

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free. COILED SPRING FENCE CO. Box 21 Winchester, Indiana.

48 IN. FENCE a rod 25c

Best high carbon coiled steel wire. Easy to stretch over hills and hollows. FREE Catalog—fences, tools. Buy from factory at wholesale prices. Write today to Box 68 MASON FENCE CO., LEESBURG, O.

BROWN FENCE

Strongest, most durable fence made. Heaviest, closest wires. Double galvanized. Practically indestructible. Stock strong. Chicken tight. 14 to 35c per rod. Sample free. Wepayfrt. The Brown Fence & Wire Co., Dept. 49 Cleveland, Ohio

Figure the Saving in Dollars

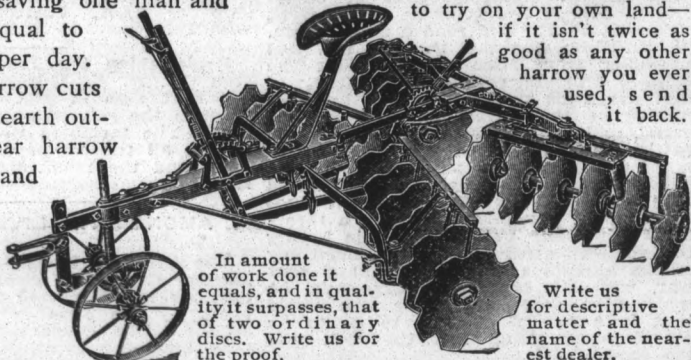
MADE BY USING AN

Imperial Flexible Frame Double Disc Harrow

It works the ground twice at one operation, saving one man and two horses—equal to at least \$3.50 per day.

The forward harrow cuts and throws the earth outward. The rear harrow works it again and throws it back. The surface is levelled and the soil finely pulverized.

Try an Imperial Harrow at our expense. Any Imperial dealer will let you have one to try on your own land—if it isn't twice as good as any other harrow you ever used, send it back.



In amount of work done it equals, and in quality it surpasses, that of two ordinary discs. Write us for the proof.

Write us for descriptive matter and the name of the nearest dealer.

The Bucher & Gibbs Plow Co., 806 E. SEVENTH ST., CANTON, OHIO.

APPLETON QUALITY FARM MACHINES

Corn Huskers

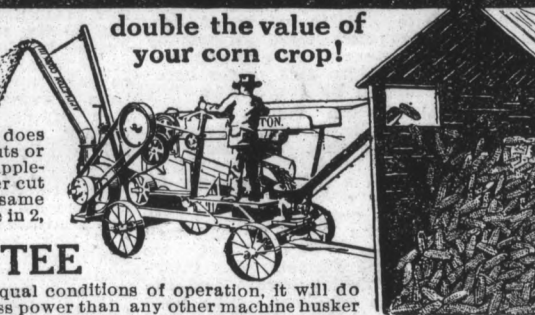
double the value of your corn crop!

The shortage of the hay crop does not worry the farmer who cuts or shreds his corn stalks. With an Appleton Corn Husker you can either cut or shred the stalks and at the same time husk the corn. It is made in 2, 4, 6 and 8-roll sizes, and

WE GUARANTEE

that size for size, and under equal conditions of operation, it will do more and better work with less power than any other machine husker in existence, that it is easier and safer to feed, and easier in every way to operate. Our Corn Husker Book explains every feature. Send for a free copy today.

APPLETON MFG. CO. (Est. 1872), 20 Fargo St., Batavia, Ill., U. S. A. Manufacturers of Corn Huskers, Ensilage and Fodder Cutters, Silo Fillers, Manure Spreaders, Corn Shellers, Feed Grinders, Wood Saws, Wind Mills, Steel Tanks, Farm Trucks, etc.,—and all of them Appleton Quality throughout.



Buy Empire Fence NOW at These Low Special Prices

Thousands of farmers everywhere will take advantage of these special prices on Empire Big Wire Fence because they know Empire quality. Never before have you had such an opportunity to get the best fence in the world at prices that talk big value. Here's the reason. Five years' steady growth has placed us in a buying and manufacturing position which enables us to cut our prices and keep up the high quality that has made us famous. Then we sell direct from the factory to you and that saves you the big middle profits.

Here's Proof of Quality

Empire wire is made of Basic Open Hearth steel—retains the heavy galvanizing, so it doesn't rust. Others are made of Bessemer steel. Stays put on so they can't slip, wires big and strong so they retain the kink when knot is put on. The strongest knot made. It's bull strong and pig tight. J. O. Carleton, Belmont, Ohio, writes:

"I have had some of your All No. 9 fence in use for over a year and am perfectly satisfied with it. I think it the best all-purpose fence I ever saw. I have some along the public highway and a great many people stop and ask where it came from, the price, and all about it." Send order now, direct from this advertisement, your money back if not satisfied. We refer you to editor of this paper or to any bank in Adrian. Send postal for hundreds of other letters and more proof. But to make sure of these prices, order now. You take no risk.

Bond Steel Post Co., 16 E. MAUMEE ST., ADRIAN, MICHIGAN

Here you are—the biggest fence bargains you ever struck. Remember, it's the famous genuine Empire fence—freight prepaid to Michigan, Ohio and Indiana points and allowed, beyond. Satisfaction absolutely guaranteed—you take no risk. Order now to save time and to make sure of these prices. Catalog free.

Wires	Inches	Medium Weight	Extra heavy (All No. 9)
9	39	23c per rod	37c per rod
10	47	26c per rod	41c per rod
12	55	32c per rod	49c per rod

ALL BIG WIRES

Harvey Bolster Springs

Get more money for your vegetables, fruit, eggs, milk and live stock by delivering them in first class condition.

HARVEY BOLSTER SPRINGS make your wagon a spring wagon—make it last longer and prevent damage to produce in hauling to market. They are the *Standard Springs of America* and are sold under our positive guarantee to give satisfaction. Ask for special proposition. **HARVEY SPRING CO.,** 752-17th St., Racine, Wis.



GUARANTEED

Yours FREE 30 Days

I'll Pay Freight Anywhere

Just let me send my Chatham Fanning Mill to your R. R. Station on a month's trial. No money, no contract and I pay the freight. Return at my expense or keep it and take a year to pay me. Just let me prove the money you can make with a

CHATHAM FANNING MILL and Seed Grader

Cleans and grades all kinds of seeds, grasses and grains. Don't grow weeds or thin stands. Land and taxes are too high. Double the crops, get better crops and have high-priced seed to sell. Send postal now for my factory price, liberal terms, and get FREE BOOK No. 167. Tells how thousands are making big, extra profits with a Chatham. Send your name by next mail.

Address Manson Campbell, Pres., **MANSON CAMPBELL CO.,** Detroit, Mich. Kansas City, Mo.; St. Paul, Minn.; Seattle, Wash.

No Money Down
No Note
No Contract



17 Screens and Riddles Enough for Every Purpose

J-M ASBESTOS ROOFING FIRE PROOF

A roof that will last as long as the building must be proof against fire, rot, rust, acid, and chemical fumes, heat and cold. The only ready roofing about which this can be said is J-M Asbestos Roofing, because it is the only one made of indestructible minerals—Asbestos Rock Fibre and Trinidad Lake Asphalt.

J-M Asbestos Roofing begins to save money as soon as laid. It never requires painting, graveling or repairs and it makes buildings degrees cooler in summer and warmer in winter.

J-M Asbestos Roofing covers hundreds of the largest and finest buildings in all parts of the country. It is the ideal roofing for any building—anywhere.

Be sure you get the genuine J-M Asbestos Roofing. We'll tell you where to obtain it if your dealer won't supply you.

Write our nearest branch for Samples and Booklet C 40

H. W. JOHNS-MANVILLE CO.

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

For Canada:

The Canadian H. W. Johns-Manville Co., Ltd.
Toronto, Ont. Montreal, Que.
Winnipeg, Man. Vancouver, B. C.

Shell Corn 120 Bu. Per Hour

THE WATTS POWER CYLINDER SHELLER AND FEED GRINDER

works like the giant shellers—fast, and clean, handles corn in all conditions, all sized ears, including pop corn. Any kind of farm power. Own your own sheller and shell when you please. You never can wear a Watts Sheller out. Can furnish with or without grinder. Saves miller's tolls. Shipped on Trial. Write today for circular giving low price.

WATTS MFG. CO., Box 26, Jackson, Mich. **SHELLER GRINDER 3-HORSE POWER**



SCIENTIFIC SWEEP MILL

Double Action. Triple Geared

This No. 5 is one of our leading Feed Mills. Particularly adapted for grinding ear corn and small grain for stock feed. A medium priced mill that

Gives Satisfaction

Strong, durable and easy running. Mounted on a heavy hard-wood box. Fully guaranteed. Write for free catalog. Over 20 styles and sizes. **THE FOOS MFG. CO.,** Box 217 Springfield, Ohio



Increase Stock Profits

Mix cut roots with dry feed—double its value, keep stock healthy, and they pay a bigger profit on less feed. Roots increase relish and digestion. And the

Banner Root Cutter

is the only machine making the "Non-Choke Curve Cut" feed from roots, etc. Self feeding; cuts fast and easy; separates dirt from roots. Made in 7 styles and sizes. Book Free. **O. E. Thompson & Sons, Ypsilanti, Mich.**



Rebuilt Machinery For Sale

20 H. Leader Traction Engine; 18 H. Rumely; 18 H. Peerless; 16 H. Gaar Scott; 16 H. Stevens; 16 H. Huber; 16 H. Pitts; 14 H. Pitts; 13 H. Gaar Scott; 12 H. Pt. Huron; 12 H. Nichols & Shepard; 10 H. Nichols & Shepard; 28-in. Belle City Thresher; 32-in. Belle City Thresher; 28-in. Huber; 6 and 8-roll McCormick Husker; 14x18 Geo. Erbel horse power Hay Press; 14x18 Southwick; 17x22 Eli belt power Hay Press; Ross Ensilage Cutter. Write us for description and price. Special bargains for the next 30 days to make room to repair our shops.

THE BANTING MACHINE CO., Toledo, Ohio. 114-118 Superior St.,

Steel Wheels

will make your old farm wagon as good as new. Save money because they never need repairs. Write for our big free book telling all about them and how they pay. **Empire Mfg. Co., Box 59M, Quincy, Ill.**

BOWSER SWEEP MILLS

Different from all others. 4 or 2 horses Geared 16 to 1 or 7 to 1. Grind Corn with shucks or without. And all small grains including Oats and Wheat. (Also make 10 sizes belt mills.) **D.N.P. Bowser Co., South Bend, Ind.**

Always mention the Michigan Farmer when writing to advertisers.