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Seed Selection as a Factor in Crop Improvement

THE improvement of farm crops through the selection and care of seed is an essential element of agricultural progress, and demands persevering and intelligent effort. Farmers have a better knowledge of and deeper interest in the improvement of domestic animals than of cultivated plants, a fact due principally to the matter of sentiment with which they regard the two races. More constant than neighbors, friends and family are the farmer's animals as his companions, while he looks upon the plants which he cultivates as representing merely so much of commercial value, and yet, considered from the commercial basis, plant improvement offers just as promising a field for farmers as animal improvement. Improved plants and high-class animals are economically inseparable on the well-managed farm. Their logical relationship has been established in practice. In its highest estate the farm that grows good crops must support live stock, the farm that supports live stock must grow good crops.

In our efforts to improve plants we must recognize that each plant possesses an individuality of its own. With this in mind we can understand why seed grown from a number of specimens will show a wider variation in its product than if grown from a few specimens, as the variation found in a larger number of plants descending to the next generation will produce in that generation a wider diversity of type than where but a few plants are used as the parent stocks.

The surest way to improve a variety is to begin by selecting seed from a few plants which in all respects approach as nearly as possible our ideas of perfection. From the product of those plants we may select some of the best seed with which to seed a larger area. Such work, as a rule, will show a marked improvement, and yet, in some instances it will result in failure and prove inferior to seed selected from the general crop. A few failures should not shake our faith in the powers of heredity as a means of perpetuating the good qualities in plants; on the other hand it merely confirms the fact that there is a tendency known as atavism which induces the plant to resemble the character of some of its more remote ancestors. This shows that it is better to select parent plants from strains that come from a good family. The danger of this atavistic tendency is always present, but it is not likely to appear so frequently as to prevent good results.

It is claimed by many that we have more to gain by careful seed selection in plants which increase from seeds than those increased by a division of the root, as with potatoes. This may be true, but it seems that there is a wide field for investigation and profitable work in the matter of making a better selection of seed potatoes. The selection made after harvest is good so far as it goes, but it cannot give the good results to be found in a field selection which takes into account the part of the plant above ground. Seed potatoes that are brought South from a Northern latitude will usually give better results than home grown seed which is strong evidence that the seed

possesses an inherited vigor. The writer has devoted considerable study and attention to this question, but the effect of soil, climate and other conditions of environment seems to have such a peculiar influence upon the yield and quality of this highly organized crop that it is almost impossible to arrive at any definite conclusions in regard to seed selection.

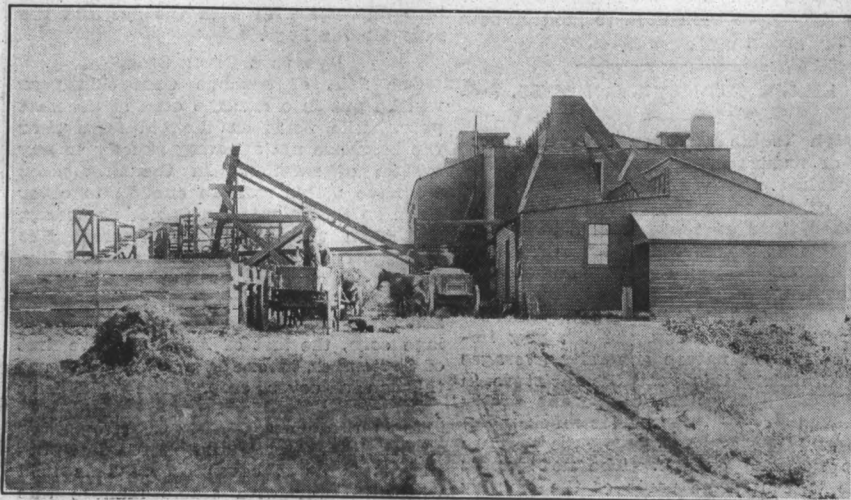
mistake by taking a common grain sack, hung from the shoulder and going through the field which contains the best corn and gathering the best ears from the best stalks. When the sack is full the contents may be deposited in a wagon at the side or end of the field and hauled to the shed or other place where the ears are hung up to dry. It is evident that every corn grower

of water at their open tips. Most practical farmers who have not given the subject close study have a great deal of faith in the stalk that produces a good sized ear that weighs out profitably and grows when planted.

Early maturity is of vital importance in selecting seed corn for a Northern latitude. Selection to promote earliness must be made in the field before the full maturity of the crop as at that time only can we fully observe the character of the earliest ears. The size or circumference of the cob is a valuable guide to the length of the season required to mature the corn. After we have selected a variety that is suited to our soil, climate and markets, then we should grow as big ears and no larger than will make the largest crop of sound, or mature corn. Every observing corn grower has an idea of the size of ears that will mature best on his land. Only the inexperienced corn grower persists in selecting seed ears simply because they are big, yet the charm of bigness is likely to hold a magic spell over growers of corn as well as of farm animals. So important is this matter of size that one had better select well and test enough of his seed corn to keep the variety. The highest profit comes from the type that produces ears that are above the average in size and soundness. If the ears are long rather than thick and heavy at the butt the chances are they will mature more perfectly. To secure corn that will mature in this latitude the length of the ear need not be reduced, but there is need of reducing the thickness of the cob in our effort to secure early maturity.

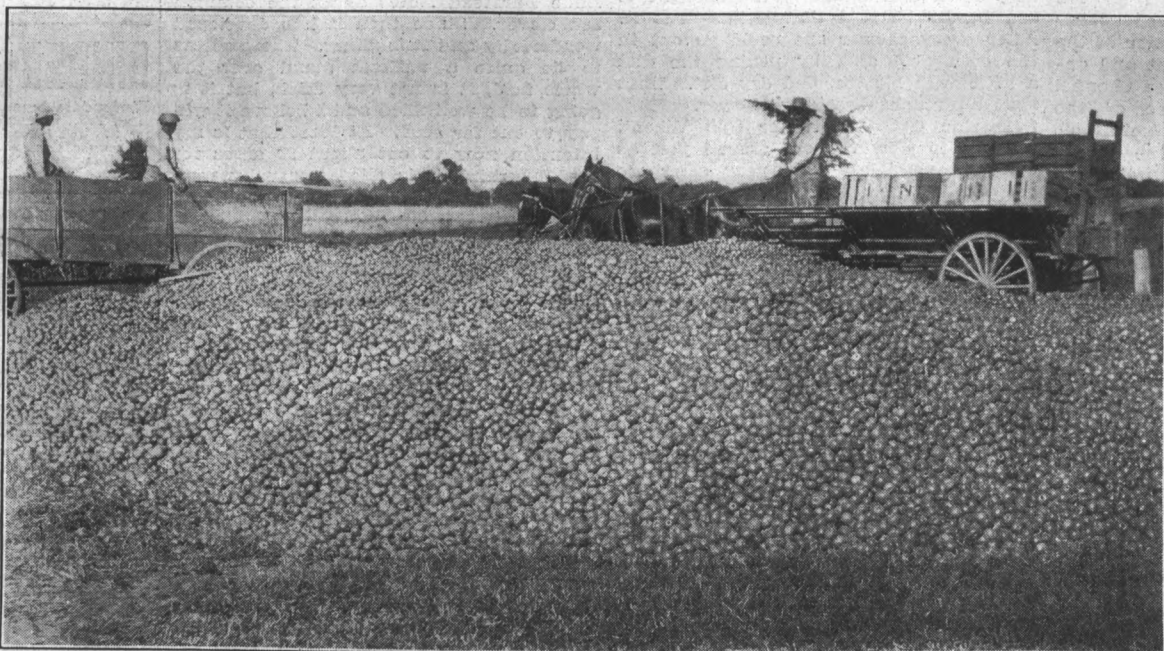
An important factor in growing small grains lies in sowing good, large, heavy seed of uniform size. This tends to ripen the crop more evenly, thereby doing away with a large percentage of light grain. Very few of all the small and split seeds that are sown grow. A small proportion may grow, but they produce small heads with light kernels of grain. Here is where the fanning mill claims attention. To select better seed grain is its mission and it is one of the very best investments a farmer can make. Sowing small and inferior grain is identical with and gives the same results as breeding from small horses and cattle. It requires as much labor and expense in sowing poor grain and harvesting a correspondingly good crop.

Good seed may be known in a number of different ways. The most important consideration is good weight per bushel, which implies that the seeds which go to make up the bushel are sound and well-developed and mature. Weight per bushel is perhaps the most important single consideration in the selection of seed grain. The grain should be of good color, however, which indicates that it has been well preserved from the elements while maturing and during the time it is in storage. If bleached out by rains or discolored in the bins, it is more than likely that the germ or the starch has been injured and the vitality of the seed reduced. With seed of good weight and good color, we are almost insured a good stand of small grain, unless the seed is old, which would



Scenes at a Fruit Evaporating Plant in Northern New York.

As a result of the heavy wind which prevailed in New York as well as Michigan during the last week in July large quantities of small, immature apples were whipped from the trees in the fruit district of northwestern New York. Nearly all evaporating plants in the district were immediately started and the green apples were purchased from the farmers and chopped up for drying. Some of these plants became so congested in two days that they had to stop receiving the fruit, while others piled them up as shown by the cut below until the scene resembled October. The damage from this wind in that section is estimated as high as \$1,000,000. The unfortunate feature of the loss was that where the fruit was scattering on the trees most of it was whipped off, while the heavily loaded trees were thinned of their fruit but little if any, the load of fruit preventing them from whipping. Reports indicate, however, that there will be a fairly good crop in the section affected, notwithstanding the damage.



A vital factor in insuring good seed potatoes is the storage of the tubers. We store our seed potatoes in crates and place them in piles so that there is a free circulation of air about the crates. In this way it is possible to examine the tubers occasionally and throw out all that have started to decay before they affect the ones next to them. It is important that seed potatoes be kept cool to prevent the sprouts from starting before planting. The first sprout contains the most vitality and that is what we want in seed potatoes.

Methods of selecting seed corn vary, but one will never make a very serious

should have a seed plot which makes it easier than to go over a large field selecting the best ears for seed.

Seed ears of the desired requirements are seldom found on poor or diseased stalks and when they are they should be discarded. The most successful corn growers have learned that the stalk as well as the ear attached must be taken into account by the man who seeks to improve his corn by heredity. Some corn growers demand that the ears be attached to the stalk at a convenient distance from the ground, so as to facilitate husking; others insist that the ears depend enough to prevent the entrance

be indicated by lack of luster or brightness. In looking over any sample of grain, one is frequently impressed by a lack of uniformity. This lack of uniformity may be caused from different sources. It must be borne in mind, that a bushel of grain contains seeds that come from a large number of plants, that each seed inherits the qualities of the plant from which it came and will produce after its kind. Therefore, a plant of weak constitution and growth will develop small seeds and mature them poorly, giving a number of seeds which will detract from the quality of the grain in the bushel. These seeds are more than likely to produce in turn, the same kind of weak plants. The plump, vigorous seeds which make up the plants of the grain also inherit the qualities of the strong, vigorous growing parents, which they transmit to the next generation, therefore giving again, a measure of large, plump kernels. Some grain that looks well does not possess strong germinating qualities. This should be determined by trial with the standard varieties before large fields are sowed to new grains. A strong germ which will spring quickly into growth when the seed is sown in a warm, moist soil is a requisite of good seed. Every one recognizes the much more vigorous growth made by a pig or calf that is strong and healthy at birth. The same thing applies to the wheat or oat plant that applies the strong germ is present, sending out to the growth of pigs or calves. Unless strong and vigorous rootlets with large feeding zones, the plant starts into growth slowly.

New York.

W. MILTON KELLY.

FARM NOTES.

A Destructive Potato Stalk Insect.

Please tell me if you can tell the cause of my potato vines dying. Upon examination I find a small hole in the vine just above the surface of the ground and from this point to the end of the vine in the ground there is a hollow space, the pith having all been consumed, while above this hole the vine seems to be in a normal condition. I have looked them over carefully and cannot find a living thing, either in the hill or the vine. In some hills all of the vines will be affected, while in other hills only one stalk will be attacked. I have never seen anything of the kind before.

Hillsdale Co.

W. S. C.

The work of this insect very closely resembles that of the potato-stalk weevil, an insect which is quite a common enemy of potatoes everywhere east of the Rocky mountains and south of New England. Briefly described, its life history is as follows:

The mature female makes a small slit in any portion of the stalk in which she deposits a single egg. In a few days this egg hatches into a minute grub, which immediately penetrates the stalk and commences to eat its way down through the center. The channel is at first so small as to be scarcely noticeable, the channel increasing in size as the grub grows. When it has bored as far down into the root as the diameter of the stalk will permit, it turns about and enlarges the lower portion of the channel to a little above the surface of the ground. At the top of this channel a hole is bored outward through the woody fiber of the stalk, but not perforating the bark. This is to provide for the exit of the mature insect, and might easily be taken as the point where the grub entered. This work completed, the grub descends to the bottom of the cavity, weaves a cocoon and passes the pupal stage. Later in the season the matured beetle is hatched, but remains in the stalk, passing the winter within its protecting cover, when it emerges through the hole prepared for its exit and its life cycle is repeated.

Last season an Alpena Co. potato grower described the ravages of an insect which so closely resembled this description that we diagnosed the trouble as being due to the presence of the potato-stalk weevil. Later Prof. Pettit, Entomologist at M. A. C. questioned the diagnosis and stated that he had never located this insect in Michigan. He called attention to the prevalence of the tomato-stalk borer, an insect of similar habits, which has in recent years been frequently found troublesome in gardens and tomato fields. For this reason it would be especially desirable to secure a specimen of the insect which is causing the trouble if possible and send same to Prof. Pettit for identification.

However, so far as practical results are concerned it makes little difference with regard to the identity of this insect pest. Both of the insects mentioned find their usual home in our common weeds which grow in waste places, by the roadside and in the fields, notably

ragweed. If these weeds are cut and removed and the potato vines are raked and burned all that is possible to do to keep the pest in check will have been accomplished. These insects that work on the inside of stalks are practically immune from destruction with poisons or sprays. Most of them have natural enemies that keep them in check except for an occasional local outbreak, but where any considerable damage has been done by them it is wise to take the precautionary measures above noted to reduce the danger from similar damage the following year.

Treating Seed Wheat for Smut.

Will you kindly tell me in your paper the best mixture to prevent wheat smut and how much to use to a bushel of seed? Will there be any smut the next year if the seed is treated properly?

Clare Co.

W. J. M.

Use a mixture of one pound of formalin, which is the commercial 40 per cent solution of formaldehyde, to 50 gallons of water. Spread the seed wheat out on a tight floor and sprinkle or spray with the mixture, constantly shoveling it over until every kernel is thoroughly wet. About one gallon of the solution will be required for each bushel of grain. Leave the grain in a compact pile covered with a canvas or blankets, for two or three hours after treating, then spread thinly to dry. This treatment will insure practical freedom from smut in the crop grown from the seed, provided the smut spores are not present in the ground and the seed is not reinfected. The grain sacks and drill should be disinfected in case they have been used to hold or sow smutty grain.

LILLIE FARMSTEAD NOTES.

Ralph Waldo Emerson says the great law of nature is a compensation. That a marked excess of moisture at one time of the year means a deficiency at another time of the year. Likewise, a cold winter means a hot summer and a wet spring means a dry summer. In other words, a tooth for a tooth. I believe Emerson is right although, undoubtedly, we don't always get the pay immediately, yet nature generally averages up. Certainly this year the moisture in this locality is going to average pretty well. This spring we had too much moisture and now and for some time past we have not had enough. The newspapers state that in some parts of the country the drought has been broken, abundant rain has fallen, and it came early enough so that in many instances fall forage crops could be raised, but that is not the case here—the drought hasn't been broken. We had a good shower along the last of June and we haven't had a good rain since. We have had light showers, two or three of them, lately which freshened things up and made it refreshing to people and animals, but so far as wetting down and breaking the drought it can hardly be said that it has done it. After every shower one could go out in the corn field and, by poking the dirt a little with his toe, find dry dirt. That isn't a drought breaking shower.

Preparing Oat Stubble for Fall Wheat.

I like to plow the oat ground just as early as possible. This year after we had hauled one field of the oats and peas it rained so that we could not haul the other field at once and we began plowing on that portion from which we had drawn the oats. I think it is very important to get it plowed early, to work it down and get a compact seed bed. I never stop because the ground is dry. Sometimes the men grumble a good deal because the ground is dry and hard and that we ought to wait for rain, but that is not the thing to do. The ground should be plowed just as soon as possible. It takes a little more horse power for our heavy land to prepare the ground when it is dry and hard but it is all the better for the land and then if you get it once plowed why the rain that does come will assist in fitting the seed bed so that you can get it prepared in good condition and this is all important. But if the ground it dry one must have plenty of horse power and one must have plenty of sharp plow points. Those are the two secrets. We use a plow point every half day on each plow and on two plows we use three pretty good horses on each plow and the big team on another plow. They can pull the plow through no matter how hard the ground is and with a good sharp point it will stay in the ground. Our ground, however, is not plowing extra hard this year. Where the plow is properly set to just tear up the old sod that was turned down a year ago for corn it holds its depth very nicely. If we tried to plow a little shallower and split this old furrow it would

be worse on the plow point and it would be almost impossible to govern the depth of the plow, but by setting it just right so that it runs between the old furrow and the ground beneath, the plow retains its depth and turns the soil over nicely. We are well started with our plowing. We only had 30 acres this year to plow and a couple of days more will finish the plowing. Then we will have ample time to get it fitted in good shape so that we can sow the first of September.

This year I shall put 10 acres of corn ground into wheat. I want this so as to properly divide a field. One 40 acres has 30 acres of corn and 10 acres of oats and peas and I want to put in 10 acres of the corn ground so as to divide it into two 20 acre fields. A 20 acre field seems to be just about the right size for us to work in good shape. I have ordered a one-horse drill with fertilizer attachment and grass seed attachment and intend to put this ground into wheat in the standing corn.

The Hog Pasture.

We have just finished fitting up the hog yards, or hog runs as they might be called, or hog pastures, though I never succeeded in getting a very good stand of grass on them because the hogs wouldn't allow it to properly develop. We have just succeeded in working them up with a disc, cutaway and cultivators and I have seeded them to rye and rape. The rye is just coming up in the more moist places in the field. If we could not get a good shower we would have a nice stand of rye and I think some good pasture this fall with both the rye and the rape for the hogs.

Rye as a Cover Crop.

One field of ensilage corn this year will be put into ensilage corn again next year. The fields on the old farm near the barn are not adhering strictly to any system of rotation. In the first place we have stable manure enough to cover them so that a rotation is not necessary, and then there are certain crops like ensilage corn and sugar beets that I like to get in as close to the buildings as possible. Now I have been thinking and intend to sow rye in the stand of ensilage corn, the last of August or the first of September, in one 12 acre field and use this as a cover crop. The field isn't fenced so I cannot pasture it, but my idea is that this will be well worth the expense of the seed and the cost of putting it in as a cover crop. This field we will cover with stable manure this winter, right over the rye and I don't think that will injure the rye very much. Of course it will come, but the cover crop will take up all of the available plant food, or much of it, and thus prevent leaching and next spring by the time we want to plow it for corn we will have quite a little bit of vegetable matter to plow down.

Clover Seed.

I think I made a mistake in my last Lillie Farmstead Notes about the common red clover. Since then it has developed wonderfully and it is filling. There seems to be quite a uniform stand over the whole field, it is not very thick, but it is going to be well filled and I believe it will pay to cut for seed. At least that is my intention now to cut about 30 acres for seed. I think it is filled unusually well.

COLON C. LILLIE.

THE MAN WHO HURRIES.

The man who does the best work—who counts for the most—is not the bustling man who tries by hurrying to move his work at an impossible speed. To work in a hurry—to feel in a hurry—is fatal to the power to turn off work. An effort to work under such a spirit worries and disheartens its victim—may I not say victim? This hurrying, uneasy spirit leaves a man no consciousness of having done anything of really practical value.

The man who never seems to hurry is the man who accomplishes most. He does not grow fussy and fretful upon a fancied lack of time, but goes about his work in a cool, methodical way, doing it properly, and never expends his force in an effort to do everything at once.

Do not get into this nervous, hurrying habit—and if already in it, take time to cool, then take things in a philosophical way.

Virginia.

FRANK M. BEVERLY.

ERADICATING WILLOWS.

Referring to the request of "L. L. W." in July 26 issue (Eradicating Willows), will say: If the willows are cut down and pastured by sheep they will be eradicated in one season.

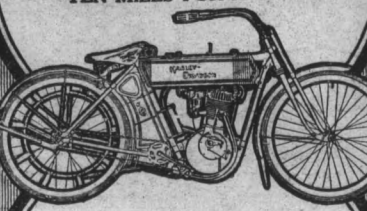
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FARM PERPLEXITIES.

Every trade and profession has its perplexities and no business can be so well planned that conditions may not arise that will demand a general readjustment of the prearranged program.

Just now, at Ingleside Farm, we are trying to find where we are at, and to get a solution of the most perplexing condition with which we have been confronted for many years. For some years we have had two main ideas in the conducting of our farm operations: the breeding and selling of pure-bred sheep and the fattening of enough steers and lambs to consume at least as much feed and grain as the farm could produce.

Last year we bought heavy feeding lambs for 6c per lb., expecting to sell in February so as to have their pens for the young lambs. Before February the price of heavy lambs dropped so low that we decided to sneer them and hold for the later market, even though the barns were somewhat crowded; but before the time to ship clipped lambs came, the bottom seemed to have dropped out of both lamb and wool markets and heavy lambs were hardly wanted at any price.

Our wool sold for 19 cents and the lambs were shipped and netted a little less than five cents per lb. To pay hired help and support a family from that sort of a proposition would require the aid of an Egyptian magician. Why lambs dressing 45 lbs. should bring one dollar per hundred less live weight than those dressing 40 lbs. looks strange to the person who has spent the entire winter trying to get them to grow.

The steers were contracted for \$6.50 per cwt. to be delivered the first of April, so the shipper bore the greater part of the loss, but that is never pleasant for either buyer or seller. This sort of farming contributes to the fertility of the farm but if followed long enough will surely land the farmer in the poorhouse.

We have always claimed that the owner of a farm had no right to deplete its fertility; that the stored-up resources belonged to those who are to follow us and that he who uses it is robbing his posterity. The first part of the summer we wondered just how consistently we would adhere to this belief the coming winter and had about decided to buy as low as we could and feed about half our usual number when the drought presented a new set of perplexities. While the entire state has suffered somewhat for want of rain, this locality seemed particularly hard hit. For two months of excessively hot weather no rain in sufficient amount to wet the ground fell and if perchance we tired from viewing our parched pastures and withering crops to find diversion in reading the daily paper we were tantalized to see that the ball game in Grand Rapids or the races in Detroit were put off on account of rain.

So the hay that we had though was put away for winter's use was being fed before the last of July to breeding ewes, lambs, cows and other stock and neither corn or beans will be over half a crop and, worst of all, the 40 acres of new seeding is almost a failure, which means that the rotation of crops for some years is seriously interfered with.

But at last a welcome rain has revived both vegetation and also our drooping spirits and we must summon courage to meet and solve as best we can the new set of conditions with which we are confronted and if the year's disasters lead to a better method of farm management it may not be wholly unprofitable, and we hope the time may again come when Ingleside Farm will be clothed with a covering of green grass and scarlet clover.

Ionia Co.

H. E. POWELL.

Successive plantings of potatoes by Danish authorities at 10-day intervals, beginning May 10, showed a continuous decrease of total yield and value per acre of crop and of starch percentage. Planting June 20 produced only 3-5 as large a yield, with less than 1/2 the value per acre. The starch percentage fell from 15.7 to 13.2.

In Russian experiments the yield of winter rye was increased 74 per cent following a complete fertilizer, 61 per cent with nitrogen and phosphorus, 44 per cent with phosphorus alone and 22 per cent with nitrogen alone. With kainit the yield was sometimes lowered.

Farmers in several southern states are beginning to take an interest in breeding good draft horses, and a good many car loads of draft farm mares have been shipped to Kentucky and Tennessee this year.



Make Something: Save Something.

You can do both by using and selling the **A. A. C. Fertilizers** which

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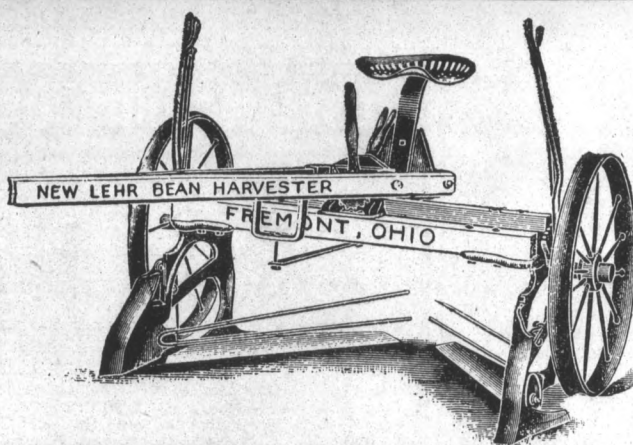
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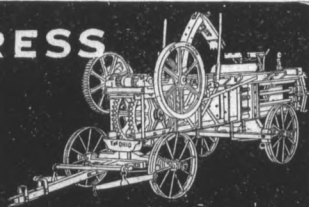
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SILAGE.

While it is a comparatively easy matter to select palatable food stuffs, the digestibility and succulence have until recently not been so easily obtained.

Inasmuch as succulence adds to the palatability and digestibility of a feed, the question of succulence has become one of the most important factors in the feeding of live stock.

Within the past few years however, the advent of the silo has solved the problem. Corn silage contains just enough acid to produce a salty taste, palatability, is very succulent, and is not only easily digested, but stimulates the digestive juices of the body, rendering other food eaten with it also more easily digested. Thus silage has come to be recognized as one of the most important feeds within the reach of the American farmer.

In rainy districts where grain can hardly be cured before it begins to decay, in dry, semi-arid regions, where forage in its natural state is devoid of succulence, where pastures dry up in the fall of the year, and through the winter months when no green forage is obtainable, the silo is the only method through which the farmer may preserve his feed in a fresh succulent state, and by which his live stock may be kept in good condition at the least expense.

Roots, tubers, beetpulp, and brewers' grains are frequently used to give succulence to a winter ration, but as Prof. Haecker's investigations at the Nebraska Experiment Station show, dietetic value is less than that of silage and they are more expensive.

As the country becomes more thickly settled and necessitates more intensive farming, dairying becomes more and more a leading industry in the middle west, and as corn is pre-eminently the silage plant, the silo finally reached its highest development in the northern part of the corn belt.

There is some difference of opinion in regard to the manner in which silage corn should be planted, and the degree of ripeness it should attain for cutting. The writer has obtained the best results by planting with a drill, slightly thicker than for grain, so as to produce more, but smaller stalks and ears. Such corn should yield 12 to 18 tons of silage per acre.

Experience in results obtained, and from chemical analysis of silage cut at various degrees of ripeness, shows that the greatest per cent of food value is obtained by cutting the corn as soon as the grain is fully matured, while the leaves and upper part of the stalks are still green. When the season is dry, the corn should be cut as soon as the stalks begin to fire at the bottom and the ears are beginning to harden. In young growing vegetation the cell walls are thin and consist principally of cellulose, while the cells are filled with active protoplasm, whose chief ingredient is protein. Hence, forage cut at this stage contains a relatively low percentage of crude fiber and a high percentage of protein. When cut as soon as maturity is reached and while the plant is still green, it contains its highest percentage of protein. Forage cut too green contains a higher percentage of water and acid, is more likely to have a strong odor. Dry straw is sometimes mixed with such corn when put into the silo, but this is inadvisable because the hollow stems retain large quantities of air, which aids abnormal fermentation.

When corn is allowed to mature beyond the proper stage for cutting and the leaves are partially dried, it may still be used for silage, providing a few buckets of water are added after every six inches of material is spread into the silo.

The value of silage as compared with dried forage is remarkable. Any given quantity of alfalfa, oats, corn, or hay that would be sufficient to properly maintain an animal would, if dried and the same amount of water which was evaporated fed separately, be entirely inadequate to maintain the animal without loss. The tough fibre of dried forage retains portions of the nutrition in an inaccessible form, and that which is accessible requires considerable energy to masticate and digest.

Inasmuch as silage is easily digested, its succulence and lactic acid content produce a laxative condition which materially aids parturition and subsequent heavy milking. Corn silage is the salva-

tion of the dairy farmer wherever corn can be grown.

Wayne Co.

C. W. MELICK.

WHAT DOES IT COST TO MILK A COW?

Cost of production has a large part to do with movements in the industrial and commercial worlds and it is just as vital a proposition to the dairyman as to the railroad financier, the manufacturer of steel or the maker of machines. But it is a fair presumption that the sewing machine manufacturer could, if inclined to be frank and truthful, tell offhand how much a shuttle or a needle would cost much quicker than the dairyman could tell you the average cost of feeding his herd, or the gross returns for a single day or year. Cost, in fact, has been too little studied by the general farmer as well as by the specialist although the latter usually is better informed along his particular line than the farmer.

But what does it cost to milk a cow? This depends upon the milker, the cow, the time in her period of lactation, the environment and the method employed. Every man knows that there is a wide difference in the time required by different milkers to milk the same cow; strength, temperament and endurance being variable in men, their ability to milk fast or slow is therefore dependent upon these factors. The cow may be an easy milker, or a hard milker. If the former the cost of taking the milk from her would be much less. She may have come fresh but recently or may be ready to go "dry." The cost of milking her would be determined, in part, by the amount of milk she gives. The surroundings would affect the process and then make it more or less agreeable and convenient for the milker and also impair or encourage the secretion of milk by the cow, hence these would influence the cost; as would also the method of milking, for if one was endeavoring to secure the purest milk possible he would need to exercise greater precaution than where ordinary methods were employed. The providing of white suits, the washing of the cows' udders, the cleaning of the hands after the milking of each cow, the weighing of the milk, the recording of the weight, the taking of a sample for the testing of fat, would all add expense to the operation.

But, throwing aside these abnormal features and take average conditions, cows and milkers, we find upon observation, that it requires about ten minutes to milk a single cow. Where the man who milks is securing \$30 per month for his labor a little figuring will tell us that ten minutes of this man's time is worth 1.91 cents where he is expected to work 260 hours per month. This means on an average, it costs the man who has ten cows, 40 cents a day, \$2.80 a week, \$12 a month, or about \$120 a year to milk these animals, allowing that each cow is milked ten months of the year.

But there is another consideration that requires the careful investigation of every owner of dairy animals in connection with the cost of milking, and that is the amount of milk wasted in the operation. Experiments by Gurler extending over two winters show that the shrinkage in the cows milked by the poorest milker and by the best milker employed by him was 9.5 lbs. and 1.88 lbs. respectively per head per day, or a difference of 7.62 lbs. For ten cows this would mean 76.2 lbs. per day, 533.4 lbs. per week, or over 20,000 lbs. for 40 weeks, an amount of milk worth about \$200. The best milker saved to the owner of the cows he milked \$200 worth of milk that the poorest milker left in the cows' udder, thus wasting the milk and impairing the future efficiency of the animals.

Therefore, in employing help to do this part of the work on the dairy farm one should know what constitutes a good milker and understand that it is economy often to pay one man more than another or firmly refuse to hire certain ones at all. Only the strictest attention to the milk sheets and the cows will aid the owner to arrive at an answer to the question, "What does it cost to milk a cow?" When it is answered in the instances of some milkers and some cows, the milkers may be discharged or the cows sold and the farmer continue a self-respecting citizen of the community with a reputation of having good business judgment.

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THE DAIRY INDUSTRY OF NEW ZEALAND.

In most respects, the dairy industry, as also the sheep industry, is in New Zealand much as we find it in the Australian states. Pure bred dairy herds, clean milking sheds, use of milking machines, and co-operative creameries are features that attract our attention. One other feature, however, interested us greatly and was made a special subject of inquiry during our tour through New Zealand. We refer to the government inspection and grading of dairy products for export. It is well known to almost every one who has had any experience in selling produce in a general market, that if others from the same locality deliver poor products, it makes it more difficult to sell even good products from that locality. On the other hand, we have several notable examples in our states of localities organizing and by careful grading and honest packing, establishing a market for their produce which enables them to secure prices far in advance of those paid for similar goods, but to the buyers of uncertain quality. Among such we might mention Rockyford, Colorado, for cantelopes, Thompson Springs, Colorado, for peaches, and Hood River, Oregon, for fruit in general. What has thus been done on a small scale by voluntary organization, New Zealand is doing for the whole community by governmental supervision. They have enacted a law giving to the Department of Agriculture authority to place on a list such articles of export as they deem advisable, which articles must thenceforth be submitted to the inspection of government agents, who grade them and mark the grade on the package. At present they have on the list butter, cheese and hemp.

At Wellington we visited the cold stores and there saw in progress the grading of butter. One or more packages from each shipment were opened and the graders bored out samples and examined them by the appearance to the eye, the smell, the taste and the touch of it. The factory brands on the boxes are meantime covered to guard against prejudicing the graders. When the grade is determined, an appropriate rubber stamp is used to mark upon the boxes of the whole consignment the grade, whether 1st, 2nd, or 3rd grade. Before shipment the butter is frozen, i. e., cooled below the freezing point of water, and at a similarly low temperature it is carried into the steamer to foreign markets, mostly England. In a big warehouse along the wharf the cheese was similarly graded, and in another the hemp was classified.

Indiana. P. A. YODER.

PREPARING THE HERD FOR THE WINTER'S WORK.

In writing this article I have in mind the beginner in the dairy business and the man with a few cows, who, on account of pressure of other work is liable to neglect them at this important season of the year. Important because the profits of a winter dairy depend in considerable degree upon the care the cows receive in the fall.

Of course it is desirable to make the work as easy as possible and to this end the time of freshening should be regulated as nearly as may be to fit in with the rest of the program on the farm. This fall we had a number of little calves coming in one week while we were working almost night and day getting the corn into the silos. Personally I have resolved not to repeat this blunder in the future if I can avoid it. October and November are good months for cows to freshen as a rule. In the potato districts however, October is not a good month, because the pressure of work in caring for the tubers leads naturally to the neglect of the cows. Cold storms often occurring in October and November weaken the vitality of the herd if they are exposed to them for a considerable length of time. It pays well to shelter the cows during these storms. There is no possible advantage in leaving cows out nights during late autumn and often serious harm results from the practice. There is some difference in opinion among good dairymen, as to the treatment of cows during the period of rest.

It would seem to the writer that one of long experience might feed heavier at this time than the beginner. The cows should receive enough food during the dry period to keep them in good, thrifty condition. They should gain somewhat in flesh during this time and their food should be quite rich in protein. But to feed them too heavily is to

invite milk fever when they freshen.

There is a short time in the fall, when we are troubled to get enough of the right kind of roughage. The grass is poor in the pastures and we are not yet ready to open the silo providing we have one. The roughage must be supplied in some way if the cows are to do their best. If there is no other way the silo should be opened. We may have to feed a little more ensilage than we really need in order to prevent its spoiling, providing the weather is warm, but it is wiser to do this than to let the cows go hungry. In the sugar-beet districts beet tops make a good substitute for ensilage. In a year when apples are plenty the pumice from the cider-mills can be drawn a short distance and fed with profit. A feed of clover-hay night and morning will supplement the short pastures until the weather is cooler and we can open the silo and feed without danger of loss. Of course one can feed from a silo at any time during the year if he can use it fast enough to keep it fresh and good, but the man with only six or eight cows will find it hard to feed from a twelve-foot silo successfully during October. There are many who have built their silos too large in diameter and not sufficiently high. A twelve foot silo is not too large for a herd of eight cows during the winter months and it can be used even though the weather is quite warm. But the feeder must take care to remove the ensilage from the whole top at each feeding. For the man with a small herd of cows a silo ten feet in diameter is about right and he can go up toward the sky with it in proportion to his courage. Forty feet is not too high.

All things considered the winter dairy is most profitable. We have more time in which to care for the cows. They will give just as much milk if they are properly cared for and the butter will be worth a little more. The pigs that eat the skim milk will grow just as fast in the winter as in the summer and the price of pork usually reaches the highest point in early spring. All things considered it pays to have a winter dairy. Oceana Co. W. F. TAYLOR.

VENTILATION—INFLUENCE OF TEMPERATURE ON MILK YIELD.

For some years work has been conducted by Scottish experimenters to learn what influence lack of good air had on cows and the effect of temperature upon the yield of milk of the animals. In a sense these two aims were details of the larger problem of proper housing for the animals since it was calculated that freer circulation of the outside air through the byres (Scotch term for cow-barn) would reduce the temperature materially below that of barns without free air circulation. The question reduced itself to this, "Would the impure air in a warm barn have more harmful effects upon the animals and the returns from them, than a lower temperature in barns where there was plenty of fresh air?"

It was concluded after carefully following out the plans of the experiment and analyzing the data, that any restriction of ventilation sufficient to bring the temperature of the byre up to 60 degrees F. lead to a degree of atmospheric impurity inconsistent with the conditions of perfect health. In byres in which the temperatures have been kept down by thorough ventilation in autumn, cows do not suffer either in health or milk yield even from very low temperatures in winter. Whatever food was wasted in the maintenance of bodily heat of cows in colder byres is more than over balanced by the influence of fresher air; while it is evident that the health of the animals is much more likely to be promoted by active digestion than by the conservation of bodily heat. It was also observed that the colder temperature in autumn caused the animals to grow a thicker coat of hair for the winter; so that it is not even certain that the cows conserve body heat better in the less ventilated byres than by the warmer coat of hair produced under the lower temperature. Special care should be taken, according to the belief of the investigators, to keep the temperature down to 50 degrees F. during the winter, and in the fall a lower temperature than this should be the aim of the dairymen.

In compounding rations for the cows the herdsman should not overlook the fertilizing value of the different feeds. For example, with nitrogen at 15c per lb. and phosphoric acid and potash at 4½c, a ton of corn is worth \$6.45 while cottonseed meal would figure \$23.75.

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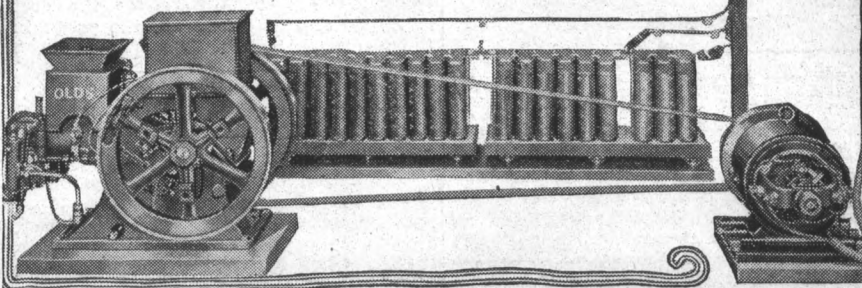
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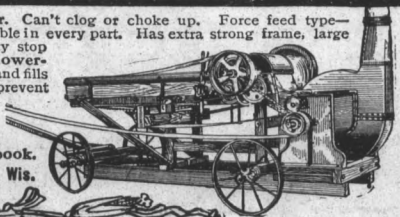


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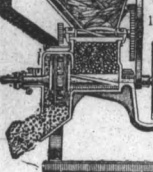
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I have 10 spring pigs that will weigh about 90 lbs. each and would like to know whether or not there is any money in buying all the feed and maturing them. If so, what kind of feed is best? At present I am feeding flaked corn. How much would there be in buying buttermilk at five cents for a common milk can full and feeding with flaked corn from the time they are weaned till they are matured for market? If not, what kind of feed would be best for them? I am interested in the hog problem and would like to know what breed of hogs is best for all purposes.

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M. O. B.

The question of the amount of feed required to produce 100 lbs. of gain in pigs of various weights has been made the subject of exhaustive investigation at many experiment stations. The results from a large number of these trials have been tabulated. With pigs weighing from 15 to 50 lbs. 293 lbs. of feed were required to produce 100 lbs. of gain; with pigs from 50 to 100 lbs. weight, 400 lbs.; 100 to 150 lbs. weight, 437 lbs.; 150 to 200 lbs. weight, 482 lbs.; 200 to 250 lbs. weight, 498 lbs.; 250 to 300 lbs. weight, 511 lbs., and so on, the gain from 100 lbs. of feed growing smaller with the added weight of the pigs fed. In these experiments the pigs were of course fed a balanced ration, the skim-milk fed in the ration being reduced to grain value by estimating six pounds of skim-milk equal in feeding value to one pound of grain. With this data at hand, it will not be difficult to figure the possible profit in feeding pigs from birth to maturity at any given weight, the cost of the feed and the market value of the finished hogs being known. In this inquiry the cost of the flaked corn is not given, and of course the market value of the product when it is finished is a matter for speculation rather than of positive knowledge. However, at the present cost of feed and the present market value of finished hogs there is no question but that it would be profitable to bring these hogs up to good butchering weights.

Now as to the best feeds to use and the profit in the purchase of buttermilk at the price noted. Again the inquiry is indefinite as to the size of the can. If an ordinary 10-gallon milk can is meant the butter-milk would be a very cheap feed, provided of course that it has not been greatly diluted with water in churning and washing the butter. At the Massachusetts station it was found that buttermilk gave practically as good results as skim-milk where the two dairy by-products were fed in a comparative trial. Thus if the buttermilk is of good quality its actual feeding value can be reduced to definite figures by estimating that six pounds of buttermilk are equal in feeding value to one pound of grain when fed in connection with it in a properly balanced ration. Like skim-milk it should be fed for best results in the proportion of 1 to 3 lbs. to 1 pound of corn meal. But the buttermilk and corn alone will not make the best possible feed for these pigs. The feed would be greatly increased in value by the addition of a liberal amount of middlings during the earlier part of the feeding period. If some other protein feed, such as gluten meal can be purchased in your local market, it may be profitably substituted for the middlings later in the feeding period, and if clover or rape pasture, or even grass pasture is available it will materially reduce the cost of grains and thus increase the profit in the feeding operation.

DEMAND PROTECTION FOR WOOL GROWERS.

Resolutions Adopted by the Improved Black Top Merino Sheep Breeders' Association.

Mr. President, Brother Sheep-breeders, Ladies and Gentlemen:
Your Committee upon Resolutions begs leave to recommend the following:

Whereas, Agriculture is the basic and most important industry in the world, and the only one furnishing the people with food and clothing; and

Whereas, A policy which promotes and encourages agriculture, especially tends to the betterment of a nation financially, morally and physically; and

Whereas, Any policy adopted by a nation which tends to enhance values or improve conditions should be extended to all classes and to all industries alike; and

Whereas, A measure has recently been approved by President Taft and Congress which most unjustly discriminates against agriculture by removing almost every vestige of protection from the pro-

ducts of the farm, while a high rate of protection is maintained upon the products of the factory, thus forcing the farmer to sell the products of his labor upon a free trade market and to buy the products of other men's labor upon a protected market; and,

Whereas, It is recognized the world over that animal husbandry is a necessary adjunct to the highest type of successful agriculture, that at least the roughage should be fed on the farm and the resulting fertility returned to the land if we are to expect it to produce profitably for any great length of time; and,

Whereas, Sheep husbandry is best fitted to many sections of our country, and should be more largely a factor in the management of most of our farms of the north, south, east and west, if it can be maintained on a footing that will return a reasonable profit; and

Whereas, Without adequate protection this valuable and needed industry must practically be lost to American agriculture; in proof of which it is only necessary to call your attention to the dark days from 1893 to 1897, when the Wilson-Gorman epidemic struck our flocks and cost the sheep men of our country over ten million sheep, and wool went to eight and nine cents per pound; and,

Whereas, We reaffirm our belief in the American system of protection, and unequivocally indorse the application of its principles, as embodied in the present arrangement of Schedule "K," as applicable to the wool duties, and recognize that every time departure has been made from the principles therein represented serious disaster has befallen the industry of sheep husbandry. The growers of wool need and deserve protective duties equally with the manufacturers of wool. Pending the investigation of the tariff board appointed by President Taft, tariff agitation should cease until such time as the findings of the board are reported. The wool-growers court the fullest opportunity of submitting to the tariff board all information relating to the cost of production in their industry, and in this connection we commend and heartily support the work being done by the American Tariff Commission. Therefore, be it

Resolved, That we most strongly condemn the so-called Canadian Reciprocity pact as unjust, unfair, and tending to discourage and injure the great industry of agriculture; and that we herewith pledge ourselves to the support of the just and righteous principle of protection for all or free trade for all; and, be it further

Resolved, That the Improved Black Top Merino Sheep Breeders of Michigan respectfully urge Congress to maintain the present standard of protection to our wool; that we favor a specific duty, and that the unjust "joker" in paragraph 368 of Schedule "K," which provides "That skirted wools as imported in 1890 and prior thereto are hereby excepted," should be eliminated, as there is practically no difference between "skirted" and "sorted" wool. Therefore be it further

Resolved, That we recommend and support only such men for our national Congress as will stand for adequate protection to American wool and all other agricultural products sufficient to cover the difference of the cost of production here and abroad.

HERBERT COLISTER, Lansing.
ROBT. GIBBONS, Detroit.
O. C. BURKHART, Chelsea.

Also approved by
L. L. HARSH, Pres.
O. M. ROBERTSON, Sec.

LIVE STOCK NOTES.

Farmers in various sections of the middle west are having silos built. They are great condensers of feed and mighty profitable for feeding stock.

Farmers who have fields of rape or alfalfa this summer are finding them handy in feeding hogs, especially in sections where pastures have been injured by dry and hot weather.

Live stock commission firms advise the marketing of hogs before they become too heavy. Hogs averaging around 225 lbs. or a little over are quite acceptable to killers these times.

There are about 800,000 acres of land in Osage county, Oklahoma, that have been leased for grazing purposes, taking in steers, cows and calves. Pasturage is so poor that a short time ago it was stated that cattle were in no better condition than they were 90 days earlier.

Prime spring lambs have been bringing high prices in the markets of the country, buyers paying an extremely large premium over choice yearlings, while prices paid for wethers and ewes were comparatively low. Michigan farmers are showing confidence in the sheep industry by increasing their purchases of choice breeding ewes, black-faces being the prime favorites. Many sheepmen refuse to buy anything but native breeders, although those who have purchased the best grade of western range breeders have found them much harder than natives.

A Chicago live stock journal has the following: "Exporters here expect about 50,000 Alberta cattle to find their way to Montreal. California and Puget Sound buyers have been operating in Montana, Wyoming and Colorado, consequently a portion of the grass stuff that formerly came to Chicago, Omaha and Sioux City will head in that direction this year. But a new trade wrinkle has appeared in the west, and it means a substitution of the open market, commission selling plan for the old method of country buying and contracting. Heretofore Pacific coast killers have insured a supply of cattle by letting contracts for 5,000 or more head to contractors. Buyers rode the country, fixed prices at their discretion, and gave feeders no incentive to get busy. By the new method the feeder of a single carload will have the same market opportunity as the man with a big herd."



You know how sap keeps a tree alive and strong and defensive against weather. Trinidad Lake asphalt does the same in

Genasco

the Trinidad-Lake-Asphalt Roofing

The Kant-leak Kleet defends the roofing-seams against weather without cement. Prevents nail-leaks.

Ask your dealer for Genasco mineral or smooth surface guaranteed roofing with Kant-leak Kleet packed in the roll. Write for the Good Roof Guide Book and samples.

The Barber Asphalt Paving Company

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

Philadelphia

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NEWTON'S HEAVE

COUGH, DISTEMPER CURE AND INDIGESTION

The Standard Veterinary Remedy. 21 years sale. Send for booklet.



Makes the horse sound, stay sound

DEATH TO HEAVES

The first or second \$1.00 can cures Heaves. 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

MINERAL HEAVE REMEDY

NEGLIGENCE Will Ruin Your Horse

Send to day for only PERMANENT CURE

SAFE CERTAIN.

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

Seldom See

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

Before After will clean them off without laying the horse up. No blister, no hair gone.

\$2.00 per bottle delivered. Describe your case for special instructions and Hook 8 is free.

ABSORBINE, J.E., Liniment for mankind. Removes Painful Swellings, Enlarged Glands, Gout, Wens, Bruises, Varicose Veins, Varicosties, Old Sores, Allays Pain. Price \$1 and \$2 a bottle at druggists or delivered. Manufactured only by

W.F. YOUNG, P.D.F., 288 Temple St., Springfield, Mass.

STOP! STOP! STOP!

Thirty Days Trial of

United States Bonded Engine. Burns gas, gasoline, kerosene, distillate. Consider these

12-Advantages—1st, Pays for itself in fuel saving in short time. 2nd, No violent vibration. 3rd, Greatly reduced bulk.

4th, Easily portable; mounted anywhere. 5th, Every engine part and horse power guaranteed. 6th, Absolutely frost proof. 7th, Positively most economical running engine made.

8th, Only engine with pulley on both sides. 9th, Small pulley on cam shaft, for very slow machines. 10th, Perfect Lubrication, cooling & ignition.

11th, Lowest cost engine in the world. 12th, Made by reputable firm, 50 years in business.

2 to 50 H.P. Wonderful New Pumping Engine. Send postal today for Illustrated Catalog.

United States Engine Works, 1603 Canal St., Chicago, Ill.

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—BY USING—

Roy Swing Stanchion

Best, safest, simplest and the easiest for cattle of any Stanchion on the market. Send us your name and we will tell you all about them.

Manufactured by ROY BROTHERS, East Barret, Vermont.

Cull Beans for Hog Feed

Contain large percentage of protein. Worth more than corn for hogs. Cost about one-half as much.

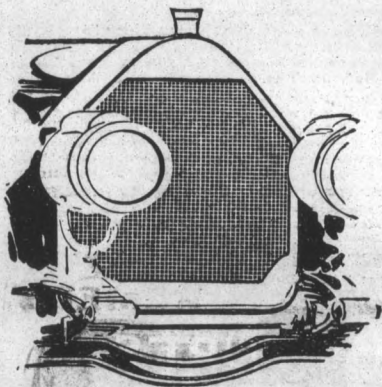
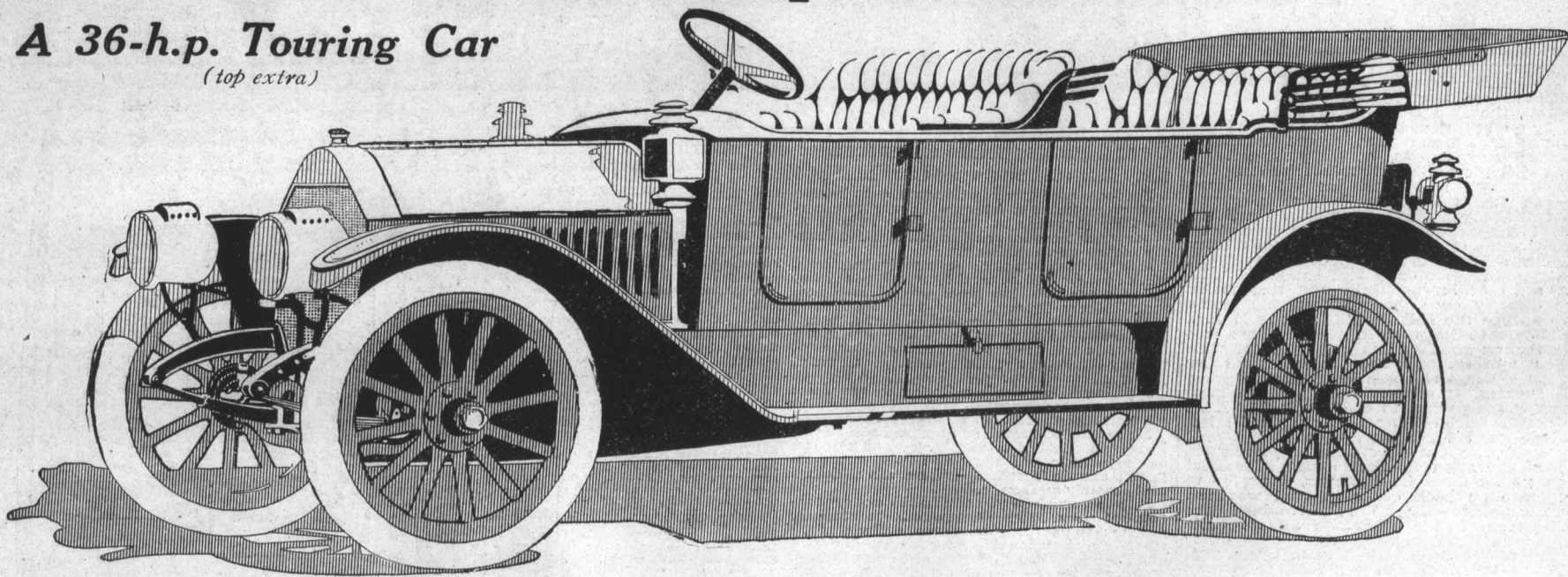
PRICE WHILE THEY LAST \$15 PER TON. Sacks extra at 6c. each, f.o.b. Bad Axe.

BAD AXE GRAIN CO., Bad Axe, Mich.

This Big New Maxwell \$1280

1912's Undisputed Leader

A 36-h.p. Touring Car
(top extra)



POWER, STYLE and RIGHT PRICE will determine the successful car of 1912. In building the new MAXWELL SPECIAL, the 36-horsepower Touring Car for \$1280, the United States Motor Company has developed these elements to their utmost. Never before has such a car been offered at this price.

We realized that most cars today are reliable and efficient. Therefore, we set out to build a car that would outclass all others in these three essentials.

We instructed our corps of engineers to embody abundant power and surpassing style in this new car, knowing that our purchasing and manufacturing facilities enabled us to build the car at a lower price than any of our competitors.

When we were satisfied with the car, we found we could fix the price at the surprisingly low figure of \$1280.

The new 36-h.p. Maxwell Special unquestionably assumes instant leadership for 1912.

POWER

The Secret of power in this new Maxwell Special is its 4½ x 5½ long stroke, smooth-running motor. Large valves, adjustable push rods, self-contained automatic oiling system, Stromberg carburetor, dual ignition with Splitdorf magneto and batteries, combine to produce more power and greater speed than will ever be needed.

The power is there for emergencies. Gear shifting is reduced to a minimum, as this car takes the steepest hills with ease, and with enough reserve force to cope with the unexpected.

Other mechanical features include large clutch discs, full-floating rear axle, sliding-gear transmission, drop-forged "I"-beam front axle and Columbia Honeycomb type of radiator. Wheel-base, 114 inches.

STYLE

This new ventilated fore-door, flush-side vestibuled steel body, with inside control, is the very latest thing in motor-car design. Its sweeping curves with a Columbia Honeycomb type radiator, new designed bonnet, and long, smooth flush-sides are strikingly beautiful. Finished in Royal green with Wedgwood green wheels and black upholstering, deep and well tufted, this car has an atmosphere found only in the most expensive cars. It is an aristocrat; the most artistic creation of the season.

PRICE

The price of this car is made possible by the unequalled factory facilities of the United States Motor Company, now recognized as the leading builders of automobiles in America. No car selling for \$500 more than the price we ask can match the Maxwell Special. Comparison with other cars will prove this statement beyond argument. We urge comparison.

Maxwell

THE NEW MAXWELL SPECIAL will be unquestionably the Leader for 1912. In addition we announce three other models:

The Maxwell Mercury, a 30-h.p. mile-a-minute Roadster, for \$1150.

The Maxwell Mascotte, a 25-h.p. Touring Car, for \$980; or a Roadster body for \$950.

The Maxwell Messenger, a 16-h.p. Runabout, for \$600.

MAXWELL MERCURY

A 30-h.p. Roadster, \$1150

Here is a test-proven mile-a-minute roadster with smooth, flush-side vestibuled and ventilated fore-door body, which is the height of perfection. Wheel-base, 110 inches. It is equipped with high-tension racing magneto, Stromberg Carburetor, Columbia Honeycomb type of radiator with new designed hood, demountable rims, and a wealth of refinements, and is listed at \$1150 (top extra). It is another instance of exceptional Maxwell value.

MAXWELL MASCOTTE

A 25-h.p. Touring Car, \$980

No car has ever achieved such unswerving popularity as the Model "I" of which the MASCOTTE is the offspring.

We regret our inability to supply all the cars of this type that were demanded this season, but the increased production next year should enable us to meet the demand. It is the prettiest four-passenger touring car you have ever seen.

Among its features and refinements are a four-cylinder motor (4 x 4), supplying 25-h.p.; 104-inch wheel-base; new ventilated fore-door vestibuled body with smooth, flush-sides and

inside transmission control, artistically finished in dark blue with battleship gray wheels; oil reservoir, cast integral with the crank case; Columbia Honeycomb type of radiator with new hood of beautiful design; irreversible worm steering-gear mechanism; Stoddard-Dayton type of spark and throttle control under steering wheel which will be 17 inches in diameter; springs of imported English steel, ball-bearings of German Chrome Vanadium. The touring car with extra-wide rear seat, \$980; fore-door roadster at \$950.

MAXWELL MESSENGER

A 16-h.p. Runabout, \$600

This runabout with numerous refinements is beautifully finished in dark blue, with light-blue wheels. The car should have no trouble in retaining the leadership in runabouts that has been held by its predecessor, known as the Model "AB." Every manufacturing year has seen a shortage in these cars. The price is the same, \$600, equipped with magneto, top, three oil lamps, two gas lamps and generator.

Satisfied Owners' Free Inspection Service

To facilitate constant and unfailing service of Maxwell cars, and to eliminate unnecessary repairs caused by oversight of required minor repairs and adjustments, lack of experience in, and mechanical knowledge of, the construction and skillful operation of his car, upon the part of the owner, we have instituted a Free Inspection Service.

The few motor troubles in cars of today are generally due to neglect of unsuspected minor difficulties and can be avoided by frequent inspection and instruction as to proper adjustment.

For one year after date of purchase, a Maxwell owner may take his car to the nearest Maxwell branch or dealer once a month, if necessary, for a thorough inspection without charge.

By the use of our Free Inspection Service, you reduce your car trouble and repair expense to a minimum.

This monthly inspection service is in addition to the Company's standard warranty against defective material and workmanship, as published in our catalogue.

We care for your car wherever you are.

Ready for immediate delivery at our 27 branches and 1800 dealers. Send for advance catalogue.



Maxwell-Briscoe Motor Company Broadway New York
at 61st Street
Division of **UNITED STATES MOTOR COMPANY**

VETERINARY

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

Advice through this department is free to our subscribers. Each communication written. Initials only will be published. Many queries are answered that apply to case in full; also name and address of should state history and symptoms of 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.

Umbilical Hernia.—I have a colt four months old that has a breach at the navel, the skin is closed over it so there is no discharge, but an opening in the inner membrane that would admit a finger or perhaps a little larger. I thought for a while it might be only the cord which had been cut off at least three inches long, but I think now the intestines work out making a bunch or oval shape pouch an inch or two deep and perhaps three or four inches long. I have lately used an astringent wash of tannin twice daily and bandaged with a strip of strong cloth and pad under it directly over the rupture; this seems to reduce the enlargement, but it is very difficult to keep it in place. This colt is feeling good and is quite playful with her mother. Is any treatment other than a surgical operation likely to prove a success, if so would be glad to have you tell me what to do? P. B. M., Lake Odessa, Mich.—Your colt should be left alone until November, then if not well a surgical operation should be performed. This operation is simple and successful on young animals; however, I prefer to operate on such cases in cool weather.

Ringworm.—My cattle are troubled with ringworm and the disease affects their head and neck more than any other part of the body. L. W. D., Greenville, Mich.—Wash the diseased parts with soap and water and paint the parts with strong tincture iodine three times a week.

Abscess on Elbow.—My three year old colt had a bunch form on elbow last June and then the swelling left; sometime later the joint began to swell again and later broke open. The muscles of shoulder have wasted some and the elbow is discharging. I have been applying peroxide-hydrogen twice a day to clear out pus. W. R. G., Snover, Mich.—Inject wound with one part tincture iodine, eight parts water twice a day for three days, then apply equal parts boric acid, oxide of zinc and powdered alum, or apply one part iodoform and six parts charcoal to sore twice a day. Blister shoulder muscles with cerate of cantharides two or three times a month.

Choking—Inflamed Hock.—I have a brood sow two years old that is due to farrow the 20th of Oct. For the past two weeks she appears to choke and gag when commencing to eat or drink. So far as I can tell she seems to be in good health. I also have a horse that stepped in a hole five or six years ago, at which time he injured hock joint and since then it has always been enlarged. Lately he shows some lameness and a greater enlargement of joint. What can I apply that will reduce this bunch and cure him of lameness? W. C., Cassopolis, Mich.—If you will warm swill and feed for your sow, it will prevent a spasm of larynx in sow's throat and prevent choking. It is also important to make food quite moist before feeding it to her. Apply equal parts tincture iodine and camphorated oil to enlarged hock once a day.

Exhaustion—Indigestion.—My eight-year-old mare had a colt 25th of last May and so far as I could tell she was healthy and in good condition. I commenced working her nine days after she foaled, since then she has ran down, is now very thin and weak. I am inclined to believe that she was overworked during hot weather. E. B., Thompsonville, Mich.—You are perhaps right, she was not strong, the weather being hot she became exhausted. Mix together equal parts powdered sulphate iron, gentian, fenugreek and bicarbonate soda and give her a dessert spoonful at a dose in feed two or three times a day. She should be well fed and not overworked.

Spavin.—Have been a reader of the Michigan Farmer for a great many years and now take the liberty of asking for a remedy for spavin. C. Z., Lenox, Mich.—If your horse has bone spavin apply one part red iodine mercury and four parts lard, or if it is incipient spavin lameness add eight parts lard and apply medicine every few days. If it is a case of bog spavin apply one part red iodine mercury and eight parts cerate of cantharides.

Curb.—We have a six-year-old mare that has a curb on each hock caused by slipping. She is not lame, but I would like to have bunches reduced some. W. H. D., Pentwater, Mich.—You will find it difficult to entirely reduce a thickening of ligament, such as is always the case in curb. Apply one part red iodine mercury and ten parts cerate of cantharides every week or ten days. Painting bunch every day or two with tincture iodine will have a tendency to reduce enlargement.

Impure Blood—Surfeit Buds.—I have a horse that is troubled with blotches on skin and they pretty much cover the entire body. Wherever a blotch comes a scab and small tuft of hair drops off. I thought turning him out on grass last spring and letting him remain out would have the desired effect of cleansing his blood, but he is not much better. R. A. U., Crosswell, Mich.—Your horse suffers from blood impurities and perhaps a little digestive trouble. By giving him a desiccated portion of Donovan's solution at a dose in feed two or three times a day for 30 days, he will be much better. Also apply the following lotion to sore parts

(Continued on page 163).



MANSON CAMPBELL
Father of the Famous Chatham
System of Breeding Big Crops

Install My Chatham System on Your Farm and You'll Be Richer by Thousands of Dollars

I'll Prove This Free

Over a quarter million farmers are now getting RICH, because they have taken up the Chatham System of Breeding Big Crops.

Yet there are farmers who continue to handle their crops in the regular way, content to reap but half what their land might just as well be producing. They lose as many dollars each season as they put in the bank.

It is not because the Chatham System won't work on their farms that they are not practicing it. It is because they have never looked into the Chatham System. They don't understand it—how simple, how inexpensive, how astonishingly profitable it is.

Now, as you are among those who have not put my Chatham System to a test, I will make you this proposition:

I will install the Chatham System on your farm and bear all the expense. I will not only furnish all instructions free, but all Equipment as well.

No matter how much or what kind of land you have, what kind of crops you grow or how you cultivate them, I'll show you how your crop profits can be increased by hundreds of dollars and possibly by thousands.

I'll show you how you can do this not one season, but every season—how you can grow bumper crops when your neighbors grow ordinary crops and fair crops when they have failures—how you can do this without plowing one extra furrow, without hiring one extra man, without using one extra team, without spending one extra cent, save the small cost of the original equipment.

To show you all this, I am first going to send you my latest and finest book on the Chatham System of Breeding Big Crops. It pictures, diagrams and explains the Chatham System completely. It is a wonderfully interesting explanation of my Chatham System, told in story form.

Then, a little later, I am going to lend you the full equipment, including my latest model Chatham Mill. I will pay the freight and everything clear to your station. You can try out the Chatham System on your farm without paying or pledging to pay one red cent.

The Chatham Mill is a marvelous machine. I'll

tell you a little about it here.

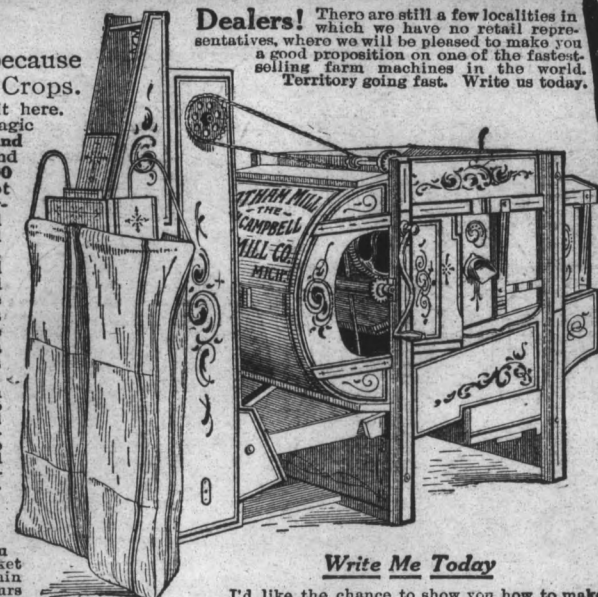
At one operation this magic machine grades, cleans and separates seed grain—and at the enormous rate of 100 bushels per HOUR!—not merely Wheat, Oats, Barley, etc., but all other small grain, Grass Seed and Corn! Takes out all dust, all dirt, all weed seed, all skinny, poor grains and automatically bags the fine, healthy grains. It runs so easy a boy can operate it, yet can be hitched to a gas engine on a moment's notice.

With a Chatham Mill on your place you need buy no seed. Neither do you haul your seed grain to the elevator to be cleaned. You have the purest seed in the world right at home without expense, bother or trouble. Does it pay to plant pure seed? You bet it pays—it's the surest way on earth to grow bumper crops.

The Chatham Mill pays you another big profit when market time comes. It handles grain so fast that you can clean your before-selling and get top market prices—no more getting docked—no more giving the grain buyer those valuable screenings which belong to you and which you can use at home for feed.

Remember, I'll Prove It Free

I don't care to argue about the wonderful success of the Chatham System. I'll just put it in on your farm free and let you be the judge of how many hundred dollars it is worth to you. All you do is write me you're interested. I'll do the rest. I'll tell you all about the System and furnish you all the Apparatus free. If that isn't fair enough, please tell me what is and I'll do that.



Write Me Today

I'd like the chance to show you how to make that good old farm of yours grow bigger crops. You don't realize how easy it is to grow hundreds of bushels more grain with no extra work or expense.

Just tell me what crops you grow, how many bushels you are getting per acre and I will show you how we can beat it. I don't care how well you've done, we too will do it better. Use pencil and postal if it's handier than a letter. My 44 years' successful experience in boosting crop profits is yours merely for the asking. Let me hear from you at once. Write nearest office, Dept. B8

CHATHAM MILL

Grain Grader, Cleaner and Separator

MANSON CAMPBELL, President Manson Campbell Company
Detroit, Michigan

Kansas City, Missouri Minneapolis, Minnesota

See the Chatham Mill at your dealer's. If he hasn't it and won't get it, tell us and we will see that you are supplied (5)

For Sale—A pair of 2-year-old MULES, good size and kind. Price reasonable. HARRY B. CLARK, R. No. 1, Northville, Mich.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd, consisting of Trojan Ericas, Blackbirds and Prides, only, is headed by Egerton W. a Trojan Erica, by Black Woodlawn, sire of the Grand Champion steer and bull at the International in Chicago, Dec., 1910. He is assisted by Undulate Blackbird, etc.

WOODCOTE STOCK FARM, Ionia, 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.

Guernsey Bull Calf from a long line of A. R. ancestors, including Stranforde Princess, Dairymaid of Elm Place and many other great producers. G. A. WIGENT, Watervliet, Mich.

Holstein Friesian Cattle—BULL CALVES, Grandsons of Canary Mercedes. W. B. JONES, Oak Grove, Michigan.

WE ARE OFFERING Long Beach Segis Beets and a son of King Segis and Paul Beets De Kol. Also several other choice ones. See our herd at Kalamazoo, Grand Rapids and Detroit Fairs. LONG BEACH FARM, Augusta, Kalamazoo Co., Mich.

HOLSTEIN BULLS—1 to 11 months old, \$25 to \$50, registered, and transferred. Good breeding. HOBART W. FAY, Eden, Mich.

HOLSTEINS—I have for sale a few cows and yearling heifers bred to Johanna Concordia Champion. The only bull of any breed whose 2 grand dams average 34.06 lbs. butter in 7 days. Also bull calves and service bulls. L. E. CONNELL, Fayette, O.

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

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

JERSEY BULLS FOR SALE

Sired by Temisia's Interested Prince 71648, whose dam made 733 lbs. butter in one year, authenticated test. Choice individuals. Prices Reasonable. BROOKVIEW FARM, ANN ARBOR, MICH., R. F. D. 7.

Register of Merit Jerseys. Official yearly record. A fine lot of young bulls from dams with official records of 483 pounds and upwards of butter. T. F. MARSTON, Bay City, Michigan.

JERSEYS FOR SALE—A few choice heifers and heifer calves richly bred. A. NEWMAN, R. No. 1, Marlette, Michigan.

FOR SALE—Reg. St. Lambert Jerseys, Cows and Bulls from high producing stock. C. A. BRISTOL, Fenton, Michigan.

REGISTERED JERSEYS For Sale—Some combining the blood of St. Louis and Chicago World's Fair Champions by HERMAN HARMS, Reese, Mich.

LILLIE FARMSTEAD JERSEYS.

HERD BULLS (Vidas Signal St. L. No. 58197; Jubilee's Foxhall, No. 82299).

Bull calves sired by these great bulls, and out of splendid dairy cows, many of them in test for register of merit. Also a few heifers and heifer calves for sale. Write for description and prices. Satisfaction guaranteed, or money refunded.

COLON C. LILLIE, Coopersville, Michigan.

Shorthorn Bull Billikin No. 343129, got by Mountain Boy, calved July 15th, 1910. Color white, a fine fellow. JOHN C. HERPEL, Saginaw, Mich.

For Sale—Double Standard Polled Durham Bulls, heifers, and cows. I am closing out. Write for prices. Sanford Gasser, Sherman, Mich.

SHEEP.

Registered Lincoln Rams for sale or will breed. EDNA C. HOUGHTON, R. 4, Box 28, Ionia, Mich.

PARSONS' POLLED DELAINE RAMS will increase the weight of wool and longevity of your flock. Grade X, \$15; grade XX, \$20; XXX, \$25. "PARSONS—the Sheep Man," Grand Lodge, Mich.

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Durocs & Victorias—Growthy Spring Boars & Glits of choicest breeding from Prize Winners. M. T. STORY, R. 248, Lowell, Michigan.

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O. I. C.—Choice boars ready for service. Glits and bred sows for September farrow. Glenwood Stock Farm, Zeeland, Mich. (Phone 94.)

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LARGE TYPE P. C.—Largest in Michigan. Pigs sows, weigh 160 to 175 lbs. at 5 months. My motto—"Not how cheap but how good." Will pay expenses of those who come and do not find what I advertise. W. E. LIVINGSTON, Parma, Mich.

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Poland-Chinas—A few big type Sept. Glits bred for Sept. farrow. Also spring pigs. E. D. BISHOP, Route 38, Lake Odessa, Mich.

Three Extra Good Fall P. C. Boars

By Next In Line. 32 spring male pigs ready to ship. I ship C. O. D. and furnish pedigree promptly. If you want good as the best, write me for prices.

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Lillie Farmstead Yorkshires—Holywell Manor and Oak Lodge blood predominates. Large Herd. Three service boars. Pairs and trios, not akin. Boars ready for service. A fine lot of spring pigs. Glits bred for August farrow. The best hog on earth. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

POULTRY AND BEES

A HOUSE FOR 100 HENS.

A Tuscola Co. reader sends a rough sketch of a poultry house which he plans to build for the accommodation of about 100 hens. The dimensions are 14x26 ft., with a height of 10 ft. to the eaves. It is also planned to have a 6-ft. room off one end for the use of sitting hens, thus reducing the length of the layers' compartment to 20 ft. This is not room enough for the number of hens named. A house 14x20 ft. allows 2.8 sq. ft. per fowl, which is not enough, especially in a closed house. Most poultrymen recommend not less than 4 sq. ft., while many prefer as much as 5 sq. ft., although hens have been satisfactorily housed in open-front buildings at the rate of one hen for each 3½ sq. ft. of floor space. In settling this point the question of breed is entitled to some consideration, but assuming that this correspondent has one of the medium or general purpose breeds we believe that a house about 14x40 ft. will more nearly meet his requirements. From this he can partition off the 6-ft. room he desires and still have a pretty liberal allowance of floor space.

Ten feet seems unnecessarily high unless an unusual amount of storage room is desired. From 6½ to 7 ft from floor to ceiling should be ample, while the plan submitted calls for 8 ft. We would also criticize the floor or interior arrangement. Instead of locating the roosts and nest boxes on the south side of house and adjacent to windows they should run along the rear or north wall, which wall should be a warm, tight one. Have the roosts extend the entire length of the layers' room; three or four perches will then be quite sufficient, and the droppings platform need not extend more than a foot beyond the perches. Placed in front of windows, as our correspondent contemplates, the platform would cut off the light from nearly half of the floor space. Instead of placing roosts 7 ft. from the floor 3 or 4 ft. will be better. The nest boxes may be placed under the droppings platform, and they should be so built that the hens may enter them from the rear or dark side, but that the eggs may be removed from the front. The dust boxes had best be placed in front of the windows where the hens may enjoy the sun in connection with the dust and ashes. A good earth floor with a light covering of gravel will prove just as satisfactory as cement and considerably cheaper.

It is scarcely possible to have too much window space in the south wall. One large window in each end wall should be sufficient, and the doors, if placed in the end walls, had best be well removed from the rear wall and roosts. Ventilation should be secured through the front windows, and if the rear and end walls are tight there will be no injurious drafts even when front windows are wide open.

COMMENTS ON MR. COOPER'S FIGURES.

Commenting upon Wm. J. Cooper's article in the poultry columns of The Michigan Farmer of Aug. 12, I wish to call attention to a few apparent discrepancies in his statements.

Mr. Cooper figures that the cost of keeping 100 hens one year would be \$100; that these hens would lay at least 1,500 doz. eggs, or 180 eggs each, and that the revenue obtained from the sale of the eggs would be no less than \$250, leaving a net profit of \$150, which, he says, "is not a bad investment so far as interest on the investment goes—something like 200 to 300 per cent."

Now, if Mr. Cooper considers his feed bill his total amount invested, his figures will stand; otherwise they will not, for the flock which he takes for a basis of computation is the principal part of the investment, whether bought at the laying stage or incubated and raised on his farm. This cuts down the profit materially, and in the case of a beginner the cost of erecting the house, etc., would make still greater inroads. The intensive poultryman would not be in the poultry business if his profits were not larger than Mr. Cooper's statement shows. Deduct the cost of raising a pullet to the laying stage, which is no less than fifty cents in this part of the country, or the cost of buying a pullet at the laying stage which is double that amount—deduct either of these from Mr. Cooper's revenue and you have, after paying for the feed, either \$100 or \$50 net profit per annum on 100 hens, and this would

hardly pay a man for the worry, risk and labor which the poultry business entails.

Another word: 180 eggs per annum is a fairly good record, and it takes consistent work on the part of the hen to produce that number. Now, to say that a hen producing 180 eggs a year would be idle but six weeks of that time is straying far from the facts, I fear. A hen that can lay 180 eggs in one year will lay the greater number in January, February, March and April, slowing down considerably in the summer and remaining practically idle during the late fall and early winter.

Calhoun Co.

R. DILL.

ROAD DUST AS AN ABSORBENT.

Dry dust is a valuable absorbent. I have used it for years in the henhouse and yards. After a long dry time the surface of the road or the walk makes a fine absorbent. We gather it in quantity and store for future use. Mixed with old manure it forms a fertilizer very useful in the garden. I have a box containing a mixture of road dust—very dry—ground tobacco stems and leaves, and dried sheep manure. It is not a very large box but it is worth dollars to me in developing plants in a hurry.

The road dust alone is spread daily over parts of the henhouse. There is no stench here or in the barn where it is used. All the floors are sprinkled from a sifter after the stable has been cleaned. It pays. Of course it takes time, but when its use becomes a habit the time used is so small and the result so good that you never regret using the dust.

In the brooder, under nests and upon the scratching floor of the henhouse, under the horses, in the hog pen (except in sleeping part)—wherever there are foul gases and a disinfectant is needed, this dry dust is useful. Its use makes, in many ways, a fertilizer equal to that you buy and the cost is just a little labor.

AN OLD AGRICULTURIST.

THE COLONY HOUSE FOR BEES.

The keeping of bees can be made interesting and fascinating, as well as profitable, considering the time required and the small amount of money necessary to start and maintain an apiary of a few swarms. Bees work up a by-product of the farm that could hardly be turned into profit by any other means. Where is the farm that does not have a field of clover, or alfalfa, or some other plant yielding nectar in the flowers for the bees to transform into honey, a valuable article of food and commerce? It is true that few fortunes have been made from bees, but rarely do we find a com-

with the storing of the hives in larger boxes and packing them with straw. With the colony house it is not necessary to move the bees to a cellar, or attic, or some other room where they will be safe from the cold weather during the winter months. All this packing and storing requires that the hives be unpacked again, or returned to their proper place in the open as soon as warm weather permits, all of which usually comes at the busiest time of the year for the farmer, and the time when every minute could be, perhaps, more profitably spent at some other work.

It is claimed by bee-keepers who store their bees in cellars, that when the hives are moved out into the fresh air and sunlight the bees come out with a rush, forget from which hive they came, and the result is that some hives will be too full while others will be almost empty. The bees are also unduly excited by being moved too much. The colony house prevents all this. It is more like the natural bee-tree holding many swarms. The hives are not moved, and all danger of having unequal sized swarms and excited bees is removed.

A colony house 12x14 will hold about 60 colonies by placing the hives around on the floor and on shelves. The hives must be uniform in regard to size and shape in order to utilize the space within the house as completely as possible. This brings the swarms together and gives the care-taker a good opportunity to look after them with a minimum amount of labor. He works out of the sun and in subdued light. When he takes a cap off a hive, the bees fly towards the light, through the open window and around to the front of their own hive. His supplies are close at hand, which eliminates extra movements and tends to promote dexterity, which is so necessary in the handling of these industrious workers that are sometimes so easily provoked to anger.

There is one disadvantage, however, which accompanies the colony house. This is the danger from the ravages of field mice. The mice will climb up through any hole that is large enough for them in the floor of the house, chew their way into the hives, kill the bees, and make their nests in holes dug into the comb. The dead bees have their heads separated from their bodies and it is supposed that the mice kill the bees by biting off their heads. So the colony house must be built with a tight floor and eternal vigilance established in order to keep these little pests away from the bees. The mice do not bother in the summer months when there is plenty of forage for them in the fields, but when cold weather begins to drive them to seek other shelter, then look out for the bee colony house.



The Colony House for Bees is Not Without its Advantages.

plete failure. There is always a good demand for honey in the city markets, and the price paid is sufficient to enable the bee-keeper to make a profit from a source that would be otherwise completely lost. If there is no honey for the market there is usually a plentiful supply for the farmer's family at home.

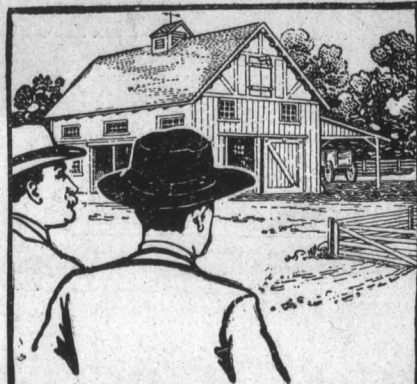
The colony house affords many advantages to the farmer who would like to keep a fair-sized apiary and has not much time to spend in this way. This, of course, requires a greater outlay of money in the beginning, but saves a large amount of work in the end. It does away

The bee-keeper who owns the colony house in the illustration is satisfied, after trying other methods, that this is the only way to keep bees. They stand the winter well and are easily cared for, and he has never lost a swarm except through the industriousness of field mice.

Ingham Co.

C. H. SPURWAY.

If one poult will attain a weight of twenty pounds in a month less time than another, it is more valuable for market because it will sell for as much money and the owner will have to pay a month less feed bill.



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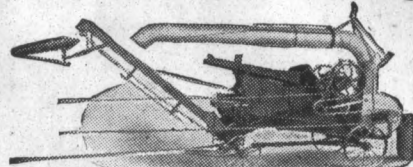
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THOROUGHbred S. C. BROWN LEGHORNS. A fine lot of COCKERELS at right prices. LEWIS T. OPPENLANDER, R. No. 4, Lansing, Mich.

R. C. B. Leghorn Cockerels—Kulp strain, the best there is, \$1 to \$3. Eggs in season. C. W. WAITE, Gobleville, Michigan.

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SILVER, GOLDEN and WHITE WYANDOTTES. Eggs \$1.50 per 15; \$2.50 per 30. A few White Roosters left. circular free. C. W. BROWNING, Portland, Mich.

FOR SALE—S. C. and R. C. Rhode Island Red Eggs. 15 for \$1.00; 50 for \$2.75; 100 for \$5. BUELL BROS., Ann Arbor, Mich.

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DETROIT, AUG. 26, 1911.

CURRENT COMMENT.

The British Strike and Its Lessons. For a period of two days last week the wheels of commerce in Great Britain were idle, due to an extensive strike of railroad men. The trouble originated with the dock workers, who handle merchandise at the Liverpool docks, the railroad strike being of a sympathetic nature, called to support the claims of the dock workers, that they were entitled to better pay and shorter hours. The number of railroad men called out was variously estimated from 150,000 to 250,000. Of course the railroad service was greatly crippled and on some lines it was impossible to maintain any adequate service, either for the transportation of passengers or merchandise.

The strike of railroad men threatened to cause a famine in London and other big centers of population, and the situation was considered most serious. While the government attempted to conciliate the trouble in every possible way, the troops were called out to prevent rioting and blood was shed at Llanelli, in Wales, which made the situation more critical. The delicate situation was, however, finally adjusted by David Lloyd-George, Chancellor of the Exchequer, who was given full control by the government and in whom the larger part of the striking union men had a larger degree of confidence than in any other British statesman. The plan on which settlement was made, provides for an arbitration of the differences between the men and their employers by a special commission, both sides agreeing to accept the findings of the commission.

The important lesson taught by this strike and its outcome is the utter dependence of big centers of population upon the products of the farmer, a circumstance which is more keenly felt in a country like England which does not produce anywhere near enough to supply the needs of its own people. If transportation is interrupted even for a brief period the results are immediately felt in centers of population where they are practically dependent upon uninterrupted shipments for their food supply. The situation thus created would be still more dangerous if it were not for the fact that the strikers themselves feel this shortage as keenly, or perhaps more keenly, than other classes of people. This shows, how-

ever, that all other classes are dependent upon the farmer almost for their daily bread, so nearly at the brink of want do the people of big centers of population exist.

Another lesson that seems to have been taught by this strike is the necessity for nationalizing railroads, or at least for an adequate control and supervision of such transportation. A somewhat similar situation existed in France, and it is said that the sentiment of that country for nationalization has increased to a marked degree. Modern conditions present many grave economic problems which are stirring other countries as greatly as they are our country at the present time.

The fact that President Taft vetoed the tariff amendment affecting the wool schedule which was passed by congress at the recent special session has only postponed, rather than settled the fight on this question. Undoubtedly the tariff commission will report the result of its investigations relating to the production of wool and woolen goods at home and abroad before or during the next regular session of congress, when the matter will again come up for consideration. In another column of this issue will be found the resolutions recently passed by one sheep breeders' association. The other associations should take the matter up at the earliest possible date, to the end that our senators and representatives in congress may be fully advised as to the position of wool growers in this important matter of legislation. The final adoption of the Canadian reciprocity pact will remove every vestige of protection now enjoyed by the farmers of the country, save on wool alone. They should not permit this last injustice to be done them without the most strenuous protest, and it is not too early to get busy in this direction.

In a comment published in the last issue we stated that the drawings and the descriptions of the devices covered by the Harder patent would be published in this issue. We had also expected to have the text of Judge Ray's decision upholding this patent for review in this issue, but we have been disappointed in getting same in time so that this could be done. We hope to be able to have it in time for such review in the next issue. We have, however, had the drawings which form a part of the letters patent reproduced for use in this issue, and print them below, together with the descriptive matter showing their use, in order that our readers may know just what the patent covers. This description taken in connection with the declaration and claims forming part of the letters patent, which were published in the last issue, will give the reader a fair understanding of the scope of the patent and, with the review of the judge's decision which will be published at the earliest possible date, will furnish Michigan Farmer readers with all information available regarding this question in which many of them are particularly interested at this time. The drawings and descriptions pertaining thereto follow:

My invention is illustrated in the accompanying drawings, in which—
 Figure 1 shows a front elevation of the silo. Fig. 2 shows a cross-section, on an enlarged scale, of a part only of the silo around the opening, the base being broken away. Fig. 3 shows, on a still larger scale, a plain view of the brace; and Fig. 4 shows a front view of the same. Fig. 5 is a section on line x x of Fig. 3. Fig. 6 shows a modification of the reinforce.
 In the drawings, Fig. 1 shows a general form of a silo constructed of staves and hoops. It has an opening from top to bottom, as shown at a, and is bound together by hoops b, extending completely around the silo. As a matter of course the edges of this opening must be braced by cross-pieces inserted between the edges to prevent the structure from collapsing. These braces are made in special form, as I now proceed to explain.
 The form shown in Fig. 3 consists of a straight bar c, having at each end a flange or bearing d at right angles, substantially, to the bar c. These bearings or flanges are adapted to bear against the edge of one thickness of the wall of the silo, but not to overlap, so as to interfere with the door-sections. Outside of this bearing d is an inclined extension e of the brace, which is fitted to bear out on the outside of silo-wall, and this is provided with holes 1 and 2.
 Referring now to Fig. 2 it will be observed that a casing or reinforce f is provided on each side of the opening and fixed upon the edge of the wall, so as to overlap said edge and afford a bearing for the flange d and extension e; the first bearing against the edge of the reinforce, and the second on the outside thereof. The brace is held by bolts g, which pass through the reinforce and through a stave and so bind the whole together. The door is composed of sections h, which may be simply cross-staves dove-

tailed and made so as to be placed one on top of the other with the ends bearing on the outside against the reinforce f. That part of the reinforce against which the ends of the pieces h bear is provided with rubber or other suitable lining to form an air-tight packing. The pressure of the contents of the silo may be relied upon to press outwardly the pieces h to form an air-tight joint, if constant care be used to press the material down in filling the silo, so as to

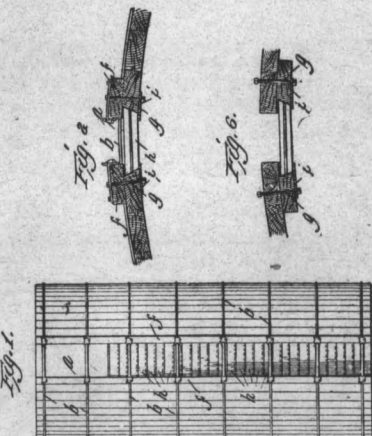
No. 627,732

G. V. HARDER.
Silo.
(Application filed Feb. 4, 1909.)

Patented June 27, 1909.

(See Model)

(See Model)



Attest
 J. J. Marshall
 A. J. Seale

Inventor
 Geo. D. Harder
 By J. J. Marshall

create a sufficient pressure but this constant care on the part of the workman cannot be relied upon, and I have therefore provided a metallic strip or plate i, extending from top to bottom and arranged to overlap the edge of the stave at the margin of the opening on the inside. The bolts g pass through this plate and are held in any suitable manner. Preferably the bolts are headed on the inside and are provided with nuts on the outside, so that they may be turned up to draw the flange in closely after the pieces h are inserted, or the bolts may be riveted or otherwise set in fixed position, the parts being adjusted so that the pieces h may be crowded down one after the other firmly in place and so closely fitting as to bear tightly against the packing. The reinforce may be on the inside instead of the outside, as shown in Fig. 6, in which case the brace will bear against the outer edge of the staves and the sections h will bear against the inner surface of the staves and abut against the edge of the reinforce. This construction I regard as equivalent.

In order to obviate the necessity of a separate ladder or ladders, brackets are

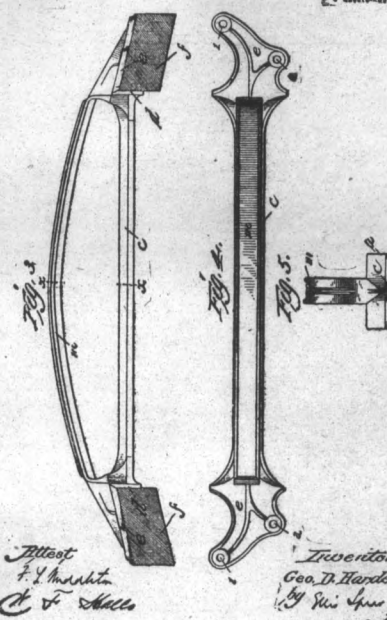
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fixed upon the outside of the silo, and to further strengthen the brace I have provided an additional outside bar on the brace, (shown at m). If the brace be made of cast-iron, this additional bar may be cast in one piece therewith, and if of wrought-iron it may be made separate and the parts riveted together. Preferably I curve the bar outward slightly, as shown in Fig. 3, and proportion the metal in the parts so that the strain at the ends may be provided for. This construction brings the ladder at the point where the door-sections are to be inserted and removed, and it is convenient and saves the expense of a separate ladder.

The cross pieces or sections h in practice are of the same material as the staves and are simply narrow strips of board with dovetails, the boards being set with the ribs presented upward and the grooves downward to prevent water accumulating in the grooves. They may be taken out in discharging the silo one by one, so that no lifting of the material is required. It may then be simply raked out.

HAPPENINGS OF THE WEEK.

National.

The splendor and grandeur of Niagara Falls impressed Admiral Togo, representative of Japan, who completed his 17-day tour of the eastern part of the United States at Niagara, Sunday, as a guest of Uncle Sam.

At the aviation meet held in Chicago last week a new high record for the world was established when O. A. Brandley reached the altitude of 11,762 feet, the former record being that of Captain Felix who ascended 11,152 feet at Etampes, France in 1910.

Effort is being made to prevent the reenactment of the Burton law which practically prevents further use of the waters of Niagara Falls for power purposes, so far as the American side of the Falls is concerned. Detroit business men are anxious to secure electric power from this source and are therefore putting forth efforts to provide for the granting of franchises to concerns for securing additional electric current.

The insurance inquiry recently held in Detroit reports that it found irregularities in the business policies of some of the accident and commercial companies examined. The companies charged with irregularities are now making complaint that they were not given a "square deal."

President Taft has arranged a tour of the western part of the country during which he has engaged to make 200 speeches in defence of his policies. Unless present arrangements are changed the trip will require six weeks, he leaving Beverly, Mass., about the middle of September and will not return till the first of November.

After one of the most noted special sessions of its history, in which political lines were segregated in many different direction and members voted on questions quite out of harmony with the policy of their party affiliations, congress has agreed to adjourn this week, and thus end the special session called by President Taft for the purpose mainly of enacting into law the reciprocity agreement with Canada.

The congressional committee looking into the controversy arising in the agricultural department over the charges made against Dr. Wiley have closed the hearing of testimony and will now hold an executive session for analyzing the matter brought out at the inquest.

The report of Prof. Finlay, of New York, who has been working for some time in ascertaining the valuation of the copper and iron mines of the state, makes the startling revelation that the end of copper mining is near at hand in Michigan, but that the outlook for iron is very bright. He put the value of the copper mines at \$69,815,000 and of the iron mines at \$119,435,000.

The Loyal Order of Moose are in session at Detroit this week. Large delegations from all sections of the country are present and interesting as well as exciting sessions are being held. A class of 1,200 candidates were initiated into the local chapter during the convention.

Foreign.

The difficulty between France and Germany over the Morocco affair has been suspended for the time being by diplomatic efforts, but from the activity reported at the several naval ports, France is losing no time making ready for war. She will assemble 18 battleships and nine armored cruisers at Toulon on Sept. 4.

A police reform bill has been introduced in the Russian cabinet and is expected to be enacted into law by the next duma, thus revising the police code of the European provinces of the country for the first time in 130 years. The lack of change in the methods of the police departments of the provinces has allowed much corruption.

A campaign for the election of federal officers is now on in Mexico, the election to be held in October. It has been agreed between the two candidates for president, Gen. Bernardo Reyes and Francisco I. Madero, that the rate is to be a friendly one. The destiny of the country depends upon the care with which the campaign teams of the rival candidates conduct their work.

The transfer of Prince Su, of China, from the naval department to the board of dependencies is taken by diplomats to mean that China is working to protect herself against the encroachments of foreign nations and to gradually develop Manchuria, Mongolia and Tibet to a point where intervention of outside forces will become unnecessary to their control and advancement. The progressive attitude of the government is showing itself in many ways by adopting western ideas and policies.

It is reported that Spanish politicians are making much of the evidence brought to light by the raising of the battleship Maine, which indicates that the explosion which caused the destruction of the ill-fated vessel in the Havana harbor was from the inside and not from the outside, as was declared to the American people at the time it happened 13 years ago. Aspiring partisans declare that they will force the United States to relinquish claim to Porto Rico and the Philippine Islands should their constituents elect them to the legislative council of the country.

It became necessary for the government to intervene and quiet riotings in English cities where it was claimed that transportation employees to the number of 220,000 "walked out." The companies and the labor unions had issued their ultimatums in which each refused to accept the conditions and terms demanded by the other. The unions then threatened to make the strike general and as the transportation of food stuffs was already so disturbed as to cause much distress in the larger cities, the government interfered and presented to the companies and strikers a tentative agreement which was accepted on Sunday.

CROP AND MARKET NOTES.

Genesee County, August 11.—A drouth of quite serious nature was broken last night by a heavy rain, which took the form of a severe electrical storm for over two hours. Several barns were struck by lightning and burned, also several head of stock killed by the same agent. Benefits of the rain will be wide-spread, as potatoes, beans, corn and sugar beets, were sadly in need of moisture. Plowing for wheat now under way and the soil is in fine condition today. Potatoes are unusually high for this time of year. Considerable new hay being sold at \$12 to \$16 per ton.

Eaton Co., August 8.—Corn and late potatoes looking well, but rain is needed badly by both. Most corn fields were so tangled by the wind storm the latter part of July that any further cultivation was out of the question. Wheat was a fine crop but was rushed to market so fast that the price dropped as low as 68c; 76c now. Oats about all secured, in fine shape. Fruit, where sprayed, usually good. Pastures getting short for lack of rain. Hay is being baled rapidly, and hauled to market to take advantage of the high price, \$10@14 being paid. Beans are \$2, corn, 65c; oats, 32c; butter, 24c; eggs, 14@18c (according to size and cleanliness); new potatoes, \$1.50@2, and hard to get at that; hogs 5½@6½c; cattle, 2½@5c; sheep, 2½@3½c; lambs, 3@5c.

Laporte Co., Aug. 14.—Fine rain the morning of 11th and 12th has helped the pastures, corn and potatoes. Corn generally will mature 90 per cent of a crop. Potatoes from present outlook only 50 per cent, some only 25 per cent. Marsh hay good, better quality than usual. Timothy and clover light. Spring seeding is a failure. Pasture short and dairy supplies are shrinking and price advances. Butter, 26@30c; apples, plentiful, 35c; peaches, 90c@\$1, owing to size. Trees are heavily loaded and fruit is small.

AN APPRECIATIVE READER.

After congress has ratified this reciprocity bill so-called I wish to thank you for the work you did in an effort to defeat this outrageous piece of class legislation. The farmers of Michigan are very peculiarly constituted if they do not appreciate what work you did in person in Washington and through your paper in their behalf and against your own personal benefit. While all efforts to defeat this bill in the U. S. were unavailing, the end is not yet. If the electors of Canada support, in the coming election, the present government the treaty will become operative. But Mr. W. H. Taft, I am sure, will realize more keenly in 1912 than he now does that the farmers of the northern states hold the balance of power; that while they may not be able to elect a candidate of their own they can defeat one and that such a piece of class legislation will not go unrebuked. The farmers of this locality would have found no fault with a reduction of duties all along the line, but to have been singled out of all classes to sell on a free trade basis while buying on a protected one they feel to be an injustice. And I am in eastern New York in the heart of the apple section which ought to feel the effects of this least of all.

Monroe Co., N. Y. JOHN H. WHITE.

MORE GOOD MICHIGAN FAIRS.

The Hillsdale Fair will be held at Hillsdale, Oct. 2-3-4-5-6. The management is pushing the work of preparing for the usual big agricultural competitive exhibit, and the prospect is bright for—just as good as ever—displays of stock, grains, vegetables, fruits, etc.

Cass Co. Fair to be held at Cassopolis, Sept. 19-20-21-22. This will be the Seventh Annual fair and every effort has been made to make it the best one yet held. All visitors and exhibitors are assured of a profitable and pleasant time. Mr. E. H. Black is Secretary.

Milford Fair will be held on Sept. 26-27-28-29, at Milford. This is the only fair that is held in large Oakland county and the management promises that everything will be better than it ever was before. The secretary is M. C. Williams.

Charlevoix Co. Fair to be held at East Jordan on Sept. 12-13-14-15. Mr. A. B. Nicholas, Jr., who is the secretary, as-

ures us that no effort has been spared to make this fair successful in every way. Everyone is urged to attend and in this way help out.

Gratiot Co. Fair to be held at Ithaca, Aug. 29-30-31-Sept. 1. The secretary, Mr. A. McCall, simply said, "The Big Gratiot Co. Fair"—enough said, everyone knows that this means no effort has been spared and all should attend.

The 41st Annual Fair and Races of the North Branch Fair Society will be held in North Branch, Sept. 13, 14 and 15. The fair this year promises to be bigger and better than ever. Liberal premiums are offered in each department, and there will be good racing and a long list of free attractions. Write the secretary, W. F. Galbraith, for premium book and all information.

Cheboygan Co. Fair to be held at Wolverine, Sept. 26-27-28-29. The big Northern Michigan Fair. The management this year has been especially aggressive and up-to-date, and everyone is welcome to enjoy themselves and profit by the large displays. Mr. D. E. Culver is secretary.

MICHIGAN FAIRS FOR 1911.

The following contains the dates of all Michigan Fairs of which we have received advices to date. Most of the dates were received from official sources and we should be pleased to receive official confirmation of the others and official information of any other local fairs to be held this year. The list is arranged as follows: First, the fair; second, where it is held; and third, the date:

Caro, Caro, Aug. 29-Sept. 1.
Gratiot Co., Ithaca, Aug. 29-Sept. 1.
Bay Co., Bay City, Sept. 2-8.
Antrim Co., Bellaire, Sept. 4-7.
Inter State, Kalamazoo, Sept. 4-8.
Marquette Co., Marquette, Sept. 4-8.
Howard City, Howard City, Sept. 5-8.
Sanilac Co., Sandusky, Sept. 5-8.
West Michigan State, Grand Rapids, Sept. 11-15.
DeKerville, DeKerville, Sept. 12-14.
Thumb District, Port Huron, Sept. 12-15.
Menominee Co., Menominee, Sept. 12-15.
Charlevoix Co., East Jordan, Sept. 13-16.
North Branch, North Branch, Sept. 13-15.
Michigan State, Detroit, Sept. 18-27.
Berlin, Berlin, Sept. 19-22.
Calhoun Co., Marshall, Sept. 19-22.
Cass Co., Cassopolis, Sept. 19-22.
Mecosta Co., Big Rapids, Sept. 19-22.
Oceana Co., Hart, Sept. 19-22.
Otsego Co., Gaylord, Sept. 19-22.
South Allegan and West Ottawa Co., Holland, Sept. 19-22.
Allegan Co., Allegan, Sept. 25-28.
Lenawee Co., Adrian, Sept. 25-30.
Cheboygan Co., Wolverine, Sept. 26-29.
Copper Co., Houghton, Sept. 26-30.
Eaton Co., Charlotte, Sept. 26-29.
Milford, Milford, Sept. 26-29.
Southern Michigan State, Benton Harbor, Sept. 26-29.
Flint River Valley, Burt, Sept. 27-29.
Ionia Co., Ionia, Sept. 27-29.
St. Joseph Co., Centerville, Sept. 27-29.
Hastings, Hastings, Oct. 2-7.
Hillsdale, Hillsdale, Oct. 2-6.
Gladwin Co., Gladwin, Oct. 3-5.
Huron Co., Bad Axe, Oct. 3-6.
Imlay City, Imlay City, Oct. 3-6.
Osceola Co., Evart, Oct. 3-5.
Armada, Armada, Oct. 4-6.
Arenac Co., Standish, Oct. 5-7.
Fowlerville, Fowlerville, Oct. 10-13.

State Fairs and Expositions.

North Dakota, Fargo, July 17-22.
Iowa, Des Moines, Aug. 24-Sept. 1.
Canadian National, Toronto, Aug. 26-Sept. 11.
Ohio, Columbus, Aug. 28-Sept. 1.
Indiana, Indianapolis, Sept. 4-8.
West Virginia, Wheeling, Sept. 4-8.
Minnesota, Hamline, Sept. 4-9.
Nebraska, Lincoln, Sept. 4-8.
South Dakota, Huron, Sept. 11-15.
West Michigan, Grand Rapids, Sept. 11-13.
Wisconsin, Milwaukee, Sept. 11-16.
Kentucky, Louisville, Sept. 11-16.
New York, Syracuse, Sept. 11-16.
Michigan, Detroit, Sept. 18-27.
Wisconsin Interstate, LaCrosse, Sept. 26-29.
Southern Michigan, Benton Harbor, Sept. 26-29.
Illinois, Springfield, Sept. 29-Oct. 7.

ACREAGE AND COMPARATIVE CONDITION OF PRINCIPAL CROPS IN THE UNITED STATES.

CROPS	Condition, August 1			Acreage, 1911		
	1911	1910	Ten-yr. Av.	July 1, 1911	P. C. of 1910	Acres
Corn	69.6	79.3	81.2	80.1	101.7	115,939,000
Winter wheat	...	...	...	76.8	106.6	31,367,000
Spring wheat	59.8	61.0	62.3	73.8	104.9	20,757,000
All wheat	...	...	...	75.6	105.9	52,124,000
Oats	65.7	81.5	82.2	68.8	99.9	35,250,000
Barley	66.2	70.0	85.1	72.1	97.0	7,038,000
Rye	...	...	...	85.0	96.7	1,962,000
Buckwheat	32.9	87.9	91.1	...	97.0	801,000
Potatoes	62.3	75.8	84.8	76.0	97.3	3,495,000
Tobacco	68.0	78.5	82.2	72.6	72.4	893,200
Flax	71.0	51.7	83.8	80.9	103.3	3,013,000
Rice	88.3	87.6	88.3	87.7	97.6	705,700
Hay	68.6	83.1	87.1	64.9	94.1	43,017,000
Apples	53.9	47.8	53.0	57.9	...	...

The yields indicated by the condition of crops on August 1, 1911, the final yields in 1910, and the averages for 1906-1910, follow:

CROPS	Yield Per Acre.			Indicated total production 1911, compared with total production in 1906-10		
	1911 Indicated by condition	1910 Final	1906-1910 Average	1910 P. C.	Average P. C.	
Corn	Bus. 22.6	27.4	27.1	83.8	93.0	
Winter wheat	Bus. 14.5	15.8	15.5	98.1	101.1	
Spring wheat	Bus. 10.1	11.7	13.5	90.6	86.9	
All wheat	Bus. 12.8	14.1	14.7	95.6	95.9	
Oats	Bus. 23.2	31.9	28.4	72.6	87.7	
Barley	Bus. 19.8	22.4	24.8	85.9	83.8	
Rye	Bus. 15.6	16.3	16.4	92.9	94.6	
Buckwheat	Bus. 18.1	20.9	19.6	84.1	91.2	
Potatoes	Bus. 71.5	94.4	96.9	73.8	78.1	
Tobacco	Lbs. 672.4	797.8	826.0	61.0	74.5	
Flax	Bus. 7.6	4.8	9.9	162.2	97.7	
Rice	Bus. 32.7	33.9	32.4	94.1	107.5	
Hay	Tons 1.14	1.32	1.41	80.4	77.2	

*Preliminary estimate of yield.

*Average for 1905-1909.



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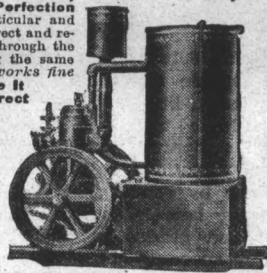
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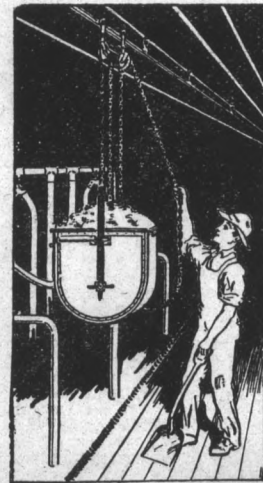
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HORTICULTURE

HARVESTING AND MARKETING SUMMER AND FALL APPLES.

The season for harvesting summer apples, such as Astrakhan, Transparent, and Duchess is about over and later sorts such as Sweet Bough, Maiden's Blush, Twenty Ounce, Wealthy, and others will soon be ready for the market. Summer and fall apples are quite plentiful this year and it is probable that many growers have not been well satisfied with some returns for them. No. 1 fruit well packed, has brought from \$2.00 to \$3.50 in most markets, the better price being secured earlier in the season. After the wind the latter part of July the market was flooded with windfalls, and rather demoralized, at least for the common fruit, and the Astrakhan variety. This variety is not a great success as a commercial variety, as it ripens unevenly, and becomes mellow and too soft to ship rapidly. Transparent and Duchess have sold better, good fruit of these varieties bringing from \$2.50 to \$3.00 on the Chicago market during the time of most abundant supply. The Duchess is quite a satisfactory variety to grow for a summer apple, but I fear the planting of this variety has been overdone during late years, and that in time some other summer varieties may bring better prices. The Transparent has the advantage of being a fair eating apple when fully matured, while the Duchess is of value only for cooking. Of the varieties coming on later I believe Maidens Blush and Wealthy will be the leaders in bulk, though some of the Pippins will bring better prices. Maiden's Blush is very satisfactory apple to ship, as the trees bear good crop of clean, firm apples when sprayed, which are excellent for cooking. Wealthy bears early, but drops quite easily, and cracks badly when a dry period is followed by a wet one near the ripening season. Vandever Pippin is a nice apple to pack, and brings good prices. The tree seems to be thrifty and of good size. I note that the summer sweets like Sweet Bough and Golden Sweet bring prices as high or higher than the sour ones, and I believe that these will continue to gain favor as consumers learn more of their food value baked and boiled.

As for marketing, most of our summer and fall fruit is consigned to commission firms, and we have never suspected far from a fair deal from them. If the fruit is nice and put up attractively, they are glad to get it, and if a responsible firm will try to do their best with it. Of course there are rogues in the commission business as in all other vocations, but there are also honest men, and when we find one we should stick to him as long as he seems to be giving us a fair deal. I think the time will come when a well regulated license system will drive a large number of the irresponsible firms and fakirs from the commission business.

We have tested the markets on the barrel compared with the bushel box for early varieties quite thoroughly this summer by sending several boxes along with the barrels, putting the same varieties and grades in the boxes as were in the barrels. This was tried on different markets and with different firms on the same market, and in every instance a barrel brought from 25 to 50 cents more than three bushel boxes. Freight and drayage is also a little higher on the apples in boxes. Three apple boxes hold slightly less than a barrel, but the extra labor in making and packing the boxes will more than offset this slight difference. It seems plain to us that these markets prefer the barrel because they will give more for it, and it is to our advantage to give them the style of package they will pay best for. It is probable that few summer apples go to the consumer in the original package, and it can be readily understood why the retailer and the commission men prefer the larger package in this case. When the consumer becomes educated to demand fruit in the original package the smaller packages will come into more demand, but I believe they will be a more profitable package for winter fruit than for summer fruit, as few families will care for a bushel of summer fruit at a time.

As for the packing there should generally be two grades with the line between the two well defined; however I

do not believe that size should be the only thing to determine the grade. Some large apples may be poor in quality and yet not possess characteristics which would bar it from the No. 1 grade, also some of the best quality of apples may be a little small for the grade. As a buyer I would prefer the smaller well colored, well ripened, perfect apple to the greener, imperfectly matured fruit even if the former was too small for the No. 1 grade. There must be some arbitrary rule, however, as a guide, and I think that most states will soon adopt a law similar to that recently passed by New York, establishing and defining standard grades, and establishing a penalty for false labeling.

I believe the general practice of buyers in putting up good apples is to "double face and tail" the barrels, that is, specimens of normal to large size for the variety selected for facers, and one layer is placed stem downward in the bottom of the barrel. Another layer of well colored fruit is placed over these cheeks downward, so the well colored cheeks will show through the spaces between the first layer. When the barrel is nearly filled a layer of good, even fruit is placed on top of the barrel, usually with cheeks upward. The head is pressed in and nailed, the barrel inverted, and the variety and grade or perhaps the variety and the private stamp which denotes the grade to those who understand it but does not to the uninitiated is placed on the inverted end, which is the face end. This requires considerable putting labor without adding any real value to the fruit, but of course the barrel "looks better" when opened, and the appearance counts a great deal in making the price, though a good face will not sell many barrels of poor fruit. It is estimated by a large company of apple buyers that it costs 15 cents per barrel to "face and tail" the barrels. If only a single face was put on, and no "tailing" was done it would more than cut the expense in two, and would answer just as well if all would do the same. We seldom double face a second grade of fruit, and do not do much tailing. The latter is of value only when the barrel is opened from the bottom as is sometimes done by prospective buyers.

Calhoun Co. S. B. HARTMAN.
(Concluded next week.)

INFORMAL MEETING OF MICHIGAN FRUIT GROWERS.

The Michigan State Horticultural society, in conjunction with the Grand River Valley Horticultural society, held an enjoyable summer orchard meeting at Grand Rapids Saturday, Aug. 12. The meeting was well attended by the growers of western and southwestern Michigan, while several of the apple men came over from the Detroit convention. Many of the visitors arrived Friday night and early Saturday morning they visited the city market. Visiting growers were pleased with what they saw at the market, particularly with the prices paid. One Benton Harbor man spoke particularly of melons, saying that they were bringing \$1.25 per basket here as compared with 75c in Chicago, which is southwestern Michigan's chief market.

During the forenoon a number of autos were secured and trips were made to several of the outlying fruit farms. At 11 a. m. the visitors gathered at the farm of Henry Smith, just west of the city and a short program of talks was given, both before and after the basket luncheon. T. A. Farrand of Eaton Rapids, president of the state society, presided and the first speaker was A. G. Hammar of the U. S. department of agriculture, his topic being the codling moth. Prof. Eustace of the M. A. C. spoke briefly on sand vetch as a cover crop and Prof. Pettit of the M. A. C. referred again to the codling moth, the time of hatching and methods of spraying. Grapes and their diseases were discussed by L. A. Hawkins, who has been doing research work in the Lawton district. Black rot was classed as the worst disease, though it can be controlled by spraying and thorough cultivation. The speakers also included J. H. Bahrenburg, president of the New York branch of the national league of commission merchants, and R. S. French also of New York, business manager of the league, who came over from the Detroit apple meeting. An invitation to attend the Michigan Land and Apple show, to be held in Grand Rapids, Nov. 7-11, was extended by J. R. Taylor, general manager.

Not many sales of fruit crops have been reported. It is understood that several peach orchards in the Benton Harbor district have been contracted for at \$1.25 others at \$1.10, while some late apples in that section have been sold at \$2.85 packed. H. S. Newton, an Oceana grower, has contracted his peaches at \$1.35, though many smaller orchards have sold around \$1. John McKinley of Newaygo county, has sold his crop of peaches on 14 acres to Muskegon parties for \$4,000. They are mostly Elbertas and Crawford. Chas. Scudder of Kalamazoo county sold his crop of apples on 100 acres to Chicago parties for \$8,000. The fruit was sold on the trees, the varieties including Duchess, Maiden Blush, Pippin, Winter Banana, Baldwin, Ben Davis, Spy and Stark.

POTASH PAYS



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Wheat is profitable if the yield is good. A good yield is insured by using the right fertilizer.

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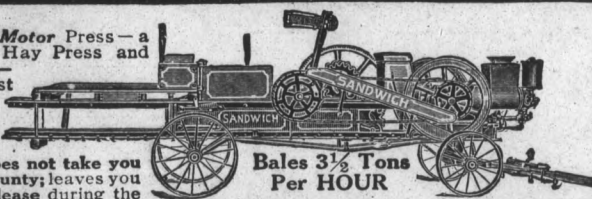
POTASH

Insist on 6 to 8 per cent. of Potash in wheat fertilizer. Some of the best growers use 10 per cent. If you have trouble in getting such brands buy Potash and add it yourself. We will sell it to you in any amount from 1 bag (200 lbs.) up. Write us for prices, naming amount needed, and for free books on *Fall Fertilizers and Home Mixing*. They will save money for you.

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Astounding Profits Made by Owners of New Hay Press

The New Sandwich Motor Press—a combination All-Steel Hay Press and Gasoline Engine—makes hay baling a most profitable business. Pays \$10 a day profit on a few hundred dollars invested. Demands no previous experience; does not take you away from your home county; leaves you free to do what you please during the spring and early summer months! It's worth something, too, to be one's own boss.



Bales 3½ Tons
Per HOUR

Sandwich All-Steel Motor Press

The secret of big profits in hay baling is big tonnage. In the Sandwich Motor Press you get a high-class, big-capacity outfit, yet it is low-priced.

It is complete and compact. Easy to move, always ready for work—no setting up engine. Chain drive. No belts to adjust, or lose power. Easy to start or stop press instantly. Substantial construction. Steel press—axles, wheels and platforms reinforced throughout. 7 H.P. hopper-cooled engine. Tank underneath. Equipped with batteries and magnet, combination seat, battery and tool box, and standard gasoline pump. If you have an engine, buy press alone. Any standard hopper-cooled engine can be used.

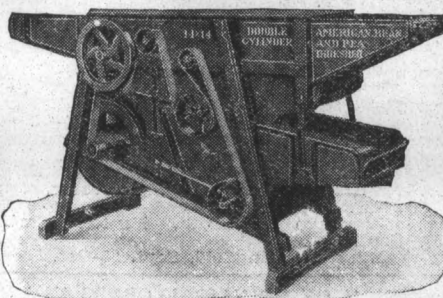
The Sandwich All-Steel Motor Press bales 2½ to 3½ tons per hour. Has self-feeder equipment. Takes double charge of hay. Has no condenser box—needs no foot tamping—feeds direct from fork. No balance wheels, no high-speed machinery. Fast, simple, strong, light of draft.

We make presses with or without engines—wood frame and steel frame—horse power and engine power—in all sizes up to five-ton per hour capacity. Prices reasonable.

Drop us a line today for new book about the Astounding Profits in Hay Baling. Let us tell you more about the wonderful Sandwich Motor Press.

SANDWICH MFG. CO., 564 Spruce St., Sandwich, Ill.

THE AMERICAN BEAN AND PEA THRESHER



Threshes Peas and Beans just as they are taken from the field and separates the grain perfectly without splitting a kernel. Shreds the vines and does a cleaner job than can be done by hand. Will pay for itself in a short time in the labor and crop it saves.

Capacity 15 Bushels per hour.

30-Day Free Trial Offer!

Send for full particulars, and our guarantee. Satisfaction or money returned.

AMERICAN GRAIN SEPARATOR COMPANY,
1022 Essex St. S. E., MINNEAPOLIS, MINN.

Boyer City, Mich., April 2d, 1911.

AMERICAN GRAIN SEPARATOR CO., Minneapolis, Minn.

Gentlemen:—In regard to your No. 14 Double Cylinder Bean and Pea Thresher, would say that it has given the best of satisfaction, and it is all you claim it to be. I would not be without it for any money.

W. G. CONGDON.



CABBAGE WORMS Destroyed by Dust- ing with HAMMOND'S SLUG SHOT

So used for 30 years. Sold by all SEED DEALERS.
For pamphlets worth having write

B. HAMMOND, Fishkill-on-Hudson, New York.

THE BEAN CROP

can be harvested promptly before fall rains discolor and ruin them, by owning a GENUINE PATENT

Miller Bean Harvester

(Made by LeRoy Plow Co., LeRoy, N. Y.) that costs no more than imitations. If your implement dealer can not supply you write the

JOHN DEERE PLOW CO., Indianapolis, Ind.

Dowagiac Drills & Seeders Are the Leaders

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DOWAGIAC MANUFACTURING CO. DOWAGIAC, MICH.

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in each town to ride and exhibit sample 1912 bicycle. Write for special offer.

Finest Guaranteed \$10 to \$27

1912 Models

with Coaster-Brakes and Puncture-Proof tires.

1910 & 1911 Models

all of best makes... \$7 to \$12

100 Second-Hand Wheels

All makes and models, \$3 to \$8

good as new... \$7 to \$12

Great FACTORY CLEARING SALE

We Ship on Approval without a

cent deposit, pay the freight, and allow

10 DAY'S FREE TRIAL.

Tires, coaster brake rear wheels, lamps,

sundries, parts and repairs for all makes of bicycles at

half usual prices. DO NOT BUY until you get our

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MEAD CYCLE CO. Dept. T.77, CHICAGO.

Mention the Michigan Farmer when writing advertiser

FARMERS' CLUBS

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President—B. A. Holden, Wixom.
Vice-Pres., J. D. Leland, Corunna.
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Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

COMPULSORY SPRAYING.

Address of Mr. D. Munro, before the State Association of Farmers' Clubs at the last annual meeting of that organization.

(Continued from last week.)

The writer favors a law providing for an Inspector-at-large, with District Inspectors. All of these to devote their entire time to the work. The county inspectors to be under the district inspector and report to him as well as report to the county board of supervisors. That in each township there should be one or more inspectors working by the day under the county inspector. Their work should include the inspection of fruit and trees, noxious weeds and grain pests, and bee inspection. For this purpose the state should make a liberal appropriation to supplement the direct charge to the county and township.

Will it pay? Inspection has cost Clay township thus far \$42. The inspectors' work has saved thousands of dollars worth of trees. Most of those who have sprayed here have had a fair yield of good marketable fruit. Those who failed to spray have practically no fruit. What little they have are culls. One man who has a few trees hired his trees sprayed twice, once for scale, once for fruit. In midsummer he was sorry he had not cut the trees down. This fall he sold \$80 worth of choice fruit. Now he purposes getting his own spray. Another farmer who sprayed had 500 bushels. The farmer adjoining, with as good trees, did not spray. He had no fruit. The man on the next farm sprayed and had 300 bushels. A year ago one man cut out 2000 trees, mostly pear. He now contemplates setting out a peach orchard. The San Jose scale covers nearly all the orchards, but the spraying done thus far encourages the people so that the orders for trees for next spring's planting far exceeds any former year.

Idaho apples are selling in our village at 40 cents per dozen. In Port Huron some Idaho apples covered with San Jose scale, are selling from the stores at \$1.60 per bushel. A farmer from Grant township, St. Clair, has over 100 bushels of Baldwins and other winter fruit rotting on the ground, covered with scale. This is from a young orchard. With proper care Michigan can produce the best apples in the world, but through neglecting our own trees we are paying enormous prices for western fruit. A car load of pears from Oregon sold at 10 cents apiece, wholesale, in New York. Think of one car of fruit bringing \$4,622.80!

At least \$100,000 worth of Western apples have been sold in Detroit this season. Some selling as high as one dollar per dozen. Is Michigan to be taken from the map as a fruit state? The present condition of the farm orchards is doing this rapidly. Let the farmers get busy with the orchards, and land values will double, and in many sections double again.

If this association were to devote the entire two days of this meeting to a consideration of this question it would be time most profitably spent. Let this meeting back up a law that will be adequate to meet the present and future fruit industry of Michigan.

The presence of weeds causes an average loss of one dollar an acre to Michigan farms. Practically nothing is being done at present to remedy this. If the suggestion to have county inspectors to look after fruit, bees and weeds, should be carried out, the people would soon see the benefits. One per cent of the benefits would pay a liberal compensation for the work.

While other states appropriate as much as \$50,000 a year to look after the fruit industry, and then report the work to be done requires more money, Michigan spends about \$2,000 a year. What can be accomplished with so small an outlay? Michigan has probably 500,000 barrels of

apples this year. Of these 200,000 were choice fruit that brought \$5 per barrel. The total returns for fruit marketed in Michigan was perhaps \$3,000,000. Professor Taft was asked, What is the present possible output of Michigan orchards if they had good care? He answered "\$10,000,000. If given the very best care \$15,000,000."

Oregon is outstripping us in reputation for choice fruit. The only real advantage it has over Michigan, is that it has more advanced legislation. They report "The time coming when Oregon will be known by its fruit as a state, instead of by only a few localities." Their most effective agent for education and law enforcement is the county inspector. Without him they say "We could not have accomplished what we have."

In one county in Oregon, where the orchards were so badly infected with scale that no fruit was fit for market, after one year's work by the county inspector there was shipped out \$100,000 worth of choice fruit.

The legislation suggested by the writer is similar to the advanced legislation suggested by the various states quoted in this paper. To quote again from Prof. Taft, "It is in the hands of the farmers to say what shall be done."

CLUB DISCUSSIONS.

Flies Out of Doors.—The Wixom Farmers' Club was entertained Aug. 9 by one of the pioneer members, Mrs. Jane Larcom, at her home in Wixom village. At the noon hour we were invited out on the lawn to partake of a good dinner under the shade of the maples. It being a beautiful day a large crowd was present. At the usual hour the meeting was called to order and the first on the program was a talk by Miss Bassett, of Novi. Her subject was on "Flies Out of Doors." She demonstrated to us how to make an outdoor fly trap out of wire screen at the small cost of six cents. She mentioned several places where they are using them with good success.

The Milk Problem.—N. A. Clapp, of Northville, gave us a short talk on the milk problem, which is an important question with the farmer. He said milk is a very important article of food and great care should be taken to have it pure. When the farmer delivers his milk properly cooled to the station, his responsibility is ended. If it stands on the station platform in the boiling sun and is then delivered to the consumer in an imperfect condition, they use the farmer for their "kicking block." He questioned the right the health board of Detroit assumed in sending out a man to inspect our milk.

Oppose Monument to Jefferson Davis.—The following resolution was submitted: "Resolved, That no money should be appropriated from the United States treasury for the purpose of building a monument for Jefferson Davis or the soldiers of the southern confederacy." After being discussed, the following resolution was adopted unanimously: "Resolved, That we, as a Farmers' Club, are opposed to any movement pointing toward the expenditure of any of the nation's money to erect a monument to the traitor, Jefferson Davis, and the men who followed him in his rebellious movements against the United States government in 1861."—Mrs. R. D. Stephens, Cor. Sec.

The Farmer's Meat Supply.—The Assyria Farmers' Club held a very pleasant and interesting meeting with Mr. and Mrs. W. E. Brown, July 22. There were 12 present to partake of a bountiful dinner and listen to the program prepared for the afternoon. President Mayo called the meeting to order. Club song, "Kind Words Can Never Die," then came recitations, readings and discussion. "The Farmer's Meat Supply" was taken up and ably discussed by ladies and gentlemen. They thought that farmers should supply their own meat, that it could be prepared in many different ways so it would keep the year round. Instrumental solos and recitations followed which made it a very interesting afternoon. Adjourned to meet with Mr. and Mrs. George Kent, Aug. 26.

Why He Left the Farm.—The monthly meeting of the Indianfields Farmers' Club was held at the home of Mr. and Mrs. J. L. Truax, Thursday, July 20. The meeting was called to order by President R. Park. After singing, prayer, and the reading of the minutes the program was opened by little Lucy Andrews singing a solo, "When the Whip-poor-will Sings Marguerite," which the members and visitors enjoyed very much. M. Anger gave his reasons "Why He Left the Farm," in poetry, which presented some very good excuses. One was because there were so many cows to milk and hogs to feed, early hours to get out, and late hours to get in, and the very worst of all, no time to play quilts.

The Apple Orchard.—Mr. Paul had a paper on "Spraying and Trimming the Orchard," which brought out good ideas and facts. He thinks spraying is what pays where one expects to get perfect fruit and best prices. Miss Edith Andrews gave a few selections on instrumental music. The question box brought out quite a lengthy discussion on the cream sent to the Caro creamery. The meeting closed by singing "Home, Sweet Home." Supper was announced at 5:00 p. m., to which about 55 did ample justice. The August meeting will be the annual picnic.—Mrs. J. M. Miller, Cor. Sec.

GRANGE

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

THE SEPTEMBER PROGRAMS.

State Lecturer's Suggestions for First Meeting.

"Music works away from the soul the dust of every-day life."—Auerbach.

Music—Grange chorus.
Relation of good roads to: 1. Cost of living. 2. Church and school. 3. Social gatherings.
Recitation.
Is a pig worth two calves? 1. Yes.
2. No.
Sending the boy and girl to school.
Dialog.
Plantation melodies throughout this program.

Suggestions for Second Meeting.

"Let all labor and all time tend to improvement."

Roll call, responded to by quotations from the ritual.

Duet.
Recitation, "The Farmer's Creed."
How can the mother teach her children high ideals of patriotism and citizenship?
Drill in Grange ritual.
Who gets the consumer's dollar?
Closing song.

YOUNG PEOPLE'S CONTESTS.

Interest in contests is well nigh universal. In one form or another the contest finds a prominent place in the sports and development of people of all climes, races and degrees of civilization. When wisely conducted, contests are of very great value in developing those who take part and, hence, in promoting the interests which they represent.

It is for both of these reasons, the helping of the boys and girls and the promotion of good farming and good home making, that young people's contests have been and are being conducted by Granges, clubs, schools and farmers' institute societies in many sections of the country.

These contests usually take the form of growing or making, exhibiting and judging of farm and home products. Up to the present time, the prevalent form of contest for the boys has been the growing of a fourth, a half or a full acre of corn, and for the girls, the making of bread, under definite rules. Where the contest idea has been most fully developed, the contestants prepare papers, giving an account of their work, and have practice in class judging. The bread, corn and papers are carefully judged by experts, using approved forms of score card. The judging of their own exhibits by the boys and girls is also by the score card.

The careful study and attention which the boys give to the mechanical preparation and the enrichment of the soil, the planting and culture of the crop, and the study of flours, yeasts and methods of bread making by the girls, cannot fail to be productive of great good. The results already obtained, show, in some cases, a marked increase in the yield of corn and equally marked improvement in the quality and wholesomeness of the bread.

As an inducement to the boys and girls to enter such contests, suitable premiums are awarded to the most successful. These premiums are in the form of money, articles of wearing apparel, jewelry, implements, utensils, books, excursions, or a trip to the agricultural college to attend the farmers' short course of one or two weeks. Those premiums are considered best which are educational in character or have a permanent value, as a good book, which may be properly inscribed, to show when and how it was won by its possessor. The most convenient, but really least desirable, form of premium is money. If money is awarded, it is often unwisely spent, and very soon the winner has really nothing to show for his commendable effort and achievement.

The Grange in this state long ago recognized the worth of young people's contests and in some instances, though unfortunately not in all, the organization has worked hand in hand with the local schools, seeing in the promulgation of such contests a ready means of enlisting the interest of school boards and teachers in subjects agricultural. Where a close connection between Grange and school has been maintained in this work some really creditable results have been secured, and out of such contests has come a new interest in the work of the school which is vitalized by close contact with the farm and the home; a

growing realization and appreciation, on the part of patrons, teachers and pupils, of the opportunities and advantages of life on the farm and in the country, and a fine training in reading, thinking and doing, of immense value in the development of the future farmer and home maker.

POMONA MEETINGS.

Calhoun County.

An interesting meeting of Calhoun Pomona Grange was held, Thursday, Aug. 10, at the home of Miss Alice Cronk, of Pennfield. After the serving of a bountiful dinner, the program, outlined as an informal conference, was given. The general subject for discussion was "What opportunities does country life offer to ambitious young people?" This was subdivided into topics, the first one of which was, "Farming as a business proposition for the young man without capital." It was handled by Mr. Mead, of Pennfield, who held that success depends upon the young man himself; that in many cases it is better for the young man without capital to get a start in a position yielding a regular wage or salary. He becomes discouraged trying to meet the ups and downs and failures that are sure to come to the amateur, and with nothing to fall back upon he becomes a drudge instead of a successful business man which the farmer should be. "Get an education first, then farm, or do anything you will," was his message to the young man of the country.

"Home money-making for farm girls," was ably handled by Mrs. Walter Betterly. At first the wise mother can at once teach her little daughter many valuable lessons in home making, and business principles also, by recompensing her for the helpful tasks she may perform with small amounts to be used for her pin money. Fruit gathering, poultry culture, the sale of home-baked goods, hand embroidery and the popular crochet work, with other forms of needle craft, and designing and decorating for the artistic one, were among the excellent suggestions given by the speaker.

Miss Jeanette Miller, secretary of Battle Creek Y. W. C. A., gave a splendid talk on "The country girl in the city." Miss Miller said, in part, that the Y. W. C. A. represents a world-wide movement for the uplift of young women. Five out of every ten girls desire city life. They leave their homes and mothers just at the age when surroundings count for so much. Companions and society chosen at this time determine greatly their future lives. City opportunities for uplift are very plentiful if only improved. Advantages of country life over that of the city are many, chief among which are health-giving air and the great outdoors for recreation and enjoyment of the beautiful. But the girl of the country lacks ability to appreciate these blessings. Every mother should feel it her duty to instruct her daughter in things that give her the broadest sympathy and an interest in the best things of life.

"Opportunities for leadership" was talked upon by a business man from the city. He held that opportunities lie with children of a home largely as the father is able to make them. He said that to be a leader in any line of work or business a man must be "full of his subject."

"The Grange as an educator and leader," was discussed by Orwin Adams in a very able manner. Education and opportunities in the Grange are limited by the individual's interest in the work and his capacity for absorbing what is there to learn. Facts gained at the Grange must be tried and rounded out on the farm. Breadth of knowledge is acquired by meeting the best class of earnest, intellectual people in different localities.

The closing address, "The social opportunity of the country church," was presented by Rev. W. H. Phelps, pastor of First Methodist church, of Battle Creek. "There should be a great plan for his or her future in the heart and mind of every boy and girl," said Rev. Phelps. He mentioned the three great forces in life—the home, the school and the church. The many attractions produce a tendency in the city for home life to fade. The social life of the rural church community ought to be the center. There should be good clean fun and plenty of it. Social life should have the element of culture in it that will give young people the ability to meet and get along with people in general. Mr. Phelps urged that parents of the country take their families into the city to attend church and Sunday school three or four times a year at least, so that when the boy or girl of that home goes into the city he will find friends and associates among the church people.

Singing of familiar songs by all present interspersed the program and the audience was entertained by recitations, "When the circus comes to town," and "I'm a man with pockets in my pants," very pleasingly given by Master Chester and Lysle Betterly, and the "Old Virginia Reel" by Miss Bessie Hamilton.

COMING EVENTS.

Pomona Meetings.

Lenawee Co., with Palmyra Grange, Thursday, Oct. 5.
Kent Co., with Carlisle Grange, Wednesday, Oct. 4. Master N. P. Hull, state speaker.
Gratiot Co., with Sumner Grange, Saturday, Nov. 4. Hon. Geo. B. Horton, state speaker.

MARKETS

DETROIT WHOLESALE MARKET.

August 23, 1911.

Grains and Seeds.

Wheat.—There was a gradual but steady advance in this market during the early part of the past week due to reports of impending frosts in the northwest, but on Tuesday the market weakened on the receipt of reports of favorable weather conditions in the Canadian northwest, where the crop is reported to have escaped threatened frosts. While Liverpool was fractionally higher, due to fear of Canadian frosts, general foreign news was bearish, including a large increase in the European visible supply, good harvesting news from England and France and better prospects in some of the exporting countries. Each day has brought the Canadian crop nearer "home" and this, with other bearish features, has had a depressing effect on the market, notwithstanding the fact that recent "expert" reports have placed the spring wheat crop of this country at something like 36,000,000 bushels less than estimated in the last government report. No. 2 red wheat sold in this market one year ago at \$1.00½. Quotations for the week follow:

	No. 2	No. 1	Sept.	Dec.
Thursday	87½	84½	89¼	94½
Friday	87½	84½	89¼	94½
Saturday	88	85	89¼	95
Monday	89	86	90½	95¼
Tuesday	88½	85½	90	95¼
Wednesday	88½	85½	89¾	95

Corn.—Larger receipts from the country, no cash demand, and favorable weather for the development of the growing crop in the corn belt have had a depressing effect in the corn market during the week, resulting in a net loss of 1½c up to Tuesday's close. One year ago No. 3 corn sold in this market at 64c. Quotations for the week are:

	No. 3	No. 3
	White	Yellow
Thursday	66½	67½
Friday	66	67
Saturday	66	67
Monday	66	67
Tuesday	65	66
Wednesday	64½	65½

Oats.—There has been an apparent decline in this market, due to the shifting of quotations from old to new oats. While the market has felt the influence of heavy selling at some points the generally short crop as indicated by threshing reports has held prices about steady. One year ago the price for standard oats in this market was 35½c. Quotations for the week follow:

	Standard	No. 3
		White
Thursday	43½	43
Friday	43½	43
Saturday	40½	39½
Monday	41	40
Tuesday	41	40
Wednesday	41½	40½

Beans.—There has been a slight decline in the prices asked for cash beans for prompt delivery during the week with little movement in the product. Futures have remained unchanged at the nominal quotations. Quotations for the week are:

	Prompt	Oct.
Thursday	\$2.23	\$2.10
Friday	2.23	2.10
Saturday	2.20	2.10
Monday	2.20	2.10
Tuesday	2.18	2.10
Wednesday	2.18	2.10

Clover Seed.—There has been an advance in price quotations all along the line, due to a probable shortage in the crop. Recent reports however, are to the effect that the second growth is filling well, although the shortage in the hay crop will cause much of the second growth to be cut for hay where the same has made a good growth. Quotations for the week follow:

	Spot.	Oct.	Alsike
Thursday	\$11.50	\$11.50	\$10.00
Friday	11.50	11.50	10.00
Saturday	11.50	11.50	10.00
Monday	11.75	11.75	10.25
Tuesday	11.75	11.75	10.25
Wednesday	11.75	11.75	10.25

Rye.—This grain is firm and quiet with prices marked up two cents from the advanced quotations of a week ago, the quotation for No. 1 rye now being 90c per bu.

Flour.—Market is quiet and easy with values reduced 10c per bbl. Quotations are:

Clear	\$3.90
Straight	4.15
Patent Michigan	4.65
Ordinary Patent	4.40

Feed.—Except for corn and oat chop prices have advanced for all kinds of feed. Carlot prices on track are: Bran, \$26 per ton; coarse middlings, \$27; fine middlings, \$30; cracked corn, \$28; coarse corn meal, \$23; corn and oat chop, \$26 per ton.

Hay and Straw.—Both hay and straw values are steady with last week. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$19; No. 2 timothy, \$18; clover, mixed, \$16½; rye straw, \$7.50; wheat and oat straw, \$6.50 per ton.

Potatoes.—The quality of new potatoes is ruling low. At present the trade is steady with the best going around \$1.60 per bu.

Provisions.—Family pork, \$18.50@19.50; mess pork, \$18; medium clear, \$16@18; smoked hams, 16@17c; briskets, 11½@12c; shoulders, 11c; picnic hams, 10½c; bacon, 15½@16c; pure lard in tierces, 9½c; kettle rendered lard, 10½c per lb.

Dairy and Poultry Products.

Butter.—The receipts of butter at New York for the six days ending Aug. 15

were 46,000 pkgs., compared with 59,000 pkgs. for the previous six days, and 49,000 for the corresponding week in 1910. The receipts from May 1 to the above date aggregated 878,820 pkgs., as compared with 914,017 for the same period in 1910. The demand here is active and prices are holding steady. Pastures have improved and output, while behind that of last year is slightly improved for August. Prices are steady. Extra creamery, 26c; firsts, do., 25c; dairy, 18c; packing stock, 17c per lb.

Eggs.—The receipts of eggs have run above those of a year ago since the first of January. Dealers report that the quality of the offerings continues to demand close attention. The local trade shows an active demand and steady prices. Fresh receipts, case count, cases included, are now quoted at 16c per doz.

Poultry.—Prices are the same as a week ago. Supply is light. Prices are: Live—Hens, 12½@13c; old roosters, 9c; turkeys, 14@15c; geese, 8@9c; ducks, 12@13c; young ducks, 15@16c; broilers, 15@16c per lb.

Cheese.—Michigan, old, 17c; Michigan, late, 14½@15½c; York state, new, 14@15c; Swiss, domestic block, 16@18c; cream brick, 15@16c.

Veal.—Market steady at last week's figures. Fancy, 10½@11c; choice, 8@9c per lb.

Fruits and Vegetables.

Cabbage.—Steady. Selling at \$2.75 per bbl. for home-grown.

Plums.—Higher. Per bu., 75c@1.50.

Peaches.—Quality improved and offerings are more plentiful. Quotations: A. A., \$2; A., \$1.75; B., \$1.25 per bu.

Huckleberries.—Supply reduced and the prices are higher. Quoted at \$3@3.50 per bushel.

Apples.—There has been a large falling off in the supply of apples this last week and prices are looking better, ranging from 35@75c per bushel.

From Farmers' Wagons on Detroit Eastern Market.

There was a big market on Tuesday morning, but the wagons confined their cargoes almost entirely to vegetables and tomatoes, leaving the consumers of tree fruit hungry. The writer saw a single bushel of apples offered and these had no reason for being there because of their inferior grade. Peaches of low quality were quoted at \$1.50 per bu. Potatoes are still scarce and selling for \$1.35 and better per bushel; tomatoes are higher and ruling between \$1@1.30; onions were in fair supply and offered at \$1.50 for good quality; cucumbers 50c per hundred for small, and from \$1@1.50 per bushel for large; radishes were 10c per large bunch; butterbeans, 40c per bushel; celery, 25c per bunch; lima beans 25c per quart; corn, 50c per bag; cabbage around 50c per bushel. Hay is scarce, the best grades selling for \$23 and \$24 per ton.

OTHER MARKETS.

Grand Rapids.

Tuesday's market was one of the best of the season and the fruit offered sold at the following prices: Plums, 50c @ \$1.50; grapes, \$1.50 doz; hand-picked apples, 60c@1; windfall apples, 25c; peaches, 90c@1.75; pears, 60c@1; crab-apples, 25@50c. On the vegetable side of the market potatoes held up well at \$1.25 @1.60, while tomatoes sold readily at 50 @75c, and were scarce. Muskmelons are in good supply now at \$1@1.25 per bu. Other stuff sold as follows: Radishes, 5c; onions, 10c; cucumbers, 10@30c; beets, 10c; cauliflower, 10@15c; celery, 10c; carrots, three bunches for 25c; red cabbage, \$1@1.20; white cabbage, 80c @ \$1; corn, 12@20c; parsley, 15c; green peppers, 20@25c; egg plant, 15@20c. Hay is bringing \$13@16. Fresh eggs are worth 15½c, while dairy butter is quoted at 20c; creamery butter, 25½c. Dressed hogs are higher, selling at 10½@11c.

Chicago.

Wheat.—No. 2 red, 90½c; Sept., 90½c; Dec., 94½c per bu.

Corn.—No. 2, 63¼@64c; Sept., 63½c; Dec., 61½c per bu.

Oats.—No. 2 white, 41¼@42½c; Sept., 42¼c; Dec., 44½c.

Barley.—Malting grades, \$1.10@1.17 per bu; feeding, 70@90c.

Butter.—Receipts continue to exceed those of a year ago. Market is easy, with values unchanged. Quotations are: Creameries, 20@25c; dairies, 18@22c per lb.

Eggs.—While receipts have improved in volume this past week they are less than for same week of the two previous years. Prices are slightly higher. Quotations: Prime firsts, 17c; firsts, 15½c; at mark, cases included, 10½@14½c per dozen.

Potatoes.—Eastern shipments are off in price while Minnesota tubers are selling steady. Receipts are heavier and the outlook is less satisfactory to sellers than a week ago. Jerseys are quoted at \$1.20 @1.25 per bu; Minnesotas, \$1.10@1.15.

Beans.—Prices remain steady with a week ago. Market firm. Choice hand-picked pea beans are quoted at \$2.38@2.45 per bu; prime, \$2.25@2.30; red kidneys, \$3@3.50 per bu.

Hay and Straw.—Receipts continue to come in quite freely but last week's quotations holding steady. Old stock commands a premium of \$2 ton over following quotations: Choice timothy, \$21.50@22; No. 1 timothy, 19@20.50; No. 2 do. \$17@18.50; No. 3 do. \$13@16; No. 1 clover mixed, \$17@18; No. 2 do and no grade, \$5@12; clover, \$10@14; rye straw, \$7.00 @7.50; oat straw, 7@7.50; wheat straw, \$5.50@6 per ton.

New York.

Butter.—All grades are ruling higher, with the best kinds advanced most. Creamery specials are quoted at 28c; extras, 27c; firsts, 24@25½c; seconds, 22½@23c; thirds, 21@21½c.

Eggs.—Prices generally unchanged, but some of the lower grades are commanding slightly higher prices. Fresh gath-

ered extras, 22@24c; firsts, 19@20c; seconds, 16@17c; western gathered whites, 18@23c per dozen.

Poultry.—Dressed—Steady. Turkeys 12@15c; do young, 28@30c; fowls, 11@16c; western broilers, 14@17c.

Boston.

Wool.—The tone of the wool trade has improved materially and dealers are now doing a liberal amount of business. This is largely because congress has adjourned without changing the wool schedule, but the natural demand for the raw material is also furnishing much support to the trade. Woolen goods are finding a wide outlet. Fleeces are in especially good demand and quotations are expected to advance. Quotations now are: Domestic wools, Ohio and Pennsylvania fleeces—Delaine washed, 30c; XXX, 28c; half-blood combing, 25@26c; three-eighths blood combing, 25c; quarter-blood combing, 24c; half, three-eighths and quarter-blood clothing, 22@23c; delaine unwashed, 25c; fine unwashed, 21@22c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 19@20c; delaine unwashed, 23 @24c; half-blood unwashed, 25c; three-eighths-blood unwashed, 25c; quarter-blood, 24c; half, three-eighths and quarter-blood clothing, 21@22c.

Elgin.

Butter.—Market firm at 26c per lb., which is last week's quotation. Output for the week, 849,300 lbs., as compared with 852,700 lbs. for the previous week.

THE LIVE STOCK MARKETS.

Buffalo.

August 21, 1911.
(Special Report of Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle, 145 cars; hogs, 60 double decks; sheep and lambs, 55 double decks; calves 1,200 head.

With 145 cars of cattle on our market today, and 24,000 reported in Chicago, our market on all good grades was strong 15@25c per cwt. higher. On the common grades, they were only about steady.

We quote: Best 1,400 to 1,600-lb. steers \$7.50@7.85; good prime 1,300 to 1,400-lb. steers, \$6.85@7.35; do. 1,200 to 1,300-lb. steers, \$6.50@7; best 1,100 to 1,200-lb. shipping steers, \$5.85@6.40; medium butcher steers, 1,000 to 1,100 lbs., \$5.50 @6; light butcher steers, \$4.75@5.25; best fat cows, \$4.75@5.50; fair to good do., \$3.50@4.50; common to medium do., \$2.75 @3.25; trimmers, \$1.75@2.75; best fat heifers, \$5.75@6.25; good do. \$5@5.50; fair to good do., \$4.25@5; stock heifers, \$3.25 @3.50; best feeding steers, dehorned, \$4.25@4.50; common do., \$3.25@3.50; best butcher and export bulls, \$4.50@5; 60-lb. bulls, \$3.50@4; stock bulls, \$3 @3.25; best milkers and springers, \$5@6; common to good do. \$2@3.50.

The milker and springer trade was about steady today with last week on the good kind; common kind hard to sell at satisfactory prices.

The hog market ruled fairly active on the choice quality corn-fed stuff, but very slow on the inferior grades. The bulk of the choice quality strictly corn-fed yorkers and mixed hogs sold at \$8.25 @8.30, while the grassy and lean kind sold on down to 8c per lb. Odd bunches of the inferior grades, plain in quality, sold from 7½@8c per lb. Pigs sold from \$7.90@8 per cwt the bulk at the latter price. Rough sows generally \$7@7.10. Stags from \$5@6. We advise buying the grassy and lean hogs, as there will be a wide range in prices between these and the strictly corn-fed stuff.

The sheep and lamb market was slow and lower today. Most of the choice lambs sold from \$6.25@6.50; wethers from \$3.75@4. With light runs may sell little better last of the week. Don't look for any improvement on the common sheep and lambs.

We quote: Best spring lambs, \$6.25@6.50; wethers, \$3.75@4; cull sheep, \$1.50@2.50; bucks, \$2.50@2.75; yearlings, \$4.50@5; handy ewes, \$3.50@3.75; heavy do., \$3 @3.25; veals, choice to extra, \$9@9.25; fair to good do., \$7.50@8.50; heavy calves \$3.25@5.

Chicago.

August 21, 1911.
Received today 25,000 Cattle Hogs Sheep
Same day last year .. 28,576 23,679 37,355
Received last week .. 49,522 107,902 120,356
Same week last year .. 63,380 112,919 120,345

After the light receipts of cattle last week, falling about 14,000 head below those for a year ago, the run today did not look particularly large, but there was too large a proportion of the cheaper kinds. Receipts from the western ranges were about 6,500 head, greatly exceeding any offerings heretofore, and between these and their native competitors the market was weak and irregularly lower. The cattle selling at \$7 and upwards were called steady, and others slow and lower. The early hog market was active and 5@10c higher, sales ranging at \$7@7.95, with good lots showing the most advance. After shippers filled their orders the market weakened on small buying by local packers, and a large part of the advance was lost. Hogs received last week averaged in weight 238 lbs., compared with 254 lbs. one year ago and 230 lbs. two years ago. There was no great change in the sheep and lamb market today, but undesirable sheep ruled weak in price. Lambs sold at \$3.50 @7 per 100 lbs., range stock going the highest, and feeding lambs were salable at \$4@6 for inferior to good range flocks. Ewes were salable at \$2@3.50; wethers at \$3.40@4; bucks at \$2@2.75 and yearlings at \$4.25@4.75. Breeding ewes had a good sale on the basis of \$4@4.50, and feeders wanted range wethers at \$3.35@3.65; ewes at \$2@3 and yearlings at \$4.25

@4.75, yearling feeders selling at the same prices as killers.

Cattle have made a great record for themselves since the great upward movement started several weeks ago. Last week saw an unusually lively spurt upward, especially in fancy beefs, which sold up to \$8.10, compared with \$7.65 top previously. By Wednesday great numbers of steers were selling at \$7.75, and numerous lots sold at \$7.80@8.10. The commoner steers sold at \$5.10@6.25, with yearlings bringing \$5.90@7.85, and no good heavy steers could be purchased below \$7.25. Increasing offerings of grass cattle shipped from western ranges helped the packers to resist the advancing tendency in natives of a competing kind, and by Thursday a break of 15@25c was effected in steers valued at \$6.75 and under. The western range steers have been selling at \$4.50@7, and range cows and heifers sold at \$3.25@6.15. Native cows and heifers had a brisk sale as a rule at \$3.50@7, with not many prime enough to go near the top, however, while cutters sold usually at \$2.75@3.25, canners at \$1.75@2.70 and bulls at \$3.25 @5.75. Calves sold actively at \$8.75 per 100 lbs. for the best light-weight vealers all the way down to \$3.25@4.25 for the poorest heavy weights. Common and medium grades of grass-fed calves were still neglected and inclined to sell at lower figures. Milkers and springers were in fairly active demand at \$30@65 per head, with not many going above \$50. The stocker and feeder traffic was variable, being good by spurts, prices ruling sharply higher under smaller offerings. Stockers brought usually \$3.40@5, while feeders sold at \$5.10@6 for fair to prime offerings. Inferior stockers and feeders sold below the above quotations, without much demand. Improved pastures tend to make a better demand from some sections, and the demand is accelerated by the boom that has taken place in choice beef cattle, but quite a number of farmers are holding back, regarding prices as too high to make purchases safe. Those who stocked up before the rise in values were extremely fortunate.

Hogs have a strong tendency to sell not far below the \$8 mark for the choicest offerings, with receipts, much smaller in leading western markets than several weeks ago, especially at places west of here. Demand was much the liveliest for the lighter weight hogs on the shipping order, and eastern shippers took very good numbers, paying the highest prices. Hogs weighing around 165 to 225 lbs. were the best sellers, while the heaviest hogs went slowly at a big discount, but little pigs sold lowest of all, and even the best pigs sold away under the best finished barrows. The average quality of the hogs coming to market has been poorer than ever, and this has tended to enlarge the demand and the premium for the best hogs. A great many brood sows have been fattened until they are heavy and are being marketed in liberal numbers. Well-matured barrows are reported as growing scarce nearly everywhere. Hogs have not sold up yet to the exceptionally high prices that were paid a year ago, but they have not sold so very much below prices of two years ago, while prices are much above those of other years.

It has been for another week an up and down market, the exceptionally liberal offerings at times being more than could be disposed of at steady prices. Fat lambs, whether from feeding districts or from the Idaho and other western ranges, have been invariably the best sellers, with fat little yearlings from the range country and feeding sections ranking next in value and popularity. Breeding ewes had a good sale, and so did feeders, lambs preferred, with sharp advances on account of greatly inadequate offerings. It must be said that far too many of the native lambs lacked fat, causing them to sell far below the best flocks. Owners should take pains to put plenty of flesh on their holdings where they are provided with feed.

Horses sold well or otherwise, according to their grading, and it must be said that the showing of ordinary animals was much too strong, as usual. Aggregate offerings of horses were considerably smaller than several weeks ago, but there were not a great many that showed up highly in quality, and such horses commanded high prices. Feeders sold freely at \$160@190 per head, extremely low prices stimulating their sale, and a cheap class of drivers and medium-weight expressors sold at \$145@195. Good drafters sold very well at \$200@245, and a choice to fancy grade of heavy drafters, weighing from 1,600 up to 1,800 lbs. brought \$250@207.50. Light-weight wagon horses sold for \$100@140.

LIVE STOCK NOTES.

While there are exceptions to the rule occasionally, most of the time l. l. b. are in much better demand than sheep and show much more firmness in prices. Heavy sheep and heavy lambs usually sell at a discount.

Stockmen who hung on to their cattle during the period from March to July inclusive have been getting good returns recently. Many farmers at the start lost hope, seeing how prices were tending downward most of the time, and now they wish they had held to full maturity. The prospects are considered highly favorable for high prices for several months ahead.

There are reports of sickness among the pigs in central Illinois, and fair numbers of little pigs are being sacrificed for whatever they will bring. As a rule, however, the country has been remarkably free of sickness among the pigs. Hog "cholera" does not rage these times anything like it once did. Farmers are more careful about the care of their pigs, and as a rule they do not feed them unlimited quantities of green corn, as many used to. Cleanliness is now a general precaution, and the care of pigs has become a study.

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.

Thursday's Market.

August 24, 1911.

Cattle.

Receipts, 1,054. Market strong at last week's and Wednesday's prices on all grades.

We quote: Extra dry-fed steers and heifers, \$6.75; steers and heifers, 1,000 to 1,200, \$5.25@5.75; steers and heifers, 800 to 1,000, \$4.50@5; grass steers and heifers that are fat, 500 to 700, \$3.75@4.50; choice fat cows, \$4@4.75; good do., \$3.75@4.25; common cows, \$2.50@3; canners, \$1.50@2.50; choice heavy bulls, \$4@4.25; fair to good bolognas, bulls, \$3.25@3.75; stock bulls, \$2.50@3.25; choice feeding steers, 800 to 1,000, \$4@4.50; fair feeding steers, 500 to 700, \$4@4.50; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$3.25@3.50; milkers, large, young, medium age, \$4@5.50; common milkers, \$2.50@3.50.

Bishop, B. & H. sold Gerish 21 steers av 1,024 at \$6; to Bresnahan 2 canners av 930 at \$2.50, 1 do weighing 800 at \$2.50, 16 butchers av 650 at \$3.80; to Kamman 9 do av 715 at \$4.50, 1 cow weighing 1,030 at \$4.25; to Parker, W. & Co. 3 bulls av 1,233 at \$3.70, 1 cow weighing 840 at \$3.25, 2 canners av 885 at \$2.75, 1 bull weighing 1,160 at \$3.65, 4 cows av 1,000 at \$4, 18 steers av 1,132 at \$6.25; to Sutton 17 steers av 920 at \$5.25, 1 bull weighing 750 at \$3.25, 7 feeders av 811 at \$4.60, 4 bulls av 565 at \$3, 1 do weighing 740 at \$3.75; to Parker, W. & Co. 2 cows av \$35 at \$2.50; to Strong 15 feeders av 725 at \$4.70; to Lachalt 15 butchers av 819 at \$4.65; to Mich. B. Co. 10 steers av 944 at \$5.25; to Newton B. Co. 4 butchers av 850 at \$4.50, 1 cow weighing 1,250 at \$4.50, 2 do av 905 at \$4, 7 butchers av 767 at \$3.90; to Schmitt 11 steers av 997 at \$5.40; to Peete 2 stockers av 605 at \$3.60, 7 feeders av 826 at \$4; to Goose 5 cows and heifers av 692 at \$3.75; to Fromm 6 heifers av 666 at \$3.85, 3 do av 733 at \$4.

Spicer & R. sold Newton B. Co. 18 steers av 946 at \$5.50, 6 do av 811 at \$4.75; to Richardson 29 feeders av 802 at \$4.90; to Goose 6 cows av 1,032 at \$3.35, 1 steer weighing 420 at \$5, 4 heifers av 370 at \$3; to Kull 1 steer weighing 640 at \$5, 1 bull weighing 750 at \$3.25; to Bresnahan 1 cow weighing 730 at \$2.50, 2 do av 800 at \$2.50; to Parker, W. & Co. 5 bulls av 876 at \$3.50; to Schmitt 2 stockers av 645 at \$3.75; to Kamman B. Co. 4 butchers av 770 at \$5, 2 do av 1,010 at \$4; to Kamman 8 do av 775 at \$3; to Fry 26 do av 730 at \$4.40; to Rattkowsky 1 cow weighing 1,130 at \$3.25, 9 heifers av 620 at \$4; to Bresnahan 3 cows av 907 at \$2.50, 2 canners av 810 at \$2.50, 3 do av 730 at \$2.50; to Mich. B. Co. 3 steers av 987 at \$5.25, 7 butchers av 764 at \$4.25, 1 heifer weighing 460 at \$2.50; to Schroder 7 steers weighing 813 at \$5, 3 do av 760 at \$5.25, 4 do av 920 at \$5.25; to Goose 1 cow weighing 1,000 at \$3.25, 1 do av 910 at \$3; to Herschelman 2 steers av 625 at \$3.80, 8 do av 756 at \$4.25; to Sullivan P. Co. 6 cows av 980 at \$3.85; to Regan 6 heifers av 626 at \$4.

Roe Com. Co. sold Rattkowsky 2 cows av \$15 at \$3.50; to Parker, W. & Co. 2 bulls av 760 at \$3.50, 1 do weighing 1,540 at \$3.75; to Schmitt 3 bulls av 1,293 at \$4; to Erban Bros. 7 steers av 740 at \$4.60, 1 do weighing 650 at \$4.

Haley & M. sold Sutton 6 stockers av 691 at \$4.50, 6 feeders av 993 at \$5.50, 3 bulls av 703 at \$3; to Regan 6 heifers av 545 at \$3.65; to Schmidt 10 feeders av 897 at \$5.55, 1 bull weighing 1,040 at \$3.60; to Goose 4 heifers av 556 at \$3.30; to Applebaum 2 cows av 950 at \$3.90, 1 steer weighing 650 at \$4.25, 1 cow weighing 1,000 at \$3.65, 1 do weighing 880 at \$3.40; to Sullivan P. Co. 3 steers av 990 at \$5.50; to Sutton 8 bulls av 709 at \$3.25; to Parker, W. & Co. 1 canner weighing 970 at \$1.50, 8 bulls av 1,125 at \$3.55, 1 do weighing 1,300 at \$3.55; to Rattkowsky 3 do av 455 at \$3.25; to Mich. B. Co. 2 butchers av 735 at \$3.25, 4 do av 570 at \$3.80, 6 do av 753 at \$4.25.

Sandall sold Mich. B. Co. 16 steers av 834 at \$4.60, 16 do av 630 at \$4.

Downing sold Marx 4 steers av 840 at \$4.50.

Kelsey sold Fromm 4 heifers av 745 at \$3.75, 2 do av 540 at \$3.50.

Same sold Parker, W. & Co. 2 bulls av 1,040 at \$3.50.

Veal Calves.

Receipts, 543. Market strong and 50@75c higher. Best, \$8.75@9.50; others, \$5@8; milch cows and springers steady.

Haley & M. sold Mich. B. Co. 7 av 160 at \$8.50, 2 av 240 at \$7; to Kull 7 av 150 at \$9; to Parker, W. & Co. 7 av 180 at \$8.50, 6 av 250 at \$5.50; to Mich. B. Co. 5 av 140 at \$8, 2 av 160 at \$4.50, 1 weighing 160 at \$9, 4 av 125 at \$8; to Newton B. Co. 3 av 180 at \$9, 1 weighing 220 at \$7, 3 av 150 at \$6, 7 av 160 at \$9.

Roe Com. Co. sold Hammond, S. & Co. 10 av 160 at \$8.50, 2 av 150 at \$7.

Long sold Hammond, S. & Co. 4 av 175 at \$8.75, 1 weighing 160 at \$6.

Kelsey sold same 2 av 210 at \$5.50, 8 av 155 at \$8.25.

Downing sold same 2 av 245 at \$5, 7 av 175 at \$8.25.

Taggart sold same 3 av 160 at \$8.75, 1 weighing 210 at \$7.

Kelsey sold Sullivan P. Co. 7 av 150 at \$8.

Kendall sold same 8 av 145 at \$8.75.

Boyle sold Goose 8 av 145 at \$8.50.

Sandall & T. sold same 6 av 140 at \$8.50.

Groff sold Burnstine 6 av 135 at \$8.75. Torrey sold same 3 av 165 at \$8.50. Spicer & R. sold Rattkowsky 7 av 145 at \$8.25; to Hammond, S. & Co. 7 av 145 at \$8.50; to Rattkowsky 3 av 300 at \$3.25, 6 av 155 at \$8.50; to Burnstine 10 av 145 at \$8.50; to Newton B. Co. 2 av 225 at \$7, 7 av 165 at \$8.50; to Hammond, S. & Co. 9 av 160 at \$8.50; to Mich. B. Co. 61 av 150 at \$8.75, 1 weighing 130 at \$8.75.

Bishop, B. & H. sold Parker, W. & Co. 4 av 155 at \$8.50, 9 av 150 at \$8.75, 2 av 130 at \$6, 7 av 180 at \$8.50; to Petrosky 8 av 195 at \$4.40; to Newton B. Co. 2 av 160 at \$6, 7 av 145 at \$8.50; to McGuire 8 av 155 at \$9.25, 1 weighing 160 at \$9.25, 1 weighing 120 at \$6.50, 1 weighing 160 at \$9.25, 2 av 135 at \$9; to Sullivan P. Co. 8 av 145 at \$9, 8 av 150 at \$9, 7 av 140 at \$8.75, 4 av 138 at \$9; to Mich. B. Co. 2 av 125 at \$7, 10 av 150 at \$9, 2 av 150 at \$7, 7 av 145 at \$9.25, 9 av 155 at \$9.50.

Sheep and Lambs.

Receipts, 2,940. Market opened strong at last week's prices; will close lower. Best lambs, \$6; fair to good lambs, \$5.25@5.75; light to common lambs, \$4@4.50; fair to good sheep, \$3.25@3.75; culls and common, \$2@2.50.

Sheep and lambs closed 50c lower than opening prices.

Roe Com. Co. sold Mich. B. Co. 96 lambs av 70 at \$5.75, 22 sheep av 80 at \$3.75; to Hammond, S. & Co. 51 lambs av 73 at \$6, 20 sheep av 83 at \$3.50; to Sullivan P. Co. 31 lambs av 65 at \$5.30; to Mich. B. Co. 14 do av 67 at \$5.50, 8 sheep av 150 at \$3.50; to Eschrich 33 do av 90 at \$3.10.

Kalaher sold Sullivan P. Co. 14 lambs av 80 at \$4, 22 do av 67 at \$5.50.

Bishop, B. & H. sold Newton B. Co. 64 lambs av 83 at \$5.50, 58 do av 70 at \$5.50, 22 do av 58 at \$4.50, 22 sheep av 125 at \$3.25; to Sullivan P. Co. 10 lambs av 59 at \$4.25, 41 do av 73 at \$6, 22 do av 70 at \$6, 4 do av 52 at \$4.25, 7 sheep av 105 at \$2.50; to Thompson Bros. 4 lambs av 60 at \$3, 26 do av 63 at \$4.25; to Hammond, S. & Co. 15 do av 50 at \$4.25, 11 do av 45 at \$4.25, 29 do av 65 at \$5.75, 36 do av 64 at \$5.75; to Mich. B. Co. 18 do av 70 at \$5.25, 6 sheep av 140 at \$3.25; to Parker, W. & Co. 56 lambs av 70 at \$5.75; to Hayes 18 do av 68 at \$5.25; to Youngs 15 do av 70 at \$5.50; to Fitzpatrick Bros. 117 do av 70 at \$6, 19 sheep av 75 at \$3.50; to Mich. B. Co. 40 lambs av 70 at \$6; to Fitzpatrick Bros. 23 do av 60 at \$4.50, 17 sheep av 90 at \$3.75, 7 do av 90 at \$3.50; to Eschrich 35 lambs av 57 at \$4.25.

Haley & M. sold Hayes 19 lambs av 50 at \$4.65, 33 do av 50 at \$4, 12 sheep av 105 at \$3; to Newton B. Co. 15 lambs av 65 at \$4.75, 109 do av 73 at \$5.50; to Mich. B. Co. 8 sheep av 120 at \$3.50, 1 buck weighing 200 at \$2.50, 10 sheep av 125 at \$3.25, 15 lambs av 78 at \$5.50, 20 do av 58 at \$5, 54 do av 75 at \$6, 34 do av 75 at \$6; to Hammond, S. & Co. 10 sheep av 86 at \$3.75; to Mich. B. Co. 36 lambs av 65 at \$5.75; to Breitenbeck 90 do av 72 at \$5.25; to Mich. B. Co. 36 do av 70 at \$5.75; to Young 11 sheep av 110 at \$3.50, 20 lambs av 65 at \$5.75; to Newton B. Co. 23 do av 65 at \$4.

Spicer & R. sold Thompson Bros. 10 lambs av 59 at \$5; to Hammond, S. & Co. 10 sheep av 86 at \$3.75; to Sullivan P. Co. 53 lambs av 65 at \$5.60, 15 sheep av 72 at \$3; to Eschrich 22 do av 70 at \$2.25.

Hogs.

Receipts, 3,378. Bidding about 10c lower than last Thursday; none sold at noon. Range of prices: Light to good butchers, \$7.50@7.60; pigs, \$7.25; light yorkers, \$7.50@7.60; heavy, \$7.50@7.55.

Bishop, B. & H. sold Parker, W. & Co. 1,125 av 180 at \$7.60, 315 av 175 at \$7.55, 640 av 160 at \$7.50, 110 av 140 at \$7.40.

Roe Com. Co. sold Sullivan P. Co. 325 av 200 at \$7.60, 240 av 190 at \$7.50, 54 av 180 at \$7.40, 60 av 180 at \$7.35.

Spicer & R. sold Hammond, S. & Co. 125 av 200 at \$7.60, 425 av 190 at \$7.50, 215 av 180 at \$7.40.

Friday's Market.

August 18, 1911.

Cattle.

Receipts this week, 1,176; last week, 1,338. Market steady at Thursday's prices.

We quote: Best steers and heifers, \$5.75@6.25; steers and heifers, 1,000 to 1,200, \$5@5.50; do. 800 to 1,000, \$4@4.75; grass steers and heifers that are fat, 500 to 700, \$3.50@4; choice fat cows, \$3.75@4.25; good fat cows, \$3.25@3.50; common cows, \$2.50@3; canners, \$1.75@2.25; choice heavy bulls, \$3@3.25; stock bulls, \$2.50@2.75; choice feeding steers, 800 to 1,000, \$4.25@4.60; fair feeding steers, 800 to 1,000, \$3.50@4; choice stockers, 500 to 700, \$3.50@4.25; fair stockers, 500 to 700, \$3@3.50; stock heifers, \$3@3.25; milkers, large, young, medium age, \$4@5.50; common milkers, \$2.50@3.50.

Veal Calves.

Receipts this week, 761; last week, 720. Market strong at Thursday's prices; best, \$8.50@8.75; others, \$4@8. Milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 4,048; last week, 1,952. Market dull at Thursday's close. Best lambs, \$5.75; fair to good lambs, \$5@5.50; light to common lambs, \$3.50@4.50; yearlings, \$4@4.50; fair to good sheep, \$3@3.50; culls and common, \$1.50@2.50.

Hogs.

Receipts this week, 4,376; last week, 2,861. Market steady at Thursday's prices. Range of prices: Light to good butchers, \$7.65@7.75; pigs, \$7.50@7.65; light yorkers, \$7.65@7.75; heavy, \$7.65@7.70.

John T. Alexander, the veteran live stock commission merchant at the Chicago stock yards, says: "There is a marked shortage in the available supply of fat beef steers, which is sure to become more and more marked at market prices during the next 60 to 90 days. Prices may have temporary setbacks dur-

ing that period, but they will work towards a higher level most of the time and are sure to reach a much higher basis than has been recorded in months before making permanent declines. Buyers cannot expect any relief from the western range cattle before October, as Montana producers who have good cattle have made known their intention to hold back until that time before forwarding stock."

VETERINARY.

(Continued from page 156).

of body daily: Dissolve ½ lb. cooking soda in a gallon of water. He should be washed with soap and water twice a week. Make a suds, using ivory soap, and add one ounce of borax to each quart of water. His bowels should be kept open and this is best done by feeding green fodder.

Navel Infection—Weakness.—I would like to know what can be done for a colt four days old that has never been able to walk. This colt seems to be formed perfectly, but is unable to stand on fore legs. W. H. A., Fennville, Mich.—This is a case of weakness caused from navel infection, perhaps of a septic nature. Apply peroxide of hydrogen to navel three times a day; after each application dust on equal parts boric acid and powdered alum. Be sure that the colt has a liberal milk supply from its mother. If you milk her and feed the colt, this should be done eight times every 24 hours and perfect cleanliness used to prevent food infection.

Sidebone.—My horse is getting a hard bunch on outside of upper part of foot, the enclosed marked picture of leg shows its location. This bunch is not inflamed and is not sore when pressed. Mrs. O. R. H., Hart, Mich.—The bunch you refer to is doubtless what is called sidebone, which is an ossification of lateral cartilage, and it is always bad practice to treat them if they do no harm. The heel should be left a little low and as the animal grows older the bunch usually grows a little smaller. Preparations of iodine will reduce them slowly.

Weak Tendons—Contracted Feet.—What can be done for a horse that suffers from contracted feet and thickened weak tendons? There is a bunch just above fetlock joint as large as a hen egg, which we have blistered several times. Our local Vet. informs me that no treatment will do him any good, except cutting the tendons, but before having this done, I should like to have your opinion. J. A. C., Stockbridge, Mich.—It is doubtful if dividing the flexor tendons would prove effectual in this case; however, it very often gives relief if the tendons are not much thickened and need lengthening. Perhaps you had better blister coronet and tendons with one part red iodine mercury and six parts lard three times a month. Also stand him in wet clay two or three hours a day when the blister is not acting. If you will apply lanolin (wool fat) to hoof daily it will have a good effect.

Fistula of Withers.—I have a horse that has developed fistula of withers, but am unable to state what caused it. A very extensive swelling came on withers, which I lanced and now the abscess is discharging. Kindly give me instructions how to treat a case of this kind. W. R. D., Oxford, Mich.—The latest and most satisfactory treatment for extensive suppurating ailments of this kind is the bacterin treatment. A bacterin treatment may be defined as a killed culture of virulent micro-organisms. It contains the dead and partially disintegrated bodies of bacteria as an emulsion, in a normal salt solution. This treatment is used in both acute and chronic suppurative ailments and so far as I have applied it, it has given me good results in my practice and at my hospital; therefore, you had better insist on your Vet. giving it a trial or communicate with Parke, Davis & Co., of Detroit, Mich., or any other reputable manufacturer of these kind of goods. In order to apply it you will require a hypodermic syringe. Apply one part peroxide hydrogen and two parts water to abscess twice a day, then apply one part bichloride mercury and 250 parts water, or apply one part carbolic acid and 30 parts water, or one part septic and 30 parts water. These applications should be made 10 or 15 minutes after using hydrogen peroxide.

Lumpjaw — Septic Infection.—Barrenness.—My cow has a swelling on right jaw on side and under throat, which does not seem to reduce and it no doubt causes her considerable pain. I also have a cow that came fresh March 31, that did not clean properly; three weeks after she calved I washed her out with carbolic acid and water, which was perhaps too weak as I only used eight drops of acid in three pints of water. I am told that her milk is not fit to be used, but it seems all right to me. She now fails to get with calf. What had I better do for her? McC. B., Hockaday, Mich.—To bunch on jaw apply one part red iodine mercury and eight parts lard once a week; also give 2 drs. iodide potassium at a dose in feed or water three times a day. Now, regarding your cow that did not clean properly, you should have removed afterbirth by hand if it did not come away in 24 hours, then washed out cow with one part carbolic acid in 200 parts water once a day, or dissolve 1 dr. permanganate potash in 1 gal. water and use this lotion, instead of the former. Dissolve 1 oz. cooking soda in a quart of water and wash her out every two or three days and use it three or four hours before she is mated.

Septic Infection.—Bay mare 12 years old had a large tumor near elbow joint at base of shoulder, which appeared about June 15. This was hard at first and swelled to large size, when it broke and run for about ten days. Within two weeks after suppuration ceased another appeared on the point of shoulder. By advice I applied turpentine and scattered this, as was the case with two others which appeared later, one at the point

of the ham and the other on the side of the hip. Last week when the last one disappeared from the hip the caretaker noticed that the udder was swollen and reported his fear that she had a similar tumor in the udder. Upon examination, however, I found her udder to be filled with milk but was not caked or tender. I have since milked her out three times a day, this being the fifth day since the milk appeared. This mare has not bred for three years, but has recently been served twice, the last time on Aug. 7, just 21 days from first service. Before the tumors appeared she was fat and in fine condition, but she is now considerably reduced in condition. Her temperature has been high for a week or more, registering 102 degrees on Aug. 13. When in heat she was very restless and excitable. Her feed has consisted of one quart of corn and oat chop and one quart of bran three times a day. She has been idle for about two months, with an occasional light drive when in condition to use. She has run in pasture in good weather and been kept in barn in stormy weather. She showed considerable tendency toward costiveness until her feed was varied to correct it. Have given her small portion of flaxseed twice a week to correct it. Kindly advise as to treatment. H. N. B., Detroit, Mich.—Give your mare 2 drs. iodide potassium at a dose twice a day and a dessertspoonful of Fowler's solution at a dose three times a day for 20 or 30 days; also apply tincture iodine and camphorated oil, equal parts, to bunches while appearing and when they soften, open them freely and apply one part septic and 50 parts water or any other good home healing remedy. This is a good case to apply bacterin treatment, which Parke, Davis & Co. can supply you.

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130 ACRES 1 1/4 MILES AUGUSTA. Price \$6,000; \$2,500 down, balance to suit purchaser. 500 large apple trees, leading varieties. An ideal stock and fruit farm, running water. Apple trees alone are worth the price. Must be sold, possession given at once. F. W. FAREHURST, Augusta, Mich.

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Grain and Stock Farm Crops, Stock and Tools Included. 80 acres in smooth fields; 40 acres in rich natural pasture; plenty of fruit and wood for home use; in the suburbs of a pretty Michigan village; good 6-room house just painted; fine shade; cement walks through grounds; barn 30 x 40 and other outbuildings. Owner a widow. If taken immediately includes her crops, a horse, cow, pigs, hens and all farming tools for \$400; fair cash payment, balance on easy terms. Traveling instructions to see this and many other farms in the best farming sections of Southern Michigan and Ohio Page 46, "Money-Making Farms" copy free. Station 101, E. A. STROUT, Old Colony Bldg., Chicago, Ill.

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Woman and Her Needs

At Home and Elsewhere

IF YOU DON'T KNOW JUST SAY SO.

ONE of the surest ways of becoming a laughing stock to your acquaintances is to profess a wisdom you do not possess. And the best way to command their respect is to say simply, "I don't know," if you are asked for information you can't give.

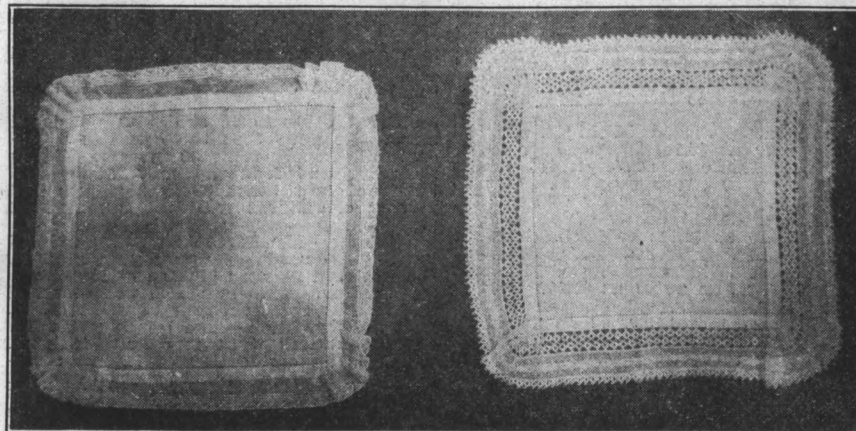
Never shall I forget the experience I had with a woman in a Canadian city a few years ago. We were walking through the streets of the town. The country visitor, which this time was your humble scribe, was eagerly gazing into windows, reading signs and asking questions in a desperate effort to gather up all the information in sight. Every few blocks appeared the mystic letters, "F. R. C." after some man's name, "John Smith, F. R. C.," "S. L. Brown, F. R. C.," "Richard Doe, F. R. C.," and a dozen others. What could be the meaning of "F. R. C."? I had often seen "M. D.," "D. D.," "Ph. D." and "A. P. A.," but "F. R. C." I had never seen on any sign in the "U. S. A." I wanted to know the meaning but I hated to ask. However, curiosity finally got the better of me and I asked casually,

"What is the meaning of those letters, 'F. R. C.,' Mrs. Smith?"

Mrs. Smith became instantly deeply interested in a hat in a window and called

"if I had I'd have told you when you first asked. I heard you every time. Haven't you tact enough to see that when

just been in that morning to find out why her butter wouldn't come, and ask her to help me look up the answer to my child's question. In that way I've been learning all my life. I flatter myself I am really educated now in my old age, and I thank God that foolish pride



No. 1.

a person doesn't know a thing she doesn't want to say so?"

We finished the walk in rather strained silence, Molly because she was provoked enough to shake me, and I because I was so stunned with this new point of view I couldn't think of anything else. I had never had the least bit of shame about confessing my ignorance of any subject I did not understand, and I couldn't think of a soul I knew who did. All my friends were quite willing to say "I don't know," if that was the truth of the matter, and until that very moment I had never met a person who wanted to appear to know everything.

From that day on I began to observe people on that one point. I found the really learned, intelligent people were not a bit above admitting there were some things they didn't know, while the people of little education and limited intelligence always posed as knowing something about everything. One day I asked a woman who was a brilliant conversationalist, with seemingly a knowledge of everything under the sun, how she acquired her knowledge. I knew she had no education in her girlhood and but little chance to read in later years.

"I learned what little I know by not being afraid to confess I didn't know everything, and by asking questions," was her prompt reply. "I learned years ago that no one can know everything, and I

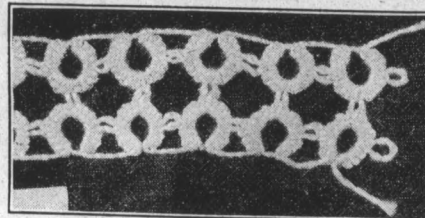
did not keep me from 'fessing up my ignorance in the years I have been coming along."

DEBORAH.

HANDKERCHIEF PINMONEY.

BY GENEVA M. SEWELL.

Any ambitious girl or woman may earn a snug sum of pin money at home by making pretty handkerchiefs. These may be trimmed with lace bought at the stores, with tatting, with crochet, with footing run with mercerized cotton or with a combination of two of these trimmings. For the centers one may get India linen, linen lawn, handkerchief linen or cross-bar cotton, dimity or lawn. So you see

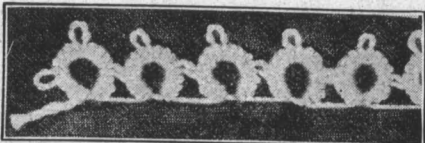


No. 5.

there is ample scope for all prices of handkerchiefs. One thing must apply to any of the work and that is neatness. It must be the very best you can possibly do. It is never honest to offer for sale anything which you might have done much better. So do the very best you can, and ask a fair remuneration.

There are several ways in which your handkerchiefs may be sold after they are made. They may be placed in some store and a small commission paid; they may be sold from house to house and a commission paid; a sample of each sort may be taken from house to house and orders taken, or they may simply be kept in stock at your home and sold as opportunity offers. Each one must choose the way that seems to best suit her individual circumstances.

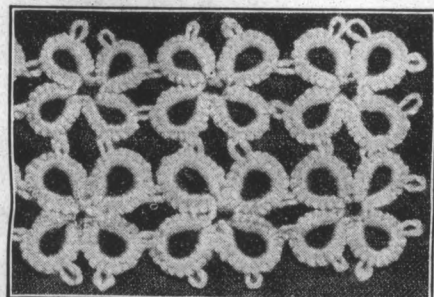
It is a good plan to buy the goods in not less than yard quantities and to watch where there is a special sale on the goods and lay in a supply large enough to last for a year. Besides the goods you will need thread, mercerized cotton and several yards of footing and lace. If the holes in the footing are very small you will have to use embroidery cotton to work them with as the crochet cotton



No. 6.

will be too coarse. All hems may be hemstitched, or some of them may be rolled, the main thing is to have them put in solidly. They may be any width desired.

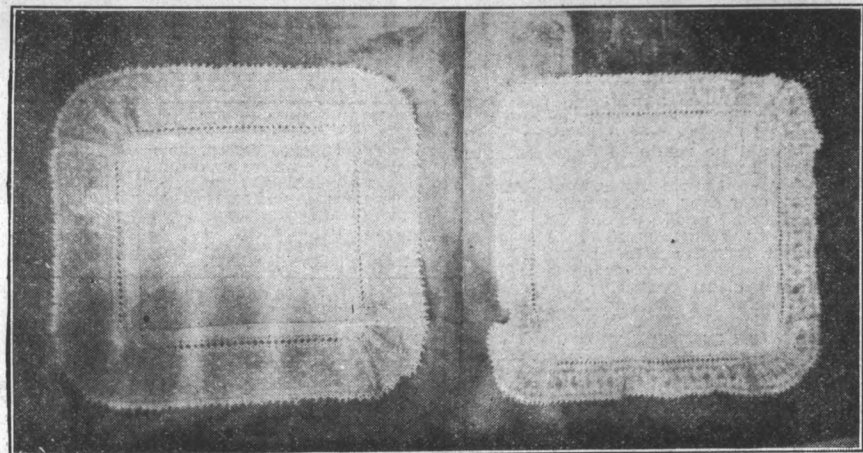
No. 1—is a plain lawn handkerchief hemstitched with a narrow hem then



No. 3.

my attention to the style of that work of art. I thought she hadn't heard me, and so didn't repeat my question. But in a few minutes more we saw the same sign. Again I asked for enlightenment, but this time a fine bull dog on one end of a string with a walking advertisement for a dressmaker on the other attracted Mrs. Smith's attention, and again my thirst for knowledge was unquenched.

But those mystic letters followed us everywhere. From window after window



No. 4.

No. 7.

they winked down at me, and three, four, five times I asked their meaning. Every time Mrs. Smith was so taken up with other things she never found time to answer me. At last, grown desperate, by the way those letters pursued me every step taunting me with my ignorance, I determined to find out once for all their meaning. When for the sixth time I asked her what they meant she began to talk volubly of something else, I stopped stalk still in the street and said,

"Molly, I've asked you six times what 'F. R. C.' means and you haven't answered me. Now you've got to tell me before I take another step."

Molly's face crimsoned, "I don't know what the old letters mean," she snapped,

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1-Qt. E-Z Seal Jar FREE for the Coupon

Please note—in order to secure free jar this coupon must be presented to your dealer before October 1, 1911, with blank spaces properly filled out.

HAZEL-ATLAS GLASS CO.,
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This is to certify, That I have this day received one "Atlas" E-Z Seal Jar Free of all cost and without any obligation on my part. This is the first coupon presented by any member of my family.

Name

Address

TO THE DEALER—Coupon will be redeemed at the full retail price by your jobber. All coupons must be signed by you and returned before November 1, 1911.

DEALER'S CERTIFICATE. This is to certify, that I gave away one "Atlas" E-Z Seal Jar to the person whose signature appears above.

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trimmed with footing run with a Greek border. This is a very dainty handkerchief and will readily sell for from 50 cents to 75, the price depending somewhat upon the location.

A detail of the work in number one follows: Darning through six holes in the footing diagonally, then six straight across then six diagonally again, count the last hole of one as the first hole of the next, whether it runs diagonally or straight. Next row, skip one row of holes and run a row clear across, then skip another row and run one. This is a very dainty, easy design to work. Get fine footing for the handkerchief.

No. 2 has a plain lawn hemstitched center and is trimmed in tatting and "val" lace. This handkerchief as shown will sell for from \$1.25 to \$1.75. It is very showy and durable. The work is all done then sewed to the handkerchief, fulling it at the corners enough so that it will not draw, or the handkerchief will not look right. If you get it too small for the handkerchief you have made, make a smaller one and fit it to that.

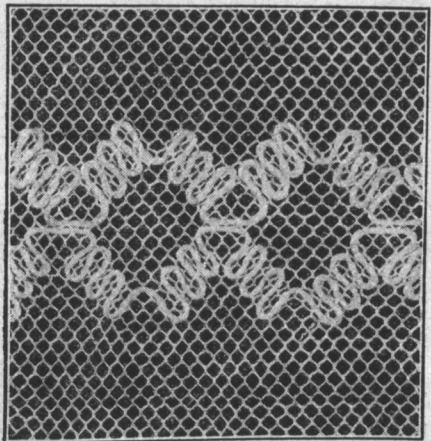
The inside edge used on number two, is of tatting made from number 40 thread. It is made like this: 4d, 1p, 4d, 1p, 4d, 1p, 4d, draw into a ring, turn the work, leave a small space of thread and make 4d, 1p, 4d, 1p, 4d, 1p, 4d, draw into a ring, turn the work, leave a short space of thread (about one-fourth of an inch), and repeat until the strip is long enough. Sew to the lace with over and over stitch to the center picot. For the detail of the edge refer to illustration number six.

Another dainty handkerchief is made from best handkerchief linen and trimmed with linen torchon lace. There is a tiny hem run in and the lace is overcast to the edge of the handkerchief. This will sell for from 75 cents to \$1.00. One old lady who is 75 years old makes dozens of these handkerchiefs.

Still another has a linen lawn center and is trimmed with tatting made from number 60 thread. The hem is turned and fastened down in scallops by chocking through the goods; it is a pretty finish but not a very durable one. A handkerchief made like this will sell for \$1.50. The thread used may be linen or No. 40 cotton.

Illustration No. 3 is the detail of the above kerchief. Make the four leaved figured of 6d, 1p, 6d, 1p, 6d, draw into a ring and make three more rings just like this one, then cut the thread and tie the ends closely together. Make another figure just like this, only instead of making the inside picots on two of the rings fasten them to the previous one made as is shown in the illustration. Make a strip long enough to go around and fasten to the handkerchief by the picots.

No. 4 is made on dotted footing with a linen lawn center. It is hemstitched. It will sell for at least \$1.50. No. 5 is a detail of number four, made 4d, 1p, 4d, 1p, 4d, 1p, 4d, draw into a ring, leave a short space of thread and repeat until strip is long enough. Then start another like it but when you come to the center picot fasten it into the center picot of the first row made. The straight



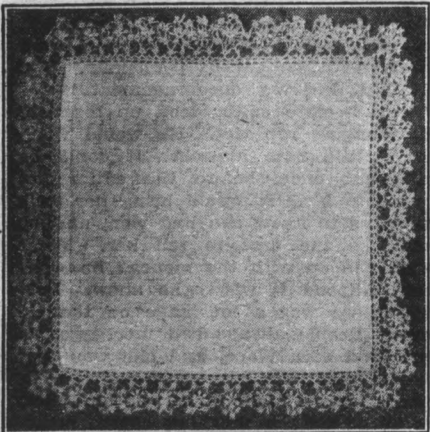
No. 8.

edges are overcast to the handkerchief and to the footing, fulling plenty at the corners. No. 6 is the edge used. It is made just like one row of detail number nine, and is used also on the edges of numbers two and seven.

No. 7 is made of footing and tatting like that on number four. This handkerchief will sell for \$2.00. No. 8 is the detail of work on the footing of number seven, and will be easy to make from the detail. Five holes are used.

A hemstitched linen center with all tatting border, which sells for \$2.50, has tatting made as follows: Make first with two threads; with one, make a ring of

4d, 1p, 4d, 1p, 4d, 1p, 4d, draw into a ring and with two threads make 6d, 1p, 6d, then with one thread make a ring like first. Repeat until you have enough to go around then make a larger ring of 9p, with 2d between, cut off and tie, then make 6d, fasten in picot of first ring, 6d draw up, leave a quarter inch of thread and make a ring of 4d, 1 long p, 2d, 1p, (short one), 2d, 1p, 2d, 1p, 2d, 1 long p, 4d, draw into a ring, leave a space of thread, turn the work and make a small ring like first small one fastening it into the next picot of first ring made. Fasten the wheel to the first part by



No. 9.

the center short picot of a ring to the picot in the part made with two threads. Fasten the handkerchief by the picots of first row. This handkerchief when made from silk is valued at \$10. Yet it is simple enough so that any one who makes tatting may easily make it. Use No. 60 thread if working with cotton. The completed handkerchief is seen in illustration No. 9.

THE WAYS OF HAROLD AND ROBERT.

Harold and Robert are neighbors and playmates. In vacation hours they pass much of the time together at play first at the home of one then at the home of the other. They are both nine years old and about the same size. In school they are in the same classes.

But in some ways there is a difference and a wide one between the two little boys. When playing their games Harold always wants the best of everything. He wants the sports to be of his selecting and shows selfishness toward his mates. Robert on the other hand is usually ready to yield his preferences in favor of others and rarely insists on having his own way.

But when mother calls it is Harold who is the gentleman. The first time his name is called no matter how interesting the sport comes the prompt response, "Yes, mother," in such a pleasant tone and the little fellow runs to see what is wanted.

When Robert's mamma calls him his reply is quite a contrast. He draws out a "What you wa-a-nt?" in such a whining tone and waits to hear the call repeated before starting toward her.

These little boys both love their parents and are really lovable little fellows. Harold's selfishness is not pleasing to see; with wise guidance he may overcome it in time, but his cheerful, "Yes, mother," and ready acquiescence to her wishes offsets something that is undesirable in other ways. Robert's less assertive disposition is certainly more commendable in their play. How sad that his response when mother calls is the disrespectful, "What you wa-a-nt?"

SHORT CUTS TO HOUSEKEEPING.

To clean bed bugs from beds use equal parts of turpentine and carbolic acid and spray.—E. M. C.

Never use a watering pot with a nozzle in applying water to the garden beds for the nozzle scatters the water over a large surface, and it fails to penetrate to a sufficient depth to benefit plants, because of lack of concentration. Use a pot with a long spout. This will enable you to apply the water just where it is needed, and in a sufficient quantity to do some good.—Mrs. J. J. O'C.

To double the usefulness of shades take them off the roller, hem the end that has been tacked to the roller and reverse it tacking the lower and worn end in place. The worn part will show only when the shades are drawn, and curtains will hide most of this.—H. F. G.

In gathering sage, carefully tear the leaves from the stems. When it is ready for use there will be no sticks in it.—C. W. D.

The Grocer's Answer

"No, Madam, we don't sell soda crackers by the pound any more. No matter what precautions are taken, bulk soda crackers absorb dust and moisture. In a few days the crackers become musty and soggy, and taste like most anything except a good cracker. If you want a light, dainty soda cracker—a cracker that tastes as if it just came from the oven, then take home a box of Uneeda Biscuit. These soda crackers are crisp and full flavored throughout. When you get them home, open the package and you'll see how fresh, firm and flaky the moisture-proof package keeps them."

5c

In the moisture-proof package

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Get a home in this Land of Plenty. Make a comfortable living—and a good profit—as thousands are, raising fruits, vegetables, grains, grasses, alfalfa, cattle (or dairying), hogs, poultry, bees.

A healthful, growing climate—land marvelously productive, in irrigated and non-irrigated sections. Free Government land in choice localities. New extensions of the Northern Pacific Railway and its allied lines are opening up rich fields to the Homeseeker. Come now, while you can buy land cheap.

Low One-way Colonist Fares effective daily September 15 to October 15, 1911. Only \$25 from St. Paul, Minneapolis, Duluth, Superior, Kansas City or Omaha to any point on Northern Pacific lines west of Springdale, Mont., through to the Coast, and many other points in the fertile Northwest. Similar reduction from Eastern Territory.

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HOME AND YOUTH

GRASSHOPPER THINKING.

BY E. S. BALDWIN.

Do you suppose the grasshopper knows
Where he'll strike when he starts to
hop?

Oh, no, he just looks to see where he's at
When he finds he has come to a stop.
The grasshopper hops this way and that,
And when he has hopped, finds where he
is at.

There are people today who think just
that way—

Never have any definite plan,
They think a thought here and think a
thought there

And catch an idea if they can.
The grasshopper hops this way and that,
And when he has stopped sees where he
is at.

Youth should early be taught conciseness
in thought

To meet each varied occasion:
There's many a work in life to be wrought
Like a problem found in equation.

Don't leap like the hopper, this way and
that,
But make a good jump, knowing where
you are at.

TOM, DICK AND HARRY.

BY WILLIAM A. FREEHOFF.

Not so many years ago but that the
oldest inhabitant of the village can re-
member, a farmer had three sons. The
first was named Tom, the second Dick
and the third Harry.

One day as the three young men were
seated around the fireside, discussing
their plans as to the future, they were
greatly astonished to have a Good Fairy
appear before them.

"I have been watching you," said the
Good Fairy, as they gazed open mouthed
at her. "You are full of hope and en-
thusiasm now. Fifty years from now
you will be seated at this very place,
weighing your past in the balance. Some
of you, perhaps all, will admit yourselves
a failure. Whichever it will be, time
alone can tell. Make the most of every-
thing so as to leave a clean record in
the Master's book."

She was gone before they could say
a word, but for many weeks her ominous
admonition kept ringing in their ears.

Tom obtained employment in a mer-
cantile establishment of a great city,
where, although he had to begin at the
bottom, he was given abundant oppor-
tunity to qualify for the best positions
the firm afforded. Dick and Harry went
to college.

Step by step Tom climbed the ladder of
wealth. Leading a sober life of indus-
try, losing no opportunity to master his
trade, his employer found him invaluable.
Finally he was taken into partnership.
Tom became the possessor of millions but
at the cost of almost his entire waking
time. He married a woman who proved
to be a beautiful ornament to his home
and gave him added prestige in his busi-
ness. But she never meant more to him
than an ornament. While Tom was busi-
ly engaged in holding and adding to his
fortune, his wife was the society leader
of his city. He had no time for such
trivial things, however, and was content
to let her uphold the dignity of the fam-
ily.

Dick managed to graduate in four
years. He won no scholarships but his
fame as an orator was firmly estab-
lished. Possessed of a most magnetic
personality, engaging appearance and
brilliance of mind, he was a natural
leader of men, even if an antipathy to
sustained exertion prevented him from
piling up great stores of knowledge or
delving deeply into the reason of things.
Governor of his native state and finally
a member of the United States senate,
high honors were lavished upon him by
a grateful party. In spite of his com-
manding position in the nation, his fam-
ily saw but little of him. His entire
time was spent in repairing political
fences and in standing guard over the
party and its friends.

Harry left college with the highest
honors in its power to bestow. Great-
ly to the surprise of everybody, he en-
tered the teaching profession. Always
fond of literature, he taught English in
a high school of his native state. He
showed such aptitude in managing the
students that in a very short time he
was appointed principal. That position
Harry retained for nearly fifty years. In
that length of time he had not been
able to accumulate much of the world's
goods. He had never suffered want, how-
ever. A charming and gifted wife pre-
sided over his hearth; his children were
the pride of the city. Many and many a
young man and young woman had his

remembrance shined deeply within their
hearts, because of what he had done for
them.

True to the prediction of the Good
Fairy, at the end of fifty years the three
brothers found themselves once more in
the old home. Their father had been un-
usually tenacious of life and had lived
to see the judgment of the world upon
the achievements of his sons. He had
been buried but the preceding week.

As they were sitting there, saddened
by the recent visit of death, watching the
fire rush up the chimney in the same
manner it had done in their youth, the
Good Fairy stood before them, resplen-
dent as of yore.

"Does the judgment of half a century
stamp its seal of approval upon your
lives?" were her first words.

None spoke for a long time. Then
Harry broke the silence.

"There was a boy once, able and bril-
liant, but fallen among evil associates.
I was not able to redeem him and have
been repressed with a sense of failure
ever since."

The Good Fairy smiled kindly and
turned to Tom.

"And you," she cried, "what has your
money brought you?"

"Worry and care and an empty heart.
I have simply existed."

"I have put my will against the will
of an enlightened majority," said Dick.
"I have not read aright the temper of
the times. I fought for the old order
of things and was swept away by the
new. I might have been a leader in the
march of progress; now I am the dis-
abled warrior of the opposition."

The voice of the Good Fairy was com-
passionate as she spoke.

"You, Tom, and you, Dick, have in-
deed much to answer for. It was your
nature, Tom, to hoard up gold; it was
not your nature to know how to live.
Dick, too, had not read aright the Divine
will. It was but inevitable, that both
should suffer the doom of looking back
upon an empty life. Harry, on the other
hand, is oppressed where he should be
joyous. Because one human soul escaped
from him, out of the hundreds he has
led aright, he may be a partial failure.
But he has lived. This is a better world
for his having been in it. Tom and Dick
cannot say the same. I have spoken."

IN THE EDITOR'S SANCTUM.

BY R. BRAUNSTEIN.

The associate editor of the "Welcome
Messenger" glanced at the pile of mail
on his desk and sighed only as an asso-
ciate editor can sigh. It was a warm
morning and the task before him was
not an inviting one.

He gave the letters a casual sorting
before opening any of them, but his face
suddenly lost its listlessness and became
interested as his eyes caught a familiar
handwriting.

The post-mark bore the name of a
small New England town, and the super-
scription on the envelope was very fine
and a trifle precise.

He tore it open. It contained the man-
uscript of a story, and he at once began
to read. The smile on his face bright-
ened. "It is great," he said, half aloud,
just as his chief entered.

"A find?" asked that learned individ-
ual sarcastically; "a rarity in these
times."

"Yes," returned his associate, giving
a quick glance at the unopened letters
before him. "It is rather clever, from
that Miss Kennington, you know. We've
published several of her's lately, though
you may not have noticed."

The editor-in-chief had noticed, but he
did not say so. Only yesterday the as-
sociate learned one had found the atlas
open, and a small town in New England
marked. So he gave his superior a curi-
ous glance when that worthy made no
reply.

"This is the best yet," he concluded,
as he handed over the manuscript to the
editor. The latter ran through it with
a practiced eye.

"Have it typewritten and entered for
the prize," he said briefly and handed it
back. "She probably didn't know of our
offer and she ought to have a chance,"
he explained as he met his assistant's
look of inquiry.

The associate editor sighed again, for
he often found relief in that way. He
also smiled to himself as he laid the
story aside and fell to work. He was
very wise, as one should be who graces
an editorial chair.

He did not notice that the next batch
of mail for the post office contained a let-
ter addressed to a certain lady in a cer-

tain New England town. It was in the
editor's handwriting.

There was much speculation among the
staff of the "Messenger" as to the prob-
able outcome of the prize contest. Sev-
eral of the contestants were well known
and each had his little coterie of admir-
ers. So there was a well-developed air
of expectancy when the editor entered
the office on the final morning. "Jean-
nette Kennington has won!" he announc-
ed. He tried to say it in a matter-of-
fact voice, but there was a thrill of ex-
citement in it.

The associate editor betrayed his ex-
citement.

"You may send her the regular form,"
the editor remarked, turning to him, "and
I will add a few words personally. She
certainly deserves encouragement."

The associate editor took up his pen.
His thoughts ran riot. He would write
her a little note himself. It could be
mailed at once, before the editor got
around to his. It would bring her such
happiness to know she had won, and he
would be the first to tell her. What
would she do with the money? he won-
dered. Spend it wisely he knew. Per-
haps there was a mortgage on the old
home. People always had mortgages in
that kind of a place, and she was that
kind of a girl he knew. Or perhaps she
would try to better herself and buy
books, or take a finishing course some-
where. Or perhaps she would put it into
a bank ready for her trousseau, or, bet-
ter still, take a trip to New York. This
was the best, of course. She ought to
come. It would do her good. The new
things to see, the new faces, the entire
change would act like a tonic. And she
might call at his office and he would
show her how a great magazine is made.
He would help her in her literary work.
He wondered if he dared advise it. She
had answered very sweetly to some pre-
vious suggestions. Perhaps he'd better
wait, though.

The click of the typewriters about him
brought him back to the task before him
and he hastily wrote the note.

The air was hot and close. Through
the open windows came the roar of the
great city, and cinders from the factory
across the street, but very little fresh
air. Both editors were very busy and
very tired and glum. Their blue pencils
had very little mercy this morning.
There was an endless labyrinth of illegi-
ble writing on the desk before them.

There was a sound of voices in the
outer office. Tom, the office boy, was
very busy trying to persuade someone
that it were best not to come in. "Busy
day." "Impossible." "Editor's rushed."
He was a good persuader, but evidently
could not convince. The door with its
black lettering, spelling "private," was
gently pushed open and a young girl
stood in the place of wisdom, and before
the ones in which wisdom was personi-
fied.

She was very pretty. The big blue eyes
looked around, a little bit startled and
uncertain, yet with a certain frankness
that was bewitching. With one hand she
nervously pushed back her loose, curling
hair from her face.

"I've come to thank you for the prize
money," she said. "It helped me very
much."

The associate editor was coming for-
ward, but his superior was in the way.

"You are Jeannette Kennington," the
editor said, taking her hand.

"Yes! No!" she gave a silvery little
laugh. "That is, I was but—" she
turned a bit bashfully, and a big boyish
looking blond man stood in the doorway.

That individual had been kept there by
Tom, who's pride was hurt. No one ever
had entered the sacred place of the edi-
torial pen when he guarded its entrance.
The young man twirled his hat and
bowed. Just as Tom was anxious not to
have him enter, just so anxious was he
to leave. "I am not now," she concluded.

The associate editor said something to
himself. Associate editors very often talk
to themselves. He busied himself with
some papers and made havoc with every-
thing that came in the path of his hand.
"There is that last story," he said in
an undertone to his chief. That morn-
ing it had been condemned.

"The girl's eyes brightened. Are you
going to keep that?" she cried eagerly.

"Oh, I shall be so glad; it will just fix us
all right." She clasped her hands in her
excitement. "You said that they
wouldn't," she said, pouting, to her hus-
band, "and you generally know."

The editor cleared his throat. "It isn't
your usual style," he said, his eyes on
the color that came and went in her

GET POWER

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town in Missouri.

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to find out the sort of food that was best
for me. Hardly anything that I could
eat would stay on my stomach. Every
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my stomach with gas. I got thinner and
thinner until I literally became a living
skeleton and in time was compelled to
keep to my bed.

"A few months ago I was persuaded to
try Grape-Nuts food, and it had such
good effect from the very beginning that
I have kept up its use ever since. I was
surprised at the ease with which I digest-
ed it. It proved to be just what I
needed.

"All my unpleasant symptoms, the
heartburn, the inflated feeling which gave
me so much pain disappeared. My
weight gradually increased from 98 to
116 pounds, my figure rounded out, my
strength came back, and I am now able
to do my housework and enjoy it. Grape-
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A ten days' trial will show anyone some
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cheeks, "and it may not appear in a long time, but we will keep it."

The associate was writing busily, but he paused to make a memorandum of the acceptance.

There was a long silence in the office after the couple had gone.

"That story was rot!" the associate editor burst out vindictively.

The editor started up from his reflections. "The public gets tired of reading one author's work," he commented, "and, Rivers, perhaps we'd better not take any more of her's just at present."

He lowered his eyes from the transom where they had rested, then he added deliberately: "At some time in his life a man is bound to make a fool of himself."

The associate editor agreed with him, but he did not say so.

SOME INTERESTING FACTS ABOUT PLANTS.

BY J. N. M'BRIDE.

There is in the arid sections of the United States, a salt bush known as shad scale. The leaves of this plant are thick and pulpy, and decidedly salty to the taste. Sheep are particularly fond of shad scale and flockmasters greatly esteem a range where shad scale grows. The peculiarity of this plant is its ability to select soil containing this mineral salt or possibly a sodium compound. The United States Department of Agriculture has brought a species of salt bush from Australia for range use.

From the Yucca plant and others of the same family comes the sisal so much used for binder twine. In Michigan the plant called Eve's thread is of the same species. This family has a voracious appetite for lime when it can get it. When grown on the coral limestone soil of Hawaii the ash of the plant will contain 40 per cent lime. The same plant grown on soil deficient in lime will content itself with seven per cent.

Another peculiarity of the Yucca plant is its liking for sodium or potassium. We all know the uses of soda ash or potash in soap making. The Indian name for this plant was soap weed. The squaws when given to laundry work used the root in place of "Sunny Monday." A very good lather can be produced from the root of this plant.

The loco weed causes great annoyance and loss of life on the stock ranges. "Plumb locoed" is an expression among cowboys, and no western dialect story is complete without this phrase being used. Cow ponies, after eating the loco weed, will perform the most unusual and capricious antics and finally drowsily sink down and sleep themselves away. The essential mineral element in this plant is barium sulphate. In soils not containing barayta the plant seems reasonably innocuous.

On moist cultivated soils in Michigan there grows a plant known as scouring rush, or scrub grass, which exudes silica and is a sort of vegetable sandpaper formerly used by our grandmothers to scour copper cooking utensils. The plant lingers today, harmless and useless, with its occupation gone.

If one were to burn a ton of alfalfa hay and carefully weigh the ashes he would be surprised to get about 150 lbs. of which 60 lbs. would be lime. The same weight of timothy hay would give only about 8 lbs. of lime in the ash. Alfalfa has an appetite for lime, as compared with timothy, in the ratio of 5 to 1, while clover is around 4 to 1 in the same comparison. Sugar beet leaves contain about the same amount of lime as does alfalfa, but over twice as much total ash. A ton of moisture-free sugar beet tops would have just a little short of 100 lbs. of the alkaline elements of potassium and sodium. The same bulk of hay in a bale grown on muck land weighs less and has less ash than upland hay. Swamp-grown trees, like alders and tamarack, have very little ash. The ash man had the right idea when he wanted ashes from hardwood, for he was looking for the most potassium. Horses and cattle are as wise as the ash man if they are permitted to select their feed from upland or swamp hay. The man who reads the polariscope or saccharimeter at the beet sugar factories seems to have the same objection to muck-grown beets that the ash man has to swamp timber ashes and the horses to swamp-grown timothy hay. He probably has no idea where the beets are grown, and may not know the reason why, but his records bear incontrovertible evidence to the inability to reap where one has not sown, and that while man may rise to a bluff, plants will not.

Along a little different line in plant growth is the development of vegetable acids. In the old fields of the South Atlantic states the gathering of sumac leaves, and drying and baling them for tanning purposes, is a considerable industry. Another interesting plant carrying a higher percentage of tannic acid than oak or hemlock bark is a species of the dock family called Canaigre. The Canaigre plant has a wonderful root growth, like a myriad of small potatoes, one plant having approximately a peck of roots. The Canaigre plant grows with a minimum of moisture, in the desert portions of the United States, a neighbor to the Yucca and cactus, and is a very promising source of supply for tannic acid when the hemlock and oak bark supply is diminished.

It's a wonderful story, that of plant life, obeying certain laws and with a wide margin of selective power, but even more interesting is the necessities of animal life for the minerals that the plants have selected, for no useful plant exists but has some relationship to the animal world.

THE HEATING STOVE.

There is no more important problem confronting the home keeper today than that of home heating. The time is past when the farmer could go out into the wood-lot beyond the pasture and cut all the firewood he could burn during the cold winter weather. And no longer is it considered a necessity of rural life to shiver and freeze through the long winter months, having only the kitchen stove and the open hearth fire for warmth. That day is gone. Yet the problem of getting the most out of every dollar's worth of coal demands of great economical importance. The "base-burner" for efficiency in heating and circulating as well as for economy of fuel is well worth considering.

The principle of the base-burner is as old as the hills, but the perfection which has been attained in the mechanical working out of the stoves themselves is the fruit of only recent years.

In order to secure a degree of this perfect heating quality for the home, the purchase of a stove should not be delayed until it is needed for immediate use. The buying of a stove should be considered as a business proposition, to be gone about in a business-like manner. Investigate the merits of the different stoves on the market before buying. Begin that investigation at once by writing to stove manufacturers who advertise their products in the Michigan Farmer. Have them send catalogs and descriptive matter and study the stove question thoroughly before buying. Then invest with a view to economy in use, instead of in first cost only.

When Miss Cheney, one of the popular teachers in the Swarthmore schools, had to deal with a boy who played "hookey," she failed to impress him with the evil of his ways.

"Don't you know what becomes of little boys who stay away from school to play baseball?" asked Miss Cheney.

"Yessum," replied the lad promptly. "Some of 'em gits to be good players and pitch in the big leagues."

"Think of the benighted days when they had no telegraph or telephone."

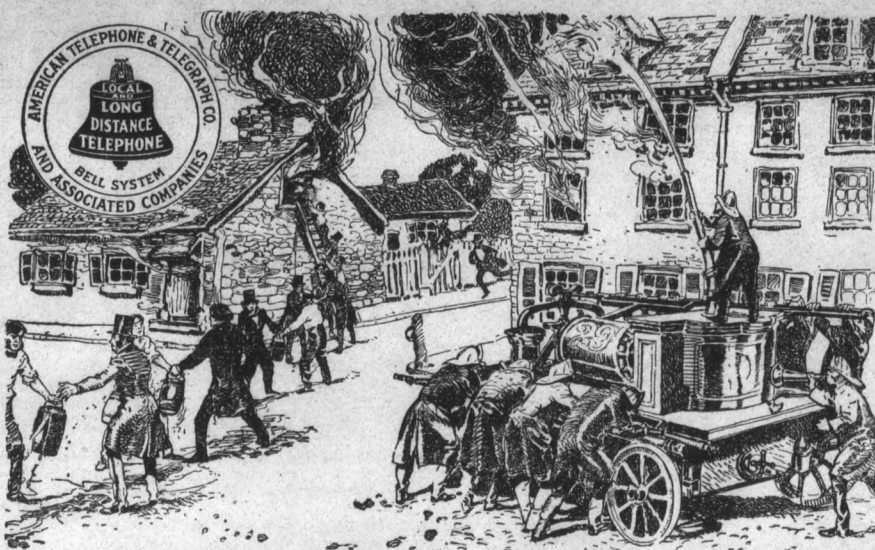
"Yes," replied the traveling orator; "and yet it must have been a comfort to make a speech in one town without feeling that you would have to stand for every word of it in the next."

The clerk was most obliging, but the young woman customer was hard to please. Roll after roll of blankets did he patiently take down and show to her; nothing suited.

For some fifteen minutes this mock sale went on; then the young woman said, condescendingly: "Well, I don't intend to buy anything. I was just looking for a friend."

"Wait a moment, madam," cried the clerk; "there is one more blanket left on the shelf. Maybe you will find your friend in it."

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Twenty men with twenty buckets can put out a small fire if each man works by himself.

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The modern firefighter has gone away beyond the "hand tub." Mechanics build a steam fire engine, miners dig coal to feed it, workmen build reservoirs and lay pipes so that each nozzle man and engineer is worth a score of the old-fashioned firefighters.

The big tasks of to-day require not only team work, but also modern tools and a vast system of supply and distribution.

The Bell telephone system is an example of co-operation between 75,000 stockholders, 120,000 employees and six million subscribers.

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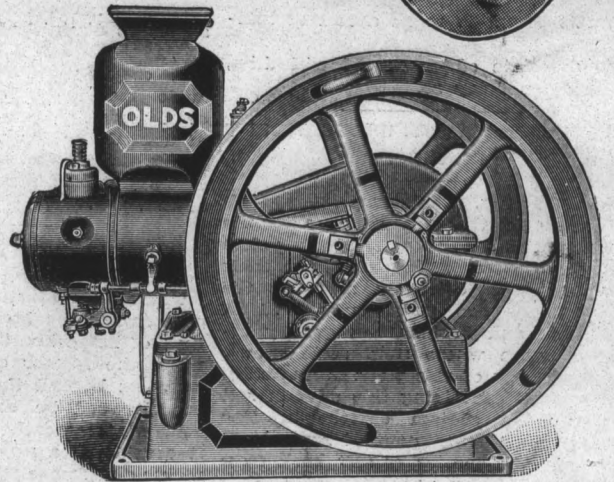
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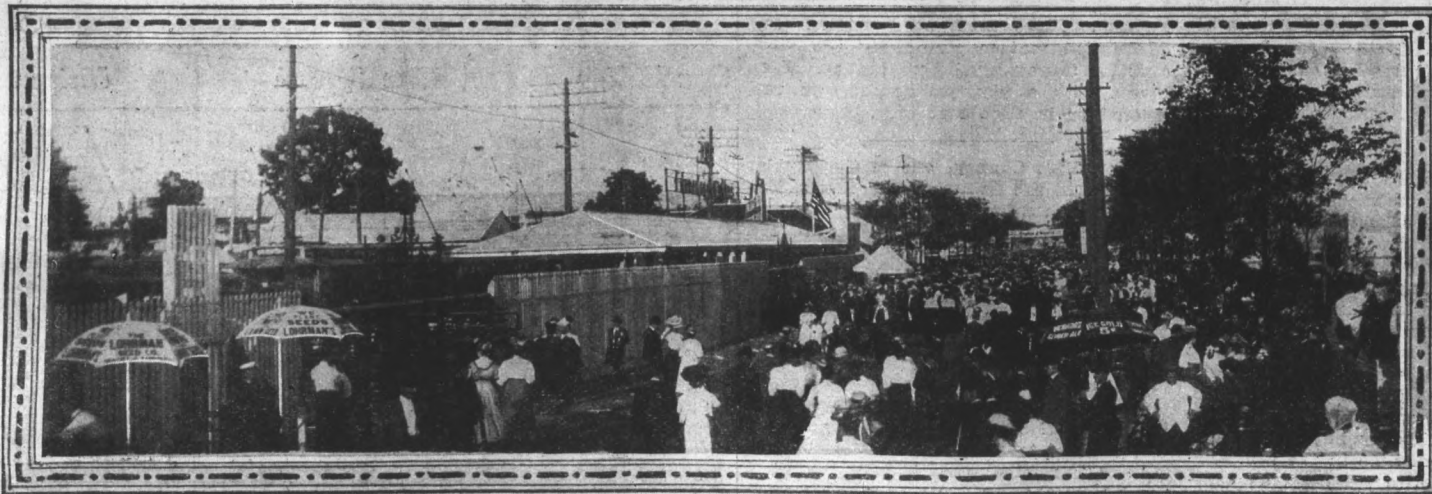
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No tickets are sold to the fair. Admission is by coin only. You drop your coin as you pass through the turnstiles. Adults 50 cents; children 25 cents. Provide yourself with the right coins and avoid the crowds at the change booths.

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