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FARM NOTES.

Plant Breeding for the Farmer.

The special topic for discussion in The Farmer during the current month embraces both plant and animal breeding for the farmer. The subject of animal breeding is one which appeals to the average farmer much more forcibly than does that of plant breeding, since he sees object lessons along that line continually. The successful live stock breeders are very largely farmers who make their living on the farm, but who have been attracted to this line of special production because of a natural liking for the product of their skill, as well as because of the opportunities which breeding for a special purpose present to the man of broad attainments. But the field of plant breeding is quite as alluring as that of animal breeding, and once the progressive farmer becomes interested in it, he will retain his interest and his enthusiasm will grow with his experiments and be stimulated by his failures as well as by his successes along this line.

Many live stock breeders are heard to use the term, "like produces like," giving it as a reason why the best obtainable foundation stock should be used in their breeding operations. In that sense it is true enough, yet the greatest of our breeders, the men who have attained great success in the improvement of our different breeds of pure-bred animals have learned to look for the unlike, or the superior individuals which are sometimes designated as "sports" because of their variation from the usual type of individuals of the breed from which they spring. Often it is found that these "unlike" individuals are born with a prepotency to perpetuate their superior qualities in future generations of their progeny, and they thus become the foundation of a new family or strain of the breed, which is generally superior in some important respect to the average of their contemporaries. Thus it is quite as important that the stock breeder be an observing man, quick to recognize any desirable variations which may occur in the animals which he breeds, as that he be skillful in mating the best animals available for the general improvement of his flock or herd through the fixing of desirable points or the elimination of undesirable characteristics in their progeny.

It is this particular phase of plant breeding which the writer desires to bring to the reader's attention at this time, because it is this phase of plant breeding which will at once interest the most farmers and prove most profitable for them to pursue. The problems of plant breeding are different from those of animal breeding, in that the parentage of the plants produced is more difficult to control in some cases, while in others the problem is simply one of judicious selection. But it is really the problem of selection in which our interest should center in the consideration of this subject, since the average farmer will not care to go into this work deeply enough to undertake to develop new varieties. This is work for the specialist in plant breeding. But every farmer should be interested in the selection of strains in the varieties of grain or grass or vegetables he grows, which are best adapted to his conditions, and propagating them in such a manner as will eliminate the less desirable strains from those varieties and perpetuate the better producing strains. Illustrations of this kind of selection are to be found in the corn breeding plot, in which rows are planted from single ears and seed saved from the best producing rows, or where a breeding plot for the production of the next year's seed potatoes is maintained by the planting of selected seed, or in the selection of a choice head of wheat or

oats or timothy for propagation in the garden until enough seed is produced for planting a small field area. Few farmers realize the difference to be noted in individual plants of the same variety. But by close observation these differences are readily seen, and in most cases the desirable characteristics of an individual plant can be secured in field areas by the simple methods above suggested. As a matter of fact, the plant breeder's success is quite as largely dependent upon his ability to observe and recognize the value of variations which occur in a natural way as to produce new species of plants by cross-breeding, since the natural "sports" are generally much more prepotent and certain to produce a fixed type than are the variations which are artificially produced, in the product of which an extended process of elimination by selection may be required.

There are plenty of examples to demonstrate the possibility of increasing yields

secured in small amounts at a small cost, and while this is being tried some of the ordinary seed used in growing the field crops should be tried out under the same conditions, so as to afford the means for a comparison which will be of some real value in the judging of the varieties which may be tried. Then, when an extra good plant of any kind is observed in any of the field crops during the coming season mark it and save the seed for propagation by itself next year. The work will be interesting and the result will be a surprise in many instances.

Shelling and Grading the Seed Corn.

In the last issue the importance of making an ear test of the seed corn was emphasized. But something more is required for the securing of an even stand of corn than that the seed should be of good germinating quality. Where a mechanical planter is used, as it is almost universally, it is important that the corn should be clean and the kernels of even

the grains uniform for the perfect working of the corn planter, and we believe it would pay to hand-pick the seed to secure an even greater uniformity than can be had even by the use of the corn grader, provided this work can be done with the regular help during bad weather as it can be if done before the planting season is at hand.

Sand Burrs.

I would like your advice concerning a piece of land that is badly infested with sand burrs. Last spring I turned under a light sod and planted to corn and thought I would be able to kill the burrs by cultivating. I had planned to seed to clover when I laid the corn by, but a heavy wind storm in August laid the corn down so that I could not get through it with the cultivator, and the result was that the sand burrs thrived splendidly. I am planning now to summer fallow this ground next summer and try to get rid of the burrs. I intend to disc and harrow the stubble the first thing in the spring. What I would like to know is if you could suggest something I could sow on the stubble and harrow in that would grow up big enough to be of any help to the soil turned under in June or July?

Oceana Co.

SUBSCRIBER.

There is some doubt whether it would pay to sow anything on the land for this purpose, since if not plowed until June there will be quite a growth of weeds to turn under, and these will serve to increase the humus in the soil the same as any crop that might be sown. Oats and peas could be sown at once and would get quite a growth by the last of June, but it would entail considerable expense to prepare the ground and sow them. And the plowing should not be delayed until too late in the season, as the sand burrs should be given an early chance to develop, in order that they may be well eradicated before seeding time. Thoroughness should be the motto in cleaning a field of sand burrs or other weeds of a persistent nature, else the labor expended in the effort will be poorly invested.

Clearing and Draining Swamp Land.

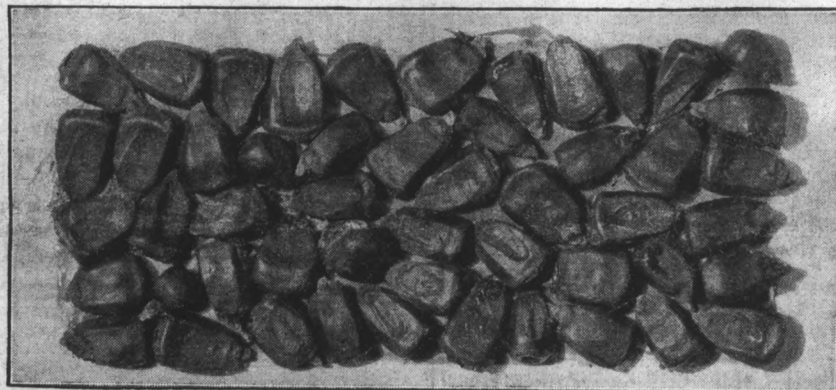
I have a piece of marsh land of about 200 acres that I propose to reclaim and use for agricultural purposes. A big dredge ditch has just been opened up that will give me a good outlet for drainage. The muck ranges from one to four or six feet in depth and is underlaid with a clay subsoil. I think this marsh was at one time a forest as there are many stumps and logs buried in the muck, some of them quite large. There is now no standing timber but a dense growth of brush, (black alder, quaking asp, huckleberry, etc.), on a considerable portion of the marsh, although there are quite large spaces where blue joint and other marsh grasses grow and are sometimes cut for hay or used for pasture. This marsh was all burned over in 1893 and everything killed. The brush that is now growing, much of which is 8 to 10 feet high, has grown since that time. It grows on the surface of the muck and if sufficient power were applied could be peeled off. Now, what I want to know is the best and cheapest way of clearing this land. It would probably cost from \$10 to \$15 an acre to grub and pile this brush by hand. Of course, it cannot be burned when the marsh is dry. It seems to me there must be some better and cheaper way to do this. Also, I would like to know the best way to take out the stumps and logs. Would you advise digging open ditches to drain this land at first and put in tile after it was fully reclaimed and got under cultivation? Would it be necessary to use lime on this muck land?

Berrien Co.

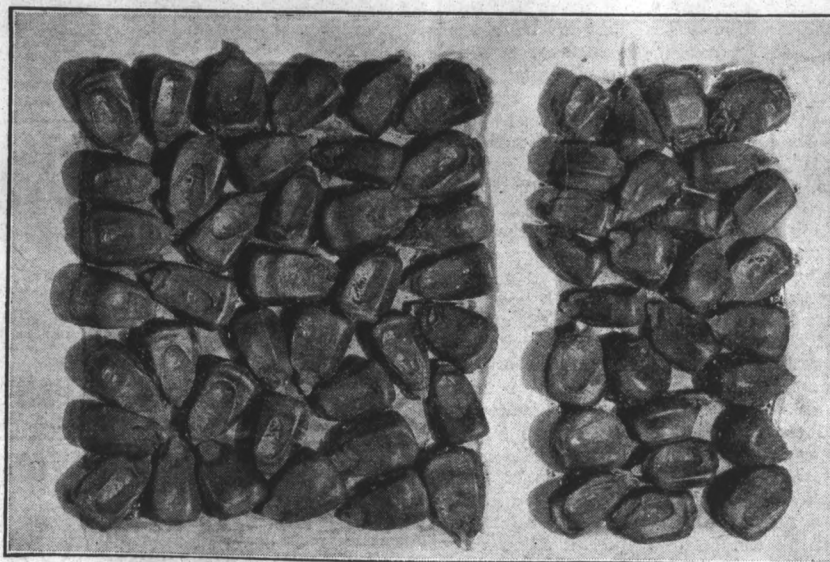
H. H. C.

The best device for pulling out the brush and small stumps on this land would be a capstan device which could be firmly anchored to a large stump and an area cleared around it by means of a cable which would wind around the capstan, the latter being operated by a horse. Stump pullers of this character are on the market at a reasonable cost, and would be more efficient than a home-made device.

The buried logs can best be removed after the land has been drained and is being plowed. When a log is struck with the plow, a swamp hook can be at-



Sample From Seed Corn Shelled Without Removing Tip and Butt Kernels.



The Same Sample Hand-Picked to Secure Uniformity of Kernels.

by the improvement of varieties and the breeding of improved seed in sufficient amounts to bring profitable results in field culture. The work which the Michigan experiment station is doing in the breeding of hardy varieties of alfalfa by this process of selection is an example of this kind which has been mentioned in our columns. Similar work would be inexpensive and interesting on any farm, on a smaller scale, of course, and would do more to interest the farm boys and girls in the possibilities of the business, as well as to increase the profits derived from the farm than any other line of work in which any reader could engage. Those who have done nothing along this line, and most farmers have done little, should lose no more time in trying it out. Set aside a small plot in the garden for the testing of varieties in an experimental way if nothing more. Seed can be

size in order that the kernels may be dropped evenly. If the grower has a corn grader this work will be simplified, but in case such an implement is not available, it is a wise precaution to avoid any great irregularity in the size and shape of the kernels by paying some attention to this feature of the seed ears when selecting them, and then shelling off the tip and butt kernels before the main portion of the ear is shelled for seed. Then, if the whole ear is shelled by hand the presence of broken kernels will be avoided and there will be fewer pieces of cob in the corn to prevent the accurate dropping of the seed by the corn planter. The accompanying cuts show a sample of corn shelled without removing the tip and butt kernels, and then hand-picked to eliminate the irregular or misshapen kernels. The result will illustrate more forcibly than words the advantage of having

tached to it and a good team will pull it out as the muck will be loose and will not offer much resistance. If necessary the plow can be used to remove a furrow of dirt above it to make the task of pulling it out the easier.

Swamp land of this character is best drained by the laying of tile about the edge of the hard land to take care of the water, which seeps in from the bank, which will in most cases be found to be considerable. Further drainage is best accomplished by means of open ditches through the muck, as the muck will settle unevenly in the process of decomposition which will take place when the land is under cultivation. This uneven settling will interfere with the proper working of tile drains, hence the wisdom of draining by means of open ditches until the muck becomes well settled after several years of cultivation. The ditches will not, however, have to be very frequent, provided the water from the bank is properly cared for by tile drains and the dirt from the ditches is well leveled back from their banks.

Lime would probably prove beneficial to this soil, but even with the application of lime it will need weathering before maximum crops can be expected. It would perhaps be best to experiment with lime on a small scale the first year and determine the benefit to the crops grown. Some crops that are grown on muck land do not need an alkaline soil.

Fertilizer for Oats. Amount of Seed to Use.

I have 14 acres of clay and sand loam that I had in with beans last year which I fall-plowed and want to put in with oats and seed down this spring. It seems to be very rich. Would you advise me to use fertilizer on this field and what per cent would be best and how much should be put on? Also, how many oats should I sow to the acre?

Huron Co.

J. R. G.

There is little doubt that a moderate dressing of commercial fertilizer would pay on this oat field, say 200 to 300 lbs. per acre of a standard grain fertilizer. This would give the oats a good start and would also prove beneficial to the seeding. Fertilizers pay even better on ground that is in a good condition of fertility than on soils that are low in fertility, particularly in humus.

The amount of seed to use per acre is a question upon which the most progressive farmers do not agree. In the writer's opinion oats should be seeded rather thinly where the clover is to be sown with them. If the land is fertile this will not make a great difference with the yield. Last year I saw a field from which 60 bushels of oats were harvested per acre from one bushel of seed, and the grower got a fine stand of alfalfa in the field by seeding with the oats. This may be considered too thin seeding by many, but where the land is to be seeded I would not sow more than one and one half bushels of oats per acre. In fact it seems to make little difference with the yield whether this amount or twice as much seed is used per acre, and I have seen a fair crop of oats cut where between a peck and a half bushel of oats were sown simply as a nurse crop for seeding to clover without any thought of cutting them for grain, but it was estimated by the grower that the crop would yield from 20 to 25 bushels per acre, for which reason it was thought profitable to cut and thresh them.

Planting Sugar Beets Without Plowing.

I plowed down three acres of old cow pasture last spring without manure and grew a big crop of cucumbers on it last season, by just manuring the hills. Would it be better to plow this land for sugar beets this spring or just drag it, using commercial fertilizer and no stable manure. It is a gray sandy soil, without weeds.

Ottawa Co.

SUBSCRIBER.

It would not seem necessary to plow this ground for sugar beets, although a good seed bed should be prepared, which is hardly expressed in the term, "just drag it," which is used in the inquiry. A number of successful sugar beet growers of Michigan have adopted the plan of planting without plowing, following the bean crop, where the preceding crop has been kept free from weeds. Some time can be saved by this plan and a better seed bed prepared for the beets with less labor than would be required where the ground is plowed in the spring, since it would have to be firmed down by repeated rolling and harrowing to secure as good conditions for the young plants as could be secured by disking up the ground and fitting it without plowing.

ROLLING WINTER WHEAT.

This is a practice that used to be largely followed in many sections. Sorry

to say, it has of late fallen into disrepute in many communities. Of late the practice has been revived in some sections. It possesses certain peculiar advantages. After the freezing and alternate thawing in winter, the soil is left in an extremely loose and friable condition. Indeed, on some soils this condition continues down to some depth. Among other things, it disturbs the capillary action in bringing the soil water up to the young and growing plants. The roller is a compactor, and in rolling the soil is so compacted that the plants are able to get a more secure foothold, placing them in a position so that the capillary water is available for their use. This incidentally increases the yield. In a series of tests by the Nebraska station, it was found that rolling increased the yield of winter wheat slightly more than four bushels per acre. At the prevailing prices this means four dollars per acre. As the value of a team at that time of year is not more than \$3.50 per day, rolling winter wheat is a mighty profitable work. I have known many cases, when the wheat was on an exceedingly friable soil, in which the yield was increased even more than the amount above reported in Nebraska.

Ohio.

CLYDE A. WAUGH.

SOME MISTAKES.

Nearly all who write for the agricultural press tell about their successes, but seldom say anything about the mistakes they have made, and the consequent losses sustained on this account. If a farmer never made any mistakes, he would certainly stand a better chance to make a financial success of his business. In this article I propose to give a little description of a few of my mistakes.

Some fifteen years ago I concluded to set out a new apple orchard near my woodlot. I wanted to get trees that would begin to bear as early as possible. So I studied the catalogue of a prominent nursery, and chose some new varieties that were recommended very highly. I spent much time cultivating, spraying and trimming this orchard. The sixth year after planting it began to bear. Imagine my disappointment as well as disgust, to find the fruit of such inferior quality as to be of little market value. This taught me a lesson, which was, not to place too much confidence in the glowing account of what some nurseryman might say about some new variety. Had I planted some well known variety, say Northern Spy, I would now have an orchard that would be affording an income instead of an orchard that is of no value.

The second year after planting the above mentioned orchard, a pickle factory or salting station, was started at this place. As the orchard had to be cultivated, (after much persuasion), I concluded to plant one row of cucumbers between each row of apple trees. Having so much other work to do, it was impossible for me to always get the cucumbers picked just at the right time to prevent large ones from growing, which ruined the vines, so that I got comparatively nothing for all my labor, and I have kept out of the pickle business ever since. Raising pickles and growing sugar beets may be all right for a farmer who has plenty of help at his command at the right time, otherwise such side lines will generally prove a losing venture.

Last season, being rather dry, I made the mistake of pasturing a meadow a little too long. The consequence is, the hay crop in this field will be considerably shortened this season. And so it goes. It takes a longer head than I have got to run a farm and not make any mistakes.

Ottawa Co.

JOHN JACKSON.

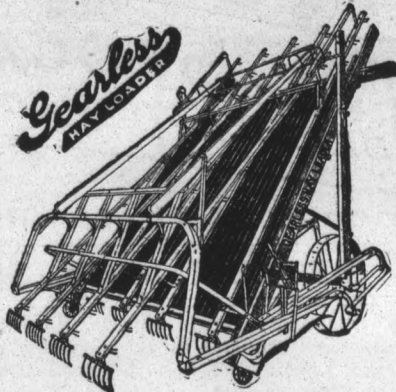
HILLSDALE FARMERS ORGANIZE AN ALFALFA CLUB.

There are very few Alfalfa Clubs, and they are particularly scarce in Michigan. The one which is believed to be the first organized in the state is now existing at Jonesville, Hillsdale county. There are thirty-five members, and A. H. Dudley, a prominent and wealthy farmer, is secretary. The object of the club is to make a systematic study of the crop, and their local soil conditions, and to devise methods to best adapt alfalfa to their farms and make the condition of their farms such as to raise the crop. Prof. Shoemaker, of the Michigan Agricultural College, will give an address Thursday, April 13, on the crop and methods of growing it. The secretary of the club, Mr. Dudley, is a pioneer grower of the crop in Southern Michigan, and one of its largest producers in this section.

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WALTER JACKSON.

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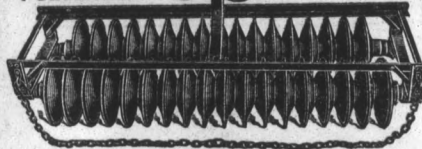
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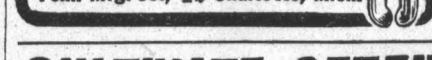
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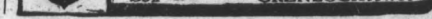
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LIME FOR POTATOES.

I have read that lime must not be used where potatoes are to be raised within the next two years. Is this a fact? Have read of your sowing 1,000 lbs. of high grade fertilizer per acre on land for potatoes. Do you think it was a profitable investment? My experience doesn't prove that it is.

Hillsdale Co.

L. W. M.

The only particular reason why lime would be considered injurious to apply to potato ground would be that it would encourage the growth and development of scab bacteria. These little microscopic plants cannot grow in an acid soil, and when you add lime it encourages the growth of all kinds of bacteria. Consequently, the theory is that your potatoes would be more apt to be scabby. A year ago last season on a portion of my potato field was a cat-hole, or swamp, that we drained out. It never had been plowed before. I was afraid it might be a little acid and so I gave a portion of it an application of lime and planted it to potatoes. Now, as a matter of fact, I couldn't see that the potatoes were more scabby where I put the lime than where I did not. It might be because there were no scab bacteria in the soil and we treated the seed potatoes with formaldehyde to kill the scab and consequently controlled it so that it didn't amount to very much. But there is probably something in it or good practical men would not advise us not to do it.

Fertilizers for Potatoes.

L. W. M. wants to know if I think it was profitable for me to use 1,000 lbs. of good fertilizer to the acre for potatoes. I answer, yes, I do. I never raised any potatoes that were hardly worth harvesting until I commenced to use commercial fertilizer. Since then we have had fairly good potatoes. Not as good as I would like to have them, but many times they are put on a portion of the field that is not really suitable for potatoes, and I haven't got a potato soil anyway, and so consequently raise potatoes under a great disadvantage. I never have used at the rate of 1,000 lbs. of fertilizer per acre until the last two years. My faith has been gradually increasing in the value of commercial fertilizer and so I have been gradually increasing the amount of fertilizer used, because nobody can accomplish anything unless they have faith in it. I used to put a little handful of fertilizer in the hill with the potatoes. Sometimes I could see some benefit, and sometimes I could not, depending upon the weather conditions. Then I began distributing the fertilizer broadcast just the same as I would manure, and I am finally convinced that this is the proper way to do it and that the amount ought to be sufficient so that you can get some results.

Now, frankly, I have got so that I don't expect the biggest kind of results with commercial fertilizer every year, because I know that we must have favorable weather conditions in order to get the best results. I have put a good quantity of stable manure on land before now and put it into crops when I didn't begin to get the results that I ought to have from this stable manure. Why? Because season conditions were not proper. Consequently I don't expect that every time I put on fertilizer that I am going to get the biggest kind of results. I do the best I know. If I have favorable conditions then I am in shape to get results, and usually I get pretty good results. A year ago last season I didn't get as many potatoes per acre as I ought to from the application of 1,000 lbs. of fertilizer, because the seed wasn't good. I don't believe over half of it grew. I don't think we had a bit over a half a stand of potatoes, and I had about 100 bushels of good marketable potatoes per acre, but they were too large; many of them were so large that they were absolutely unmarketable. I put that field into peas and oats last year and I had a wonderfully good crop of peas and oats.

So I am convinced that what fertilizer was not used by the potatoes, a portion of it at least, was used by the peas and oats, and I am pretty sure that there is some of it left there in the soil yet for the wheat that is now growing on the field.

Last year I had a better crop of potatoes, but I didn't have as large a crop as I ought to have had from 1,000 lbs. of commercial fertilizer, and yet I had as good as I expected because the ground was not in good condition for potatoes. It was on a portion of a farm that I recently bought that hadn't been kept up. This land had never had any stable manure until after I purchased it. Part of this field, if it had been planted to corn,

wouldn't have raised corn big enough to cut, and yet with a very light application of stable manure the fall before, put on thin with the manure spreader, and an application of commercial fertilizer, I got a good crop of potatoes, over 600 bushels of good marketable potatoes from five acres. Now I think that I had a good investment right there in fertilizer. I am not sorry that I put it on. My experience leads me to believe that 1,000 lbs. of fertilizer will pay on potatoes, properly distributed, properly applied one year with another, say in a series of 10 years or in a series of five years. You couldn't absolutely bank on its paying 100 per cent interest on the money invested in fertilizer any one year because season conditions might be dead against you, but in a series of five years I believe that a man would get 100 per cent interest and more, too, on every dollar he invested in fertilizer by using 1,000 lbs. to the acre on his potatoes.

COLON C. LILLIE.

BREEDING AND SELECTION FOR IMPROVEMENT.

It is a little amusing as well as instructive, to observe the wide, not to say fantastic, trend that the discussion of the small seed potato question has assumed in your columns. One without any thought, seemingly, for the proprieties of species, family, or genera, compares potatoes to willow switches. One might, with equal appropriateness, compare the development of angleworms and humming birds. His little willow switch is just as ripe and thrifty at the end of each growing season as is its fanciful brother. It is a matter of opportunity and time to grow with them. Then, if this correspondent's comparisons are germane it is in order for him to explain how long it will take his small potatoes to grow to be as large as pumpkins? But to use his own weapons for a comparison will he please explain if, in choosing his switches for planting he comes across two bushes that he knows are of the same age and one shows a healthy, vigorous growth and the other shows wilted and stunted growth, will he cut his switches from the bush that has some fence-rail limbs, or will he choose from the bush that shows only knitting needle size limbs?

Another says it is simply the question of "the eye." Right you are brother, it is a question of the eye—and then some. If it was possible to produce anything in nature from the bare germ or real life principle, we should have no varieties from such growth. But when we breed from the eyes and the surrounding tissue, we have the different varieties of potatoes as shown today. Everything in nature is in a large degree the creature of environment. When our potato eye or life principle is surrounded by tissue of a certain blend it produces the variety called for by that particular blend. And so, when that tissue is from clean, healthy and vigorous stock it produces in the exact ratio that that stock calls for. Just so with the grains and everything in nature. A grain of corn, of wheat, of oats or what not, as experience shows, is much more likely to produce abundantly if selected from among clean, healthy, well bred associates. And the potato is no exception. The fact that one crop of good potatoes may be raised from seemingly imperfect seed proves nothing. It may simply show that potatoes possess inherent vitality beyond that of some other vegetables and grains, nothing more.

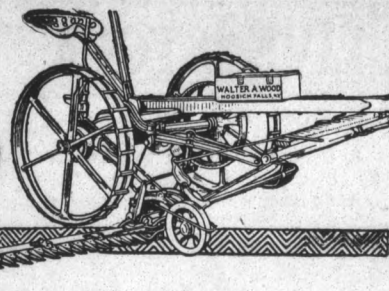
Like some of the other of your correspondents, whilst not growing potatoes commercially, for some years we have practiced a system of seed selection with great satisfaction and profit, and we notice an improvement in the quality of the product. Some may think they have done all that is advisable when they have selected a few hills for seed with extra large, showy tops, but one will find that these often show, like many extremely showy people, "mighty small potatoes and very few to the hill." After a year or two of proper selection, one will have nothing but vigorous tops in his seed bed at least, so any such selection will be useless in any case.

Barry Co.

J. S. CHANDLER.

It is the best plan to establish a regular crop rotation of short duration, and adhere to it as closely as possible in the cropping of the fields, as in this way the fertility of the soil can better be conserved or increased where the soil has become depleted from poor management in the past.

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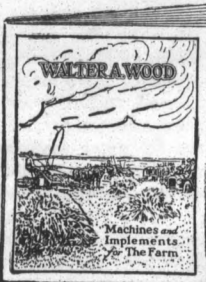
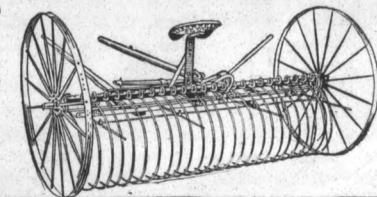
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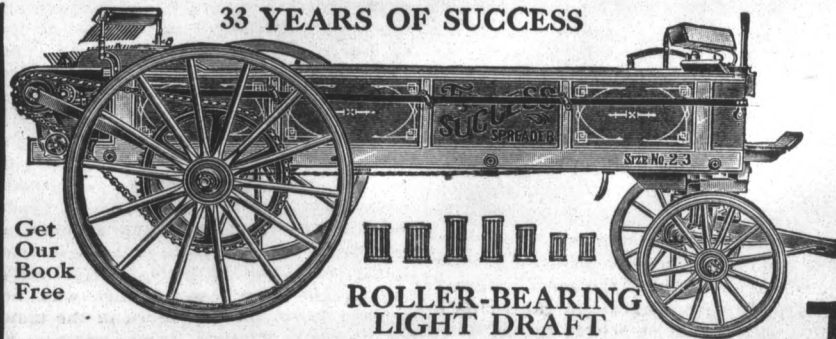
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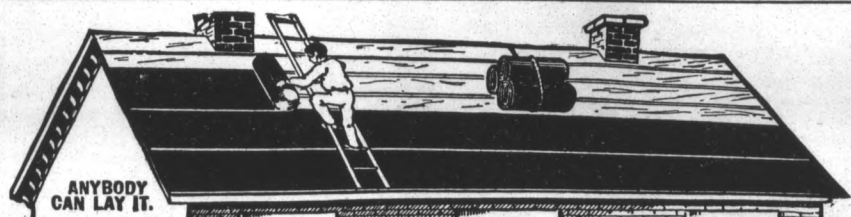
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"My yield of salable potatoes this year, per acre, was 150 bushels, which sold readily at \$1.50 per bushel, this being the first crop on the land. I followed this crop with sweet potatoes and sweet corn and then planted cow peas. I raised three crops on the land in one year, all of which brought good prices."

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

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LIVE STOCK

FEEDERS' PROBLEMS.

A Soiling Crop for the Calves.

The calves are generally the worst abused of the young stock grown upon the farm. Generally they have good pasture only during the early part of the summer if at all, and all too often there is no provision made for a supply of supplementary feed for them later in the season. A small patch of corn planted near the barn or the pasture lot in which the calves are kept will provide such a supply of feed very cheaply and will pay very well indeed. This corn may profitably be planted rather thickly and as the calves need it some of the stalks can be removed from the hills and fed to them. This thinning process will give the balance of the stalks a better chance to develop and the amount of feed which will be produced during the season will prove a surprise to one who has never tried the plan. This supplementary green feed, together with a little bright clover hay after the hay is harvested and a liberal grain ration with the skim-milk fed will grow the calves surprisingly fast, and will put their owners in a position to make baby beef of them if good feeding methods are followed up until they reach the age of 12 to 18 months.

Another thing which should be given more care than is done upon the average farm is the cleanliness of the feeding vessels. If these are allowed to become sour or filthy, the calf's digestion will be sure to become impaired, and scours will follow with disastrous consequences. In too many cases it is considered that the calves should be given all the skim-milk they will eat. This is a mistake. If less milk were given and this were supplemented with a grain feed such as corn meal with a little bran and oats when the calves get age enough to eat it, far better results will be secured. A little time and thought expended on the calves will pay larger dividends than that expended on most of our farm animals, for the simple reason that there is more room for improvement in the handling of the calves on the average farm than in the care of the other young animals, since they are the only ones that are customarily raised in an artificial manner.

Rape and Peas for Hog Pasture.

Would it be advisable to sow rape and peas on sod ground for pigs? Field is handy for water and near the barn. Was thinking of cutting it in two and sowing rape for early pasture and turn into the peas later. I expect to have about 15 pigs to pasture, and would like to know if I can put calves on the peas with them. How should the ground be prepared and how and in what amounts should the seed be sown? How early can I turn on the rape?

Van Buren Co.

C. R. M.

If the sod ground available is a clover sod there need be no hesitation in sowing either rape or peas on it for hog pasture, as a clover sod is an ideal place for either. If, on the other hand, the sod is timothy or June grass, it would be well to leave a portion of it for early pasture and sow rape on the balance, sowing it in rows with a garden drill so that it can be cultivated. In this way a very good crop can be grown, and the following year this ground can be sown to peas and the balance of the hog lot broken up.

A Crop for Fall Pasture.

I am short on fall pasture. Have a field of corn stubble that is not overly fertile. Is there any grass, such as millet, red-top or orchard grass, that could be sown this spring after a thorough disking, that would make good pasture later?

Macomb Co.

J. H. H.

It is a very difficult proposition to sow any grass in the spring that will make a good pasture the same season. The permanent grasses mentioned, or any others that might be used, require the most of the season to get well established, and pasturing will injure their future usefulness without adequate recompense, since the amount of pasture secured will not be large unless the land is exceptionally fertile so as to insure their rapid growth. If the stock for which the pasture will be needed is sheep, the problem will be simplified, as rape will serve the purpose very well, and the land can be seeded with this crop if desired. If young cattle are to be pastured a mixture of rape and oats and millet sown rather late on a well-prepared seed bed will furnish considerable feed, but care must be exercised in pasturing it, as rape is inclined to produce hoven or bloat.

But perhaps the need of fall feed could be better supplied by providing a soiling crop in connection with late pasture.

Then a portion of the land might be sown to oats and peas for hay and sown to rye for late pasture as soon as the crop is removed, while some early planted fodder corn would supply a soiling crop that would be available during the early fall. This method of feeding, in connection with clover hay, if available after haying, will be excellent for cows giving milk, and the amount of feed which could be produced on a given area would be very much larger than if some crop were sown in the spring with a view to turning the stock in the field to pasture it off later in the season.

THE OUTLOOK FOR DRAFT HORSE BREEDING.

Never in the estimation of the writer was there a more opportune time for a man with a good farm and a little money to invest profitably in a few draft mares. It would seem that self-interest, if no higher motive, would prompt farmers to give more attention to the breeding and developing of a better class of farm horses. Our farms are stocked with an inferior lot of horses. The fact that any kind of horses could be made to do something at farm work has caused the majority of farmers to overlook the possibilities of breeding a class of horses that would prove better adapted to their needs. Scarcity of farm labor and the increase in weight of modern farm machinery, together with the demand for more intense methods of tillage and crop cultivation has created a demand for heavier farm teams.

It seems almost unnecessary to suggest that in buying draft brood mares one should buy as good as he can afford to own. Whether to buy pure-bred mares or grade draft mares depends largely upon the man himself and the amount of money he has to invest in pure-bred mares. Providing he understands thoroughly the keeping, care and handling of such mares he should buy them. If he does not he had better leave them alone.

It really does not require a great amount of money to keep a farm supplied with good draft work mares and the initial outlay for good mares is soon returned in the extra prices which their colts will bring. High-class draft horses can be produced at a low cost if they are bred on the same farm from generation to generation. The profit and satisfaction derived from growing and handling high class farm horses remains long after the original cost of the foundation stock is entirely forgotten. No temporary fit of discouragement should be allowed to prompt the displacement of high class draft mares for disreputable scrubs.

There is nothing mysterious in the breeding of pure-bred draft horses, still they require better care and a more liberal system of feeding than the average farm team is accorded. They do not need pampering or babying in the least, but they do need sensible treatment. The upward tendency of heredity has been developed by feeding. Feed makes size; size permits mares to give good birth to large colts; large colts if properly fed and given good care, grow into large horses. Unless guided by the hand of man the tendency of heredity is always toward the original ancestral type which was not so large as the draft-horses of the present day. It is the skill of the feeder as well as the breeder that makes size in draft horses.

There is a wide diversity of opinion among farmers as to the best size of farm work horses. The preference of the writer is for a large, prompt-walking horse that weighs between 1,400 and 1,500 pounds. Such a team seems best adapted to our present requirements, but from a commercial standpoint there is more profit in breeding the heavier horses. The demand for these large drafters in industrial circles is greater today than at any time in our history. Brewers, contractors, lumber dealers, packers and truckers find it imperative that they use larger teams. This steady demand for large horses from all parts of the country is convincing proof that heavy draft horses are a staple necessity in industrial circles. In the face of these facts it would seem that farmers who are in a position to market a few high class young draft horses could add a substantial amount to their income each year. Of course, there are a few economists who will argue that it costs too much to grow and develop a large draft horse, but to such men let me say right here that the last two or three hundred pounds that are put onto a draft horse pays greater profits than any kind of flesh he can grow on his farm. It adds

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from one-third to one-half to the value of the animal and I would call that a pretty good business proposition.

The farm is the ideal place to grow and develop draft horses. The growing, training and developing of draft colts demands conditions found only on the farm. The large breeding establishments must send its young stock to the market in an uneducated condition or else go to a great expense in hiring trainers to get their colts in condition to bring the top price. The farmer has a field of his own in the production of draft horses and his young horses grow into their education while earning their board on the farm. What more economical method of training could be devised? A well-bred draft horse, with its early education largely completed, is one of the most valuable finished products that leaves the farm. Except in very few instances draft horse breeding has not been found profitable unless the mares and colts could be made to perform some kind of profitable work during a portion of the year. It costs from \$50 to \$100 to maintain a mare or colt during a year. When this is added to interest, taxes and the depreciation of horses, no arguments should be necessary to convince a man that his horses should not be idle. The mares and colts must eat anyway. If the mares are kept just for farm work we may lose the income that we might secure from the sale of the colts and if we keep the mares for breeding alone we lose the income that we might secure from their work. Looked at from either viewpoint the draft mare is essentially a dual purpose animal and one of the most profitable we can keep on our farms.

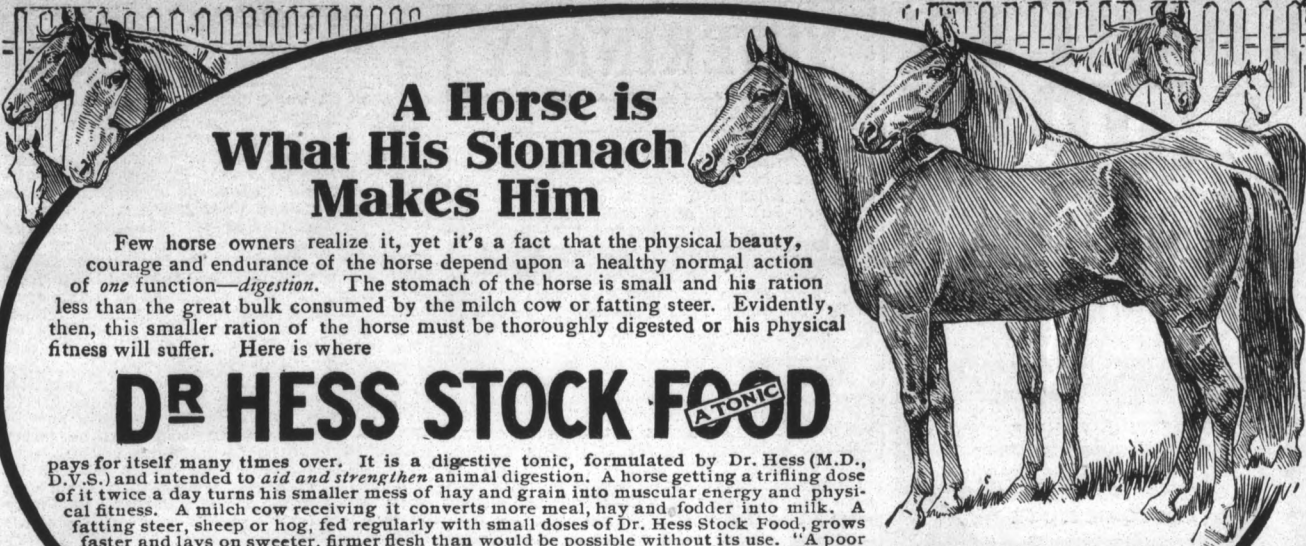
It stands to the reason of every intelligent man that only the best draft stallions should be patronized. The man who chases the low fee of the inferior stallion cannot have other than inferior colts. Ingenious, indeed, are some of the excuses farmers make for not patronizing high-class draft stallions, which stand at a reasonable fee, but in the end all of these excuses may be sifted down to the unwillingness of parting with such an amount of money. It is not as great a speculation to pay \$20 or \$25 for the service of a superior stallion as it is to pay \$10 or \$15 for the service of an inferior one. It is true that some of the best draft stallions stand at a fee of \$15 but the services of these horses is not, as a rule, worth more than that much, but if more farmers would willingly pay a higher fee there would be a much better class of draft stallions standing in the various sections where they were needed. The men who have patronized the better stallions have prospered in their breeding ventures far beyond those who have pursued the low-fee policy. It would be easy for farmers to get the best if they would quit patronizing the poorer ones. Few seem to give the mating of their mares the consideration that it merits.

Selecting a draft stallion to mate with his mares should have as its foundation soundness and the essential requirements of draft individuality. Having in mind the best understanding of the breed type then he should look for size, bone, action, and last, but not least, the commanding presence of a prepotent sire. No stallion is a perfect individual, but it should be his aim to secure as many of the essential requirements along with desirable qualities as it is possible to find in one horse. He should also bear in mind what sort of mares he is mating and if he cannot secure the qualities desired in one animal he should at least secure those that compensate for the ones in which his mares are deficient. To correct the prevailing defects in the mares is the one prime essential in selecting the stallion to mate with them. A stallion which measures to a high level will produce colts of value and the few dollars additional service fee will be repaid many fold when the colts are ready for sale.

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Cattle and sheep on the ranges of Wyoming, Colorado and other states came through the winter as a rule in good shape, thanks to the open winter. Spring opens early, and a good grass season is expected, if it is not too dry during April and May. Reports come from Colorado that plenty of snow on the mountains seems to insure enough grass during the early summer. In parts of Colorado there will be at least 20 per cent of the last hay crop available for another winter, and around Montrose hay sells for \$5 per ton.

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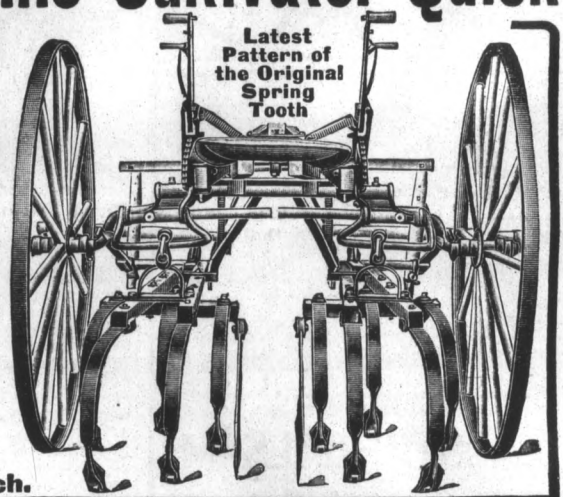
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VETERINARY

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

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

Sluggish Kidney Action.—I have a 12-year-old mare that seems to have some urinary trouble. Her water is thick and yellow and she passes but a small quantity at a time. A. F. B., Pine Grove, Mich.—Give ½ oz. doses of fluid extract of buchu in feed three times a day; also give a tablespoonful of cooking soda at a dose in feed three times a day.

—If the ailment is ringworm instead of eczema, other cattle and horses, also people, could become infected. Apply tincture iodine to bare patches twice a week for two weeks, then apply 1 part oxide of zinc and 4 parts vaseline.

Chronic Lung Trouble.—Some time ago I bought an old cow; since then she eats just about enough to keep her alive and is inclined to stand with elbows out as though she had lung trouble. I called our local Vet. and he thought she stood in this position to relieve breathing for she has spells of difficult breathing. I was inclined to believe that she refused to eat on account of home-sickness. E. K., Holland, Mich.—Perhaps you had better have her tested for tuberculosis; however, her ailment may be chronic pleurisy or she may have a consolidated lung. No matter what chronic chest trouble she has, I am inclined to believe that she might as well be destroyed for she will prove unprofitable for either breeding or dairy purposes. Cattle suffering from lung trouble usually find most relief when lying on their brisket, while horses get most relief from standing position.

Chronic Looseness of Bowels.—I have a mare 17 years old that is troubled with scours and has not been right for the past ten months. She is fed ground corn and oats and mixed hay, more clover than timothy. J. D. S., Pottersville, Mich.—Her teeth may need some attention and you had better feed her nothing but oats and well cured timothy. Corn meal and clover have a laxative effect. Give a teaspoonful of powdered sulphate iron, a tablespoonful of powdered catechu, 1 dr. powdered opium and 2 tablespoonfuls of prepared chalk at a dose in feed three times a day until her bowel movements become normal, then lessen the dose of medicine.

Blood Poison—Miscarriage.—I am having trouble with my ewes; some of them lamb too soon and the lambs live only a few hours, some of the ewes do not clean properly and after a few days' sickness die. I cut one open after death and found the uterus in an inflamed and diseased condition. About the only symptoms they show is dullness, loss of appetite, grow weaker gradually, then die. H. M. H., Dexter, Mich.—Apply to the navel of every young lamb right away after birth 1 part carbolic acid and 50 parts water daily until the navel heals. If your ewes do not clean, the afterbirth should be removed and the ewe injected with the following lotion which is made by dissolving 1 dr. permanganate potash in a gallon of clean tepid water. These applications should be made daily for a week. Give each sick ewe 5 grs. salicylic acid at a dose three times a day.

Knee Sprung.—My three-year-old colt seems to be troubled with weak knees, but is all right every other way and I would like to know what can be done for a case of this kind. E. W. V., Bentley, Mich.—Apply one part turpentine, one part aqua ammonia and four parts olive oil to back tendons every day or two. The colt should be well fed and not overworked.

Grub in the Head.—My sheep seem to be troubled with a heavy discharge from nostrils, some of them appear to be blind and one of them died. What ails them? G. S. G., Rochester, Mich.—Blow some Scotch snuff up their nostrils once a day and they may dislodge the grubs while sneezing. In some cases it is necessary to trephine through bone of face, but when this is done it is generally necessary to employ a veterinarian.

Scours in Calves.—For the past two or three weeks my veal calves have been troubled with scours. Out of a herd of 20 more than two-thirds of them have suffered from looseness of the bowels. These calves are kept in a clean stable and suck their mothers. I am told that this ailment is epidemic in this locality. I have been giving them raw eggs and that seems to check the trouble for a short period, but it does not appear to affect a permanent cure. W. H. K., Adrian, Mich.—There is a form of infectious scours which attacks calves two or three days after birth, caused by germs entering the body through the navel cord. Other cases of scours result from indigestion caused by overeating; however, this is less apt to affect calves that suck the mother. Wash your cows' udders clean with soap and water, then wash off the soap with soda and water, 1 oz. to a quart. Keep the stable clean and free from excrement. Give one or two ounces of castor oil with a teaspoonful of laudanum added, then follow with teaspoonful doses of laudanum two, three or four times a day. Fairly good results follow giving coppers in water, a tablespoonful dissolved in one pint of water and give one or two ounces of this solution in milk two or three times a day. It is also good practice to add one or two

well beaten raw eggs to their milk. It is always a good plan not to overfeed calves that scour. There are many other bowel remedies, such as salol, formaldehyde, camphor, lime water and soda that act well in such cases.

Mange.—I have a mare seven years old that has been troubled with a skin ailment for the past three years. It has annoyed her so much that she has rubbed her mane and tail out and the sores have now spread over quite a portion of body. I have tried all kinds of mange and blood medicine without obtaining any satisfactory results. F. B., Miner Lake, Mich.—First of all you should clip her, then apply 1 part sulphur, ½ part carbonate of potash and 4 parts lard. These applications should be made every day or two for a few days, then as often as it is necessary to prevent her rubbing. Give a dessertspoonful of Donovan's solution of arsenic at a dose in feed three times a day. Kindly understand that you should apply 1 part carbolic acid and 30 parts water to surface of harness which rests on body, besides your stalls should be thoroughly cleansed with this mixture in order to kill all mange germs that may have gotten off your horse on to other things about the stable. Your curry comb and brush and wipe rags used for grooming purposes should be dipped in this solution and used on no other horses for fear of spreading this infection. Whitewashing the stable would be a wise move to make for mange is not an ailment that should be flirted with as it is not easily cured.

Liver Disease.—I have lost five Shropshire sheep out of a flock of 35; two more are now sick and refuse to eat. The only symptoms they show are dullness for three or four days before death. The sheep that died are fleshy and several years old. They have run in a corn field all winter where a large portion of the corn had not been husked. They were only housed during severe storms and very cold weather. The last sheep that died we opened and found gall bladder bursting full. The liver was of a yellow color and I also found a patch on the intestines as large as my hand. M. B. V. D., Dowagiac, Mich.—I am inclined to believe that your sheep died the result of eating too much infected corn, which produced liver and bowel infection. Their food supply has been unbalanced during the winter and food that remains out doors must become more or less diseased. The liver and bowels usually suffer from food of this kind, especially in sheep. Give ½ gr. calomel and 10 grs. bicarbonate of soda at a dose twice a day for three days; then give an ounce or two of castor oil as a cathartic. You had better discontinue feeding them corn and in its place give them some oats and roots.

Roup.—My hens have a peculiar sickness affecting their throat and head, causing them to breathe through the mouth, which results in death. E. E. T., Flint, Mich.—I am inclined to believe that your chickens are suffering from roup, which is caused by a micro-organism and of course is a highly contagious disease, quite destructive to poultry. In my practice when I am called to a poultry farm and find chickens suffering from this ailment I have no hesitation in cutting the heads off all those that are much diseased and burning them. If the flock is small it is sometimes a good plan to get rid of all of them, then fumigate and disinfect the coop thoroughly. The healthy birds should be moved to a place free from disease. Fairly good results follow giving a dessertspoonful of castor oil every 12 hours until the bowels move freely. Dissolve a tablespoonful of carbolic acid and four tablespoonfuls of glycerine in a quart of water, shake well and inject some into the slit in the roof of the mouth twice a day. Dust some boric acid into their eyes twice a day. Spray your chicken house with one part carbolic acid and 50 parts water, or use one part coal tar disinfectant and 30 parts water. Their feeding utensils should be thoroughly cleaned, their coops fumigated with sulphur or formaldehyde or white-wash.

Mange—Distemper.—My nine-year-old English setter dog has bare spots on different parts of body which causes him to itch. His eyes are inflamed, discharging mucus which seems to glue eyelids together and the eyeball is covered with a film. I would also like to know the symptoms of distemper in horses and what to do for it. E. S. C., Coral, Mich.—Apply 1 part sulphur, ½ part carbonate potash and 6 parts lard to bald patches every day or two. Dust some boric acid into eyes twice a day; also give him 1 gr. of quinine at a dose three times a day until he recovers. Distemper or strangles in horses is an acute infectious and contagious febrile disease characterized usually by an abscess forming in some part of the body and is caused by an organism, a streptococcus making it a contagious disease. First symptoms are dullness, the eyes soon begin to water, temperature to rise, the coat gets rough, generally a loss of appetite, followed by some discharge from the nostrils, the throat usually swells and an abscess begins to form between the angles of the lower jaw. The treatment of strangles as it generally occurs is not difficult. The animal should be placed in a comfortable stable, if sick during the winter, the throat should be poulticed or equal parts of turpentine, aqua ammonia and sweet oil applied to throat or hot water applications to hasten suppuration. When the abscess softens it should be opened and washed out with one part carbolic acid and 30 parts water. To reduce the fever give 20 drops tincture aconite several times a day, or a tablespoonful of powdered saltpeter in their drinking water. If there is much loss of appetite give 30 grs. of quinine three times a day and if there is much danger of choking or strangulating, have a tube put in windpipe and let it remain in until the throat gets well. There are many other home remedies that are equally as good as those I have mentioned.



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THE DAIRY

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SPRING DAIRY PROBLEMS.

The winter care and management of the herd should be continued well into the spring. It is a mistake to feed out the best hay and fodder early in the winter and compel the cows to eat the odds and ends during the spring. When summer milk is being made some of the best hay and ensilage should be saved for the cows during the time they are freshening, when they need the very best food and care to get them started toward a profitable season in the pasture.

One of the perplexing problems on the average farm is to get the cows to grass without checking their milk-yields and at the same time without decreasing the yield of the pastures during the summer. It is a problem of no difficulty to the farmer who has an abundance of ensilage. This furnishes the succulence that grass does. With plenty of ensilage we can afford to keep the cows off grass until it becomes hardened. Nor is it much of a problem for the man who has plenty of hay and grain. He can simply refuse to sacrifice the full benefits of his pasture and he will be wise in so doing.

Comparatively few farmers are in a position to do what they know is best. Grain is high. Hay is scarce, and the temptation will be to turn the cows on grass as soon as it begins to show green. In some cases this must be done. Possibly no grain and hay can be bought in the neighborhood at any price. What happens, and apparently unavoidably, under the circumstances? The cows are turned upon the pasture and eat it down so close that it cannot make a satisfactory growth during June and July, when it is needed most. The spring is here and we cannot do much to improve conditions for this year. We must do the best we can. However, we must plan to avoid the inevitable losses in turning cattle onto soft, watery grasses in the future. We can harvest more corn and feed the cut and shredded fodder in November and December and store some away. We can seed more of our land to clover and thus be able to keep the cows in good condition on the clover hay and shredded fodder during the spring until the grass is fit for them. All of these spring losses in the dairy business can be avoided if we will do the best we know how. Buying high-priced grain foods often seems like a hardship, but buying roughage seems like pouring our money in a rat hole. A ton of hay from a neighbor's mow goes like dew before the noonday sun when feeding it to a herd of half-starved dairy cows in the spring.

Hauling the manure from the stable to the fields every day during the winter greatly facilitates the spring's work on a dairy farm. It requires the time of the men and teams to haul manure at a time when they could be profitably utilized at other work on the farm. As a rule, the ground is ready to be plowed as soon as it is dry enough to begin hauling and spreading manure. There is another point, we get greater benefits from manure that is applied during the winter. The soil besides being enriched plows easier and works easier during the whole of the next season for the reason that it is made more porous by being covered during the winter with the manure. The watery extracts in the manure drain into the soil and become thoroughly mixed to the depth of the furrow slice, thus affording plenty of available plant food for the crops during the early period of their growth.

When we haul manure direct from the stable to the field each day we plan to manure the further ends of the field the first while the ground is dry or frozen and manure near the buildings when soft and wet. It is an unpleasant task to haul heavy loads of manure over wet fields and also damages the ground. If you do not believe this, try following a walking plow on a field where deep ruts have been made with wagon or spreader wheels and have dried out.

The dairy farmer who carries over the contents of a small silo to feed during the spring and summer does not need to bother with growing a wide variety of forage crops to tide his cows safely over periods of drouth. Every year adds convincing proof that good ensilage is the best supplement to pastures during the periods of drouth. Unless a man has ensilage he should grow plenty of oats and peas, clover, sweet corn and other crops

for his cows. There are few years when we do not experience a drouth more or less severe at some time during the season when the cows are out to pasture. Even in the most favorable seasons the pastures begin to diminish in stock carrying capacity during the late summer and early autumn months. Severe losses are sure to follow unless we have plenty of green feed to carry the herd over seasons of shortage in pasture grass. Many supplement the pastures with grain foods rather than bother with soiling but the high prices of these grain foods makes their use unprofitable unless the cows have an abundant supply of good roughage and a drouth-stricken pasture does not supply this. In actual practice the best feeding crops and the best soiling crops are the same. Clover, alfalfa, oats and peas and corn are the best crops we can grow on our farms, both for feeding green and harvesting for winter.

The spring care and management of the young stock is very important in getting them well started. It is a mistake to put calves out to grass until it becomes hardened. The best calves we have ever raised have not been outside of the barn until July and August and then only during the nights until after the fly season was over. Green, watery grasses have a debilitating effect upon the calves' system and should be avoided during the first summer of their lives. This is one reason why fall calves make a better growth than spring calves.

New York. W. MILTON KELLY.

AMOUNT OF FLAXSEED MEAL FOR CALVES.

I find much valuable information in the article on "How to Raise Calves," and it will be of great help to me. I wish you had stated just a little more definitely as to how much flaxseed meal you feed the calves at the beginning, how long you feed them on this meal and about how much they are getting when you change to other feed.

Wayne Co.

L. J. B.

It is not necessary to feed a large amount of flaxseed meal to balance up a small feed of skim-milk, and skim-milk should be fed only in small quantities. Five pounds of skim-milk to a feed is about all that any calf ought to have. We make the flaxseed meal into a jelly by using about a pint of flaxseed meal to a kettle of water. The kettle will hold about two and one-half gallons. This makes a gruel that can just nicely be handled with a dipper. Now when we feed the calves we give each calf about a gill of this gruel and put it into the milk.

The calves should have the flaxseed jelly in the skim-milk just as long as you feed them skim-milk, and when you change to some other feed and take the milk away from them then you can discontinue the use of the flaxseed jelly. The object in feeding this jelly is to balance up the skim-milk and make a more perfect ration out of it so its use should be continued as long as you feed the skim-milk.

PORTION OF SILO BELOW THE GROUND.

Please answer the following in the Michigan Farmer: Have purchased a stave silo (fir) 12x32 feet. Expect to place it on a cement foundation about 18 inches above ground. Would you consider it advisable to extend the bottom two or three feet below the surface of the ground, the place where the silo is to be placed having a fairly good natural drainage? How many cows should such a silo accommodate, allowing for silage to be fed during the dry summer weather? Have heard some say that corn silage should not be fed to a bull. Is there any truth in the statement?

Shiawassee Co.

SUBSCRIBER.

Where the soil has splendid natural drainage it is all right to put a portion of the silo below the ground, but in heavy soil that is wet during a portion of the year, it is not advisable to do so since it is almost impossible to plaster on the inside of this excavation with cement so that water will not leak through in the summer time, when the silo is empty, and it is quite a job to get this water out. Then when you are feeding out the ensilage you have to pitch it up. Taking everything into consideration I don't think it is any cheaper to have a portion of the silo below the ground than it is to have it all above the ground. That is, it would cost as much to make this excavation and plaster it as it would to build the silo as much higher above the ground. There is, therefore, no particular advantage in making the excavation, and there are some objections to it, especially on ground that is not naturally well drained.

A silo 12 feet in diameter and 32 feet deep will hold about 75 tons of corn silage. It is a well known fact that in order to keep ensilage in good condition for feed-

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ing that a certain amount of it should be fed off from the top of the silo every day, to keep the top sweet enough for the animals as it sours and loses its nutritive value by being exposed to the air. The rule is that you should have one cow for every eight square feet of horizontal silo surface. Now, in a silo 12 feet in diameter you would have a surface of 120 feet so you ought to feed 15 cows from your silo every day, especially in the summer time, to keep the silage in good condition. If you feed 30 lbs. of ensilage a day, which is about all the ordinary cow will eat, 15 cows will eat 6½ tons of ensilage every month; thus, if your silo holds 75 tons you will have ample ensilage in this silo for 15 cows for the length of time that you desire.

If silage is injurious or detrimental to bulls in any way. I do not know it. I have always fed my bulls corn silage every day that we had it to feed when they were in the barn or near the barn, and I have never noted any bad results yet. My old herd bull is now 13 years old and he has had corn silage every year of his life and he is perfectly vigorous and healthy to all appearances at the present time.

GRAIN TO FEED WITH TIMOTHY AND CORN STOVER TO MAKE A BALANCED RATION.

What grain ration would be most economical and the best balanced ration to be used with timothy hay and corn stover for milk, corn chop, corn-and-cob meal, oats, bran, oil meal, and cottonseed meal, with bran at \$1.25, cottonseed meal at \$1.75 and oil meal at \$2? Is not cottonseed meal too constipating to use at all? How would equal parts by measure of corn-and-cob chop, oats, oil meal and bran do? Or two or three parts bran, leaving out oil meal altogether? Or two parts oil meal and leave out bran? Would the ground cob furnish bulk and ash enough without bran? Would a basket of corn ears and a basket of oats ground together furnish digestible protein in large enough proportion, and enough ash and bulk?

Kalamazoo Co.

B. C. H.

Considering the price of all the different grains mentioned, and taking everything into consideration, my judgment would be that to mix corn-and-cob meal and oil meal in equal parts by weight and feed a pound of the grain to each cow per day for every pound of butter-fat which she produces in a week, dividing the ration, of course, into two feeds morning and evening, would give a most economical ration and one that would give satisfactory results.

Corn and oats ground together do not furnish a sufficient amount of protein to balance up a roughage ration of timothy hay and corn stover. As a matter of fact, corn-and-cob meal and oats ground together would hardly contain a balanced ration in themselves, yet your roughage of timothy hay and corn stover is an unbalanced ration containing too large per cent of carbohydrates; and now to balance these up and make an economical ration you need some concentrated food richer in protein than they are, and oil meal will furnish this. Corn only contains 8.5 per cent of protein and oats only about 9 per cent of protein, while oil meal contains about 33 per cent. So you see it would go much farther than either one of these feeds towards furnishing a proper supply of protein in the ration.

CABBAGE FOR SILAGE.

What would you think of my raising an acre of cabbages to mix with my corn for silage. I thought I could let the corn get fully ripe as the cabbage being juicy will add sufficient moisture. Cabbages, you know, are a balanced ration of themselves, with a ratio of 1 to 5.5.

E. F.

I think it would be one of the most foolish things I ever heard of to attempt to raise an acre of cabbage to put into a silo and mix with corn silage. Cabbage contains 1.8 per cent of protein and corn silage 1.1 per cent, and therefore it

would not help out the protein part of the silage very much. Then, if you raise cabbage and want to put them in with the corn silage you would have to have a special sort of machine to chop them up to get them so you can mix them with the silage. It would be a bad thing to leave the corn until it got dead ripe because you wouldn't have as large a per cent of digestible nutrient in the silage as you would if you cut it just before it got dead ripe when it contained its full amount of natural juice, and besides all this, if you want to feed cabbage to your cows what is the use of putting them into a silo. You can store cabbage economically without putting them into a silo. Everybody stores cabbage. They will keep all winter long and not deteriorate very much in food value, so I cannot see any particular use of putting them into a silo. The fresh cabbage would certainly be better to feed the cows than sour kraut. I wouldn't want to make a whole silo full of sour kraut to feed dairy cows.

My opinion is that it would be better to raise the cabbage and sell them for human food. You could get more out of them than you can if you feed them to the cows. Your poor ones, if you have any left, could be fed to the cows.

ALFALFA MEAL.

How much alfalfa meal should be fed to milch cows, young pigs, and young calves? How should oats and peas be sown for hay, (on light soil)? How does this hay compare with clover for cows? How many peas are sown per acre for pasture for pigs and are they better than rape?

C. R. M.

If you have the alfalfa hay to feed to the cows and young calves and even pigs, you should not hesitate to give them all they will eat up clean at least once a day. Alfalfa is such a bulky food that there is little danger of any animal eating too much of it when it is cured in the form of hay. Sometimes cattle turned on alfalfa pasture in wet weather are killed because of bloat or hoven, the wet alfalfa creating a gas in the intestinal canal which causes death. However, there would be no such danger from feeding dry hay. Now, I see no reason for limiting the amount of alfalfa meal to feed any more than you would the hay. I do not believe that cattle will eat any more of the meal, pound for pound, than they will hay unless, of course, you mix it with some kind of grain which they like better and then they might eat too much of the alfalfa meal and the grain combined to injure them, but I think this would be a rare condition. It can not possibly make your alfalfa any better to grind it than it is to feed it whole.

Peas and oats are sown for hay just the same as they are for an ordinary oat crop. The earlier you get them in in the spring the better. Prepare the land well, either by plowing or by disking, work up a good deep seed bed then mix oats and peas together in equal parts by weight, mix them thoroughly together and sow at the rate of about three bushels per acre. You want to get a somewhat thicker stand for hay than for seed.

Pea and oat hay makes a very good substitute for clover hay, being almost equal to that in feeding value, and it is relished by the cows just as well if the oats and peas are cut at the proper time and properly cured. You should cut this crop when the oats are in the milk, before the berry begins to form, and before the peas get hardened in the pod. What you want is to cut it before the nutriment leaves the stalk and leaf of the plant and before it accumulates in the seed. In sowing peas for hog pasture you ought to sow about three bushels per acre so as to get a good, thick, heavy stand.

An Explanation.—In response to an inquiry received here we desire to state that the article in our March 4th issue, headed "The Best Cream Separator," was a paid advertisement, and not an expression of editorial opinion.

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HORTICULTURE

SCHEDULE FOR SPRAYING PLUMS.

Will you please state what to do for plum trees, for every year the plums fall from the trees while they are green. How should they be sprayed?

Clinton Co.

J. T.

We would advise our correspondent to give his plum trees the following applications which will not only prevent the early falling of the fruit but will protect the trees against other troubles that are quite sure to be present in Clinton county.

First Spray.

The time for this spray is before or about the time growth starts, and it is directed against the San Jose scale or European fruit-scale. Use strong lime-sulphur wash. A little investigation will show whether these scales are present, and if absent it would not be advisable to apply this wash, although there may be some good result from its influence, yet the same ends are sure to be accomplished by the other sprays. Either the home-made lime-sulphur or any of the standard commercial brands can be used.

Second Spray.

Just before the buds swell to any extent apply Bordeaux mixture, or self-boiled lime-sulphur mixture. (The self-boiled lime-sulphur is made by the heat of the slaking lime and is described in a later paragraph). The purpose of this spray is to control the fruit-rot, prevent black-knot from developing and also protecting the trees against leaf-spot. If the curculio is known to be present in the community, and there are few places in the southern tiers of counties that are not infected with this insect, an arsenate such as arsenate of lead, should be added to the mixture for poisoning the pest.

Third Spray.

Another application of Bordeaux mixture, or the self-boiled lime-sulphur should be applied as soon as the blossoms have fallen for the same troubles that are enumerated in the preceding paragraph. Where the curculio is present the arsenate of lead should be added to again forestall the depredations that might later be caused the fruit.

Fourth Spray.

From ten days to two weeks after the third spray is applied the Bordeaux mixture or the self-boiled lime-sulphur should again be sprayed on the trees and if the curculio is around, the arsenate of lead should be added; and the same kind of applications should be given every two weeks or less until there is danger of damaging the fruit by staining it with the spray. Usually one should stop the applications about four weeks before it is time to harvest the fruit.

How to Make Self-Boiled Lime-Sulphur.

The Bordeaux mixture can be made after the standard formulas, or prepared solutions may be substituted. The self-boiled lime-sulphur is made by using lime-sulphur and water in the proportions of eight pounds of the first and eight pounds of the second to 50 gallons of water. Special bulletin of the Michigan Experiment Station describes the making of the mixture as follows:

"Place the lime in a barrel and add enough water to almost cover it, as soon as the slaking begins, add the sulphur, which should be run through a sieve to break up the lumps. Stir constantly and add enough water to make a stiff paste, and then, gradually, a thin paste. As soon as the lime is well slaked, cold water should be added to prevent further cooking. It is then ready to be strained into the spray tank, diluted up to the full formula, and used. Care must be taken not to allow the boiling to proceed too far, if the mixture remains hot for 15 or 20 minutes after the slaking is completed, some sulphur may go into the solution and injury to the foliage may result. The time of adding the cold water to stop the boiling depends upon the lime. With a sluggish lime all the heat in it may be needed, while with lime that becomes intensely hot, care must be taken not to allow the boiling to proceed too far."

HAIRY OR SAND VETCH.

This legume is calling the attention of thousands of farmers who have poor light sandy soil they wish to improve. The Alfred J. Brown Seed Co., of Grand Rapids, are sending out, free of charge, some very instructive information. Any farmer who is interested in vetches should write at once for a copy of the article.

THE MAKING OF A GOOD GARDEN.

There are too many of us who say, "Oh, I haven't time to fool with a garden, it don't pay," and these same fellows are the greatest complainers at the table when the hard season's work is well under way, and appetites are keen for something besides bread, "taters" and tea, and they wonder why the good wife don't furnish a variety of eatables, and whose fault is it? Lots, too, will at these times go to town and purchase a mess of green radishes, onions, etc., pay a big price, and imagine they have had a great treat by so doing; while for a fraction of the cost, through the season and with the certain knowledge of knowing they are always fresh and crisp, nice vegetables, etc., could and should be gotten right at home from their own garden. And, too, a good garden is a self-supporting proposition; the more manure, care, etc., displayed therein, the more may be derived from the same. No spot on the farm can produce in satisfaction and cash as much as a properly conducted, well-planned garden. No work should be so urgent on the farm that the garden should be relegated to neglect and weeds. It is, while in season, and by careful planning, can be made to produce all the season, something fresh for the family table, the half of one's living on the farm and really the best half, for vegetables are the healthiest food by far of all to eat. Then let's all have a garden, not the mediocre kind, but a good one this season. Haul on well composted manure until you know it should be enough to put life and business into any ordinary soil, plan the garden rather longer than wide and arrange the rows when planting so the horse and cultivator do the hard stirring-up work. A man and horse can cultivate in 30 minutes what it would take a half day to hand-hoe and do it 100 per cent better.

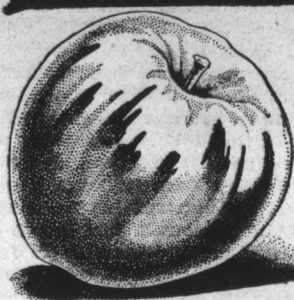
By placing a row or two of potatoes at each end of the garden, even a few hills, one can turn on them with no serious injury as potato tops stand lots of musing. Place small growing varieties, such as radishes, lettuce, etc., at one side, and taller growing vegetables, such as tomatoes, peas, etc., on the opposite half, then each row gets its share of sunshine, air and moisture; have each variety in separate rows, then they are not mixed up, and when a vegetable is out of season one may remove the balance not used and re-plant the space or row to peas, radish, turnips, etc.

As to the pleasures and profits to be derived from a garden, I will make brief mention of our last season's garden spot. This was near the house and fenced with poultry netting; no fowls, etc., are ever permitted in it. It is three rods wide and about eight rods in length. Of this small space a strawberry bed, highly fertilized, occupied at one end a square of two rods. This bed provides berries in abundance for a family of six, besides about 60 quarts canned and some sold. Early potatoes enough for family use until the later ones were large enough to use and five bushels also sold early at \$1.50 per bushel were produced from three rows, spaced 28 inches apart. Four dollars and seventy-five cents worth of radishes and lettuce were sold during the season, besides large quantities given to neighbors. Three bushels of red table beets were sold at 75 cents per bushel, one bushel made into home pickles, and three bushels stored for various winter uses. Five bushels of onions were produced, none sold, but with a present market value of 75 cents per bushel. Five and one-half bushels of tomatoes produced and three sold at \$1.00 per bushel. Something like three bushels of green snap beans, 150 bushels of winter squash, one and three-fourths bushels of cucumber pickles, 258 head of cabbage, six bushels of carrots, 20 bushels of turnips (sowed after other crops were removed in early September), three and three-fourths bushels of parsnips, about the same of vegetable oysters, peas in abundance, with four different sowings, a bed of nice winter onions (to eat green in early spring), a row of early sweet corn around the whole garden furnished several messes and also fringed about with summer and fall house plants.

It is surprising what an amount may thus be produced from a small spot, highly fertilized and well tended. The money value alone from this garden not only paid expenses, but aside from furnishing the family the whole season nearly in vegetables, etc., made a net profit of \$30 from three-twentieths of an acre, or at the rate of \$200 an acre. Do you wonder why we have a garden?

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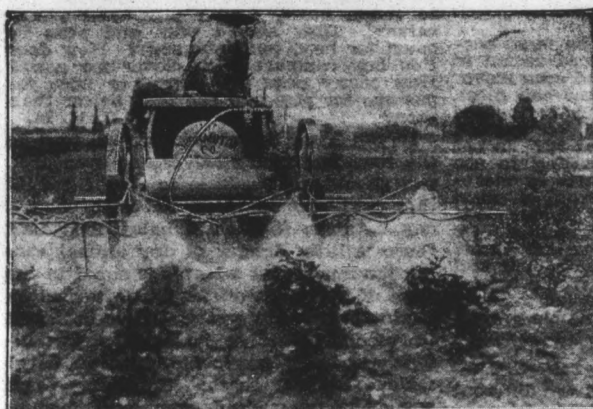
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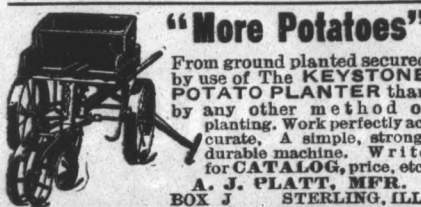
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EVERY FARM SHOULD HAVE A STRAWBERRY BED.

While almost every person is fond of strawberries, it is surprising to note the large number of farms on which no attempt is made to provide a home-grown supply of the delicious berries. While there is some little labor necessary in caring for the bed no one will begrudge that when it comes to devouring the dainties. Late summer and early fall is the time usually recommended for putting out the plants but they will do just as well if planted in April or May and it will be a very good idea for those farmers who have no bed to plan for one this spring.

There are no set principles for successful strawberry growing as far as the home bed is concerned. They will do very well on almost any sort of soil although a rich, deep loam somewhat light in character is to be preferred; a heavy clay soil should be lightened up by manuring well and a thorough stirring. The more free the soil is from weed seed the better it will be, for a strawberry bed is very apt to be neglected during the press of other farm work.

Strong, healthy plants of some of the well known varieties such as are recommended by the farm papers should be secured and it will be necessary to get only a few dozen unless one desires to put out an extra large bed, for they throw out runners and produce new plants very rapidly and it will not be long until the owner will have more plants than he will know what to do with. Beginners usually make a mistake by setting their plants too close together. While the distance should be varied, in accordance with the strength of the soil, the rows ought never to be closer than 20 inches and the plants should be placed about 1 inches apart in the row.

Of course, some cultivation is necessary to keep down the weeds but it is better for the plants if the soil is not stirred to any great depth. If possible, it is best to have the field larger than the berry bed and give the extra part intensive cultivation so that it will be in good condition for a bed when it becomes desirable to abandon the old bed, which will be the third year. Then the old bed can be worked into good condition for use at a future time. The broader rotation one can follow the better control he will have of diseases and insects.

Ohio. S. C.

GROWING SLIPS, OR SOFT-WOOD CUTTINGS.

While the grape, currant, and other plants are propagated from mature wood cuttings, many of the house plants, among them the rose, carnation, geranium, begonia, fuchsia, etc., are grown from soft or green wood of the present season's growth. Such cuttings may be made from the leaf or stem. The leaf is commonly used in multiplying the hoyo, begonia, and other plants having a thick leaf which contains a large amount of plant food. A suitable place for the propagation of leaf cuttings is made by filling a shallow box with sand and fine gravel, being careful to have no soil or clay with it. It is necessary to have bottom heat with some plants in order to get them to root, though a moderately warm room in winter and a shady place in summer is usually sufficient. Lay the leaf flat with the rib or stem slightly stuck in the sand. By keeping moist, roots will form in a short time. When a large mass of roots has formed they are ready to transplant.

Stem cuttings, which consist of a piece of stem with one or more leaves are propagated similar to the leaf, except the end of the stem is pushed into the sand and the leaf area diminished by pinching off a part of the leaves in order to minimize the evaporation of moisture. Gravel overlaid with an inch or two of clean sand is to be used for the bed.

The oleander and some other plants are easily propagated by placing a slip in a bottle of water; wrap a little cotton about the lower end which is thrust to the bottom of the bottle with the upper end protruding from the neck which should be large. They are removed from the bottle when a mass of roots almost as large as the neck will admit, has formed.

Where plants are grown out of doors they will often do better in a confined atmosphere, especially such thin leaved kinds as the rose. This may be accomplished by covering the box with a window pane, or by covering each slip with a glass fruit jar inverted.

Missouri. H. F. GRINSTEAD.



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NOW is the time to look ahead to the harvest. Be sure that you are in perfect readiness to reap the reward of the spring and summer's hard work. Take no chances on a machine which may not stand up during the trying harvest days.

Time flies faster than ever when the busy days come. Your mind may be so occupied with other things that you will overlook harvesting machines entirely until the harvest days are at hand. Then you may not be able to get just the machine you want—or you may have to use your old machine. In either case you are taking a big, unnecessary risk.

Now is the time to investigate the harvesting machine situation—now—when you can give the matter the careful attention it deserves. Too much emphasis cannot be placed on the importance of having the right equipment at harvest time. If you want to be sure, choose one of the celebrated machines in the I H C line—

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Millions of farmers throughout the world have tried these machines under every condition. The result of these tests has shown the merits of I H C principles, I H C materials, I H C construction, and I H C workmanship.

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DETROIT, APRIL 8, 1911.

CURRENT COMMENT.

With the assembling of the sixty-second congress in special session on April 4, much anxiety is being felt throughout the country regarding what that body may take up in the way of general legislation, aside from the reciprocity pact which it was primarily called to consider. Unlike our state legislative body, the congress is not limited to the consideration of such legislation as is brought to its attention in special session by the chief executive, but may follow its own inclinations in the matter. Under ordinary conditions the difference in the political complexion of the two houses of congress would seem to preclude the likelihood of much general legislation being enacted, but with differences of opinion existing among the leaders of both parties as to what the future policy of the country should be regarding the tariff it is difficult to predict with any degree of accuracy that no general legislation affecting tariff schedules will be passed. It seems reasonably certain that such legislation will be at least considered, which in itself will produce a condition of uncertainty in business circles. This is particularly true with regard to wool, since it is said to be the intention of the administration to submit for consideration certain tariff schedules, including schedule K, which relates to wool and woolen goods, for the consideration of congress at some future session. In one sense it would be unfortunate if this matter were opened up at the special session of congress, since it would allow scant time for the wool producing interests of the country to present their case to the proper committees, yet on the other hand the sooner this matter can be finally disposed of the better it will be for the sheep industry, since the prevailing condition of uncertainty regarding the ultimate action of the present congress in the consideration of this schedule is certain to have a most depressing effect upon the market for wool at a time when it will be keenly felt by producers.

But the important matter to which congress will first devote its attention is the pending agreement with Canada. The principal features and probable effects of this agreement have been presented in these columns quite fully in recent weeks and the general sentiment of the

farmers of the state in opposition to the proposition is so marked as to make it unnecessary to again summarize them for the benefit of our readers. The time is at hand when all who desire to be heard upon the proposition must act quickly. Those who have not already written their congressman and the United States senators from Michigan, expressing their views upon this important matter should do so at once. The Farmer has presented the case to its readers in the plainest and fairest manner as it has appeared to affect their interests, and has repeatedly urged them to act for themselves in an effort to prevent the adoption of the agreement as presented to congress.

The great majority of newspapers in the country have persistently advocated this agreement, and sought to belittle the opposition which has developed to its adoption, we believe largely because of the prospect that they would be able to get their print paper cheaper if the agreement were adopted. The Michigan Farmer would share in this economy, but values the continued prosperity of its subscribers too highly to permit this to enter into the consideration of the subject. We remain opposed to the agreement in its present form as unfair to and discriminating against the great body of farmers numbered among our subscribers.

Probably no more vexed question comes before the legislative body of our state than that of the taxation of mortgages. The present legislature is threshing out the old straw again, and with some prospect that a law will be passed which will change the system of taxing mortgages in this state. Last week the house passed the Giles bill, which provides for the levying of a seven-mill tax on mortgages in lieu of the present ad valorem tax. It is stated that a plan is on foot to substitute the Fowle bill, which provides for a recording fee of 50 cents on each \$100 in lieu of all other taxes on mortgages, for the bill passed by the house. Of course, it is impossible to predict the outcome, as such a course might necessitate a compromise, providing the senate passes the Fowle bill, but as the Giles bill received a substantial majority in the house it seems apparent that the sentiment of that body is in favor of the repeal of the present law providing for the taxation of mortgages on an ad valorem basis.

If such legislation is passed it will not be the first experiment Michigan has made to eliminate the appearance, or fact, whichever it may be, of double taxation in the assessment of both mortgages and the real estate which is security for them at full cash value. Some years ago we had a law which provided for the exemption of a sum equal to the face of a mortgage from the value of the land which it covered for the purpose of assessment. This law was ideal in theory, but defective in application, as it resulted in the practical exemption of mortgage loans, through a contract provision inserted in the mortgage. Later this law was repealed and a reporting system devised by which it was hoped to place all the mortgages on the assessment roll. In many cases a method was found to evade the tax, especially by non-residents who loaned money on mortgages, while less artful loaners of money have been obliged to pay a high tax, especially where they lived within the limits of an incorporated city or village. This matter was earnestly considered by the constitutional convention which, after mature deliberation, made no distinction in favor of this class of property. Various other legislatures have wrestled with the problem in recent years with the same result.

While there is naturally considerable division of opinion among the people of the state upon this proposition, there has never been a general expression upon the question which could be taken as the consensus of opinion regarding it. Nor is it an easy matter to arrive at a basis of its settlement which will be at once equitable to the parties concerned and fair to the public generally. It is possible that a low recording fee such as is contemplated will provide an income as large as that now derived from the taxation of credits on an ad valorem basis, in which case the law would prove an equitable one for all concerned. But it hardly seems possible that so low a recording tax or fee would do this. Nor is it at all certain that interest rates would be decreased to the benefit of the borrower if this result were not attained. Hence it would seem that in justice to the general taxpayer this phase of the problem should be most carefully considered while the score is

being evened up between the honest and evasive money lender. If this is not done, the proposed law will hardly meet with popular favor, in case of its passage, which means that the vexed question would not be finally settled by such legislation.

Our readers will remember that in his "Thin Cattle" opening speech in defense of the Canadian reciprocity agreement, delivered at Columbus, President Taft spoke of the advantages which would accrue to the farmers of the corn belt through an added supply of "thin cattle" which would be available from the Canadian northwest for fattening upon their corn. That the corn belt farmers who were gathered to hear him on this occasion were not greatly impressed by this argument was evidenced by the fact that resolutions opposing the Canadian pact were passed at a subsequent session. But the argument has been persistently repeated by others who have sought to create public sentiment for the agreement in the farming communities of the country, Secretary of Agriculture Wilson, among others, having used this stock argument. In an article recently published in a leading periodical with a large circulation, ex-Senator Beveridge, of Indiana, also commented at some length on this phase of the proposed agreement as being to the advantage of our farmers, and finally in an official statement sent out from Washington during the past week the same argument is again used to pacify the farmers of the country who are strenuously opposing the pact.

It seems hardly necessary to comment upon this argument, since the thinking readers of the Michigan Farmer family are too well informed to accept as true the statement that range cattle from the northwest would only augment our supply of feeders, instead of competing with our finished beef animals in the markets of this country, were they admitted free of duty. The older generation of our readers will remember the result of the enormous and cheap production of cattle on our own western ranges during the halcyon days of our "bonanza" cattle kings in rendering the business of cattle feeding unprofitable upon the farms of the middle west, and will continue to look with apprehension upon the possibility of opening up other large ranges in the northwest for similar production. As evidence that they are warranted in such apprehension, and as a merited refutation of the "thin cattle" argument for reciprocity which has been so persistently foisted upon our farmers, we present herewith an interview forwarded to us by our market representative at Chicago, which will serve to illuminate this subject in an interesting manner:

W. A. Drake, the large lamb feeder and farmer of Colorado, who is also interested in the stock business in northwestern Canada, takes the ground that Canadian reciprocity would be a bad move from the standpoint of farmers and stockmen on this side of the line. He has a drove of a thousand cattle on a big tract of grazing land he owns in Alberta, their excellent quality and fine flesh having been gained from the rich grasses of that region. Mr. Drake says that fully nine-tenths of the beef cattle of that region obtain their good condition wholly on the luxuriant grasses of that country, and it can be seen readily what this would mean to both the corn-belt stock feeder and western rangemen should the bars be lowered and the Canadian beeves thrown on the markets of this country many months of the year. And this has nothing to do with the great numbers of cattle that would be hay fed in northwestern Canada and grain fed in eastern Canada. Shipments of stocker and feeder cattle to our markets would be relatively small, as it would hardly pay to ship them across the line when so large a percentage of them can be grown into beef on grass alone there. Mr. Drake says the grass in the Canadian provinces grows as high and thick as the original prairie grass of Illinois, while grazing privileges are to be had at a very low price as compared with the cost of grazing in this country. Then, he adds, the Canadians would certainly increase their raising of hogs in case that the reciprocity treaty is adopted. Alfalfa and barley make a great feed for hogs, and they attain big weights on this ration. With reference to the sheep industry, Mr. Drake points out that while Canada has less than three million sheep now, reciprocity would greatly stimulate the business. Many of the big sheep feeders of the west would feed sheep and lambs in western Canada, and Montana feeding lambs could be moved across the boundary line, fattened and brought back to the United States at no greater cost than Colorado feeders incur by buying New Mexican lambs, shipping them to Colorado and putting them on the market. Not long ago Mr. Drake was in western Alberta and saw an experimental farm where six tons of alfalfa were raised per acre, while it was shown that 30 bushels of barley per acre can be raised. This kind of land can be bought for \$20 to \$30 an acre, and it has been shown that alfalfa and barley make as good sheep and lambs for market purposes as alfalfa and corn. No wonder Canada has been drawing such large numbers of farmers from Iowa and other states in recent years with such a wonderful showing.

In two preceding issues we have commented upon the market which Canada has found for her dairy products in this country under the reduced duty on cream imposed by the Payne tariff bill, together with the possibilities afforded by our market for the disposal of Canadian dairy products under the terms of the reciprocity agreement and the surplus which might be so marketed by Canadian producers. As further representing the views of Canadian producers on this important point, we quote below from an address delivered by Mr. John Hyatt, a prominent agriculturist, at a short course and institute for farmers held at Picton, Ont., and reported in a London paper:

"At Bloomfield cheese factory we handled about five and three-quarter million pounds of milk last year. Call it six million pounds for calculation. That milk realized about 85 cents per cwt. If the American market had been open to us we would have realized 20 cents per cwt. more. That would have meant an addition to the income of our own factory of \$12,000. Only about one-twelfth of the cheese made in Prince Edward county was made in Bloomfield. Multiply twelve by twelve and you have the amount of gain that would have been realized on the combined output of the factories in the county, \$140,000. The total sum collected in taxes through township municipalities in Prince Edward is about \$100,000.

"The opening of the American market last spring would, by the increased price obtained for our milk, have enabled us to pay our entire township tax bill, and have left us \$40,000 for good roads. I know it by facts obtained from Mr. D. Basset, Huntingdon, Que. The Huntingdon people are right on the border; they shipped cream to the United States last year in the face of a duty of five cents per gallon. They realized one dollar net for their milk from June to September 30, \$1.12 for October, \$1.22 for November, and \$1.40 for December. If we could have shipped the cream from our milk to that same market we would have received at least 20 cents per cwt. more for the milk we produced. With the American market wholly free to our cheese, we would have done still better. Even in the face of the duty of six cents per pound on cheese, two of our factories were able to ship some of their product to the United States and to obtain better prices for it than could have been obtained by shipping to the English market, where there is no duty. With the American market open and our cheese increased in price to the extent of half the United States duty now imposed a quarter of a million dollars would be added annually to the income from dairying in this country. Is that worth while?"

It is pertinent to inquire if this very respectable sum which Mr. Hyatt estimates will accrue to the farmers of his immediate locality instead of to American farmers as at present, will be expended in this country for needed supplies. We believe that it would not, and to that extent the trade resulting from the Canadian pact would be indirectly detrimental to the trade interests of the country in general as well as directly detrimental to the interests of our dairy farmers in particular.

HAPPENINGS OF THE WEEK.

National.

Representative Mann, of Illinois, has been chosen minority leader of the federal house of representatives, Speaker Cannon moving for Mr. Mann's election in a caucus held Monday.

While the exact figures have not been calculated the amount of the budget of the present state legislature will be in round figures, \$12,500,000.

The republican candidates for state officers were elected Monday by majorities running close to the 100,000 mark. R. C. Ostrander and John E. Bird were elected to the supreme bench; B. S. Hanchett and L. L. Hubbard, regents of the University; Luther E. Wright, superintendent of public instruction; Thomas W. Nadal, member of the state board of education and John W. Beaumont and Jason Woodman, members of the state board of agriculture. The first five men mentioned were re-elected, the others were chosen for the first time.

At least 40 of the 44 circuit court judgeships of the state will be filled for the coming six years by the same men who presided the past term. In a majority of the circuits there were no contests at all for the election.

The early reports of the result of the local option elections shows that ten of the eighteen counties voting upon the proposition will be dry for the coming two years while eight will be wet. The contests, however, were so close, in most instances, that recounts will be made and in all probability the above figures may be altered. That there is being crystallized in the state a solid front against the saloon is very apparent.

James O'Gorman, a supreme court justice of New York, has been selected by the legislature of that state as United States senator to succeed Senator Depew. The new senator, who is a democrat, will support all the progressive policies of that party as enunciated in the last national platform, according to an an-

nouncement made by him following the notification of his selection. The failure of the party to agree on any of the candidates proposed early in the long-drawn-out contest, lead finally to dropping all the candidates and substituting a new one, which resulted in the choice of O'Gorman.

On Monday the United States supreme court rendered a decision touching upon the interpretation of the commodity clause of the Hepburn rate law which the court says provides that railroads may own stocks in producing companies but they cannot abuse that privilege so that the railroad and the producing company are reduced to a single entity, that is, that the railroad and the producing company cannot be controlled by a single administrative body. It is expected that suits brought by the government against several railroads will be discontinued as the result of the decision. The conclusion of the court was read by Chief Justice White.

Foreign.

The plague is raging in Java. Forty-six cases are reported from the vicinity of Malang of which 26 were fatal.

A conflict between Turks and rebellious Albanians resulted in the defeat of the latter with heavy loss and in their being driven to the mountains.

Rembrandt's painting entitled "The Mill," sold in England early this week. While not announced, it is believed that the price for the noted picture was around \$500,000.

Lord Roberts, in speaking before the English house of lords, made the declaration that owing to rather unexpected incidents and especially the attitude of Germany toward political affairs on the continent, that England should add a million men to her army and make a close examination into the present condition of her forces. The attack of the member was questioned by some and strongly rebutted by others who declared the protection of the country efficient and that to further add to army expenses would force the country into bankruptcy. The danger cry, however, was a shock to peace movements and the bringing of the question of Germany's proposed conquest of Austria with the hope of gaining a port on the Mediterranean Sea where her position would make her supreme in the politics of the continent, was a suggestion that is lingering and seems to be causing much apprehension.

The stoic bearing of the insurgents in the attempts at arranging peace terms between the Mexican government and the followers of Francisco Mederio, has lent to the revolutionary movement much moral support. Not alone among the wavering members of the republic to the south, but in this country people are beginning to understand that the men now under arms have grievances far more potent in influencing hardships upon the unfavored than have been the causes which led to many famous conflicts in the past. The message of President Diaz to the Mexican congress in which he appeals to that body for certain reforms, is taken by the rebels as a confession of the conditions which they contend exist and for which they are fighting; but should the reforms be left to those who have refused the people the advantages to be derived therefrom for thirty years back, or should that other party which, having been driven to desperation because of injustices upon themselves and their neighbors were forced to take up arms in order to bring the government to see that men would no longer put up with a regime so undemocratic?

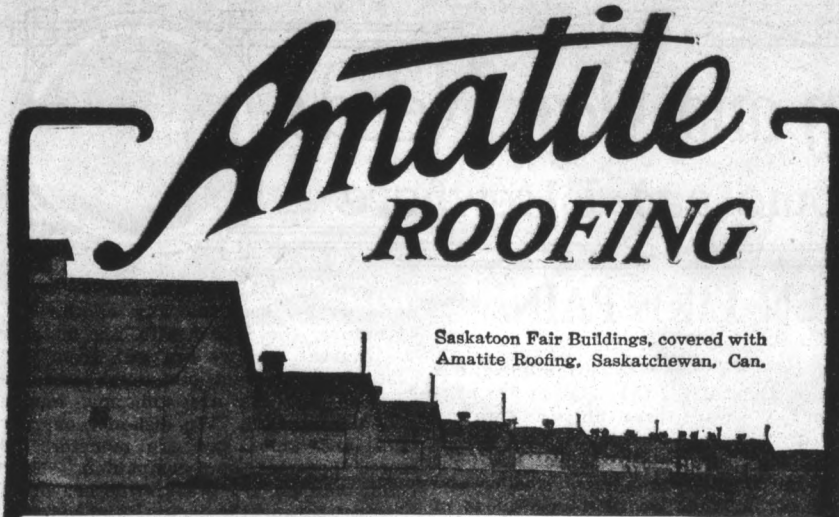
CROP AND MARKET NOTES.

Ottawa Co., March 28.—The month of March has been a remarkably warm one, with only a few flurries of snow and but little rain, so the ground is much drier than usual at this season of the year. Wheat and clover have suffered some on account of the ground freezing at night and thawing out during the day. Many cisterns are dry, which is something unusual at this time of the year. On account of no snow and favorable weather, many farmers have been able to do many kinds of work that is not usually done until later in the spring. Quite a few farms have changed hands lately, at prices ranging from \$50 to \$100 per acre. Farms near the interurban railroad command the best prices. The institute train that passed through Coopersville last week was met by over 500 people, who were well pleased, as well as interested.

Emmett Co., March 28.—Winter wheat and rye and clover have suffered some injury during March as the ground has been practically bare of snow. Horses are high, likewise milch cows. Hay, \$16; corn 50c; oats, 30c; butter, 26c; eggs, 14c; the cheapest they have been for many years. Dressed chickens, 16c. There was no sledding after the first week and the many bad drifts made the roads all but impassable for wheel vehicles for a week or two.

Illinois. Western Warren Co., March 28.—At this writing it is snowing and blowing and a blizzard raging from the northwest, with the mercury down below the freezing point. It is not very good farming weather as there have been a good many oats sowed the last few summer days and stalk turning has been the order of the day. Fall wheat looks very uncertain; some fields look very brown and will have to be plowed up and put in corn.

Ohio. Carroll Co., March 30.—We had nice spring-like weather until the 27th of this month, when it got colder and snowed some. Lots of plowing done already. Farmers pretty busy with spring work. Horses and cattle are scarce and high in price. Sheep are not doing very well, just lately; they cough and some are dying. Some farmers have lost as many as from 30 to 50 head this spring. Butter, 22c; eggs, 18c; potatoes, 60c per bu; corn, 65c; wheat, \$1.15; oats, 50c.



Saskatoon Fair Buildings, covered with Amatite Roofing, Saskatchewan, Can.

60,000 Feet of Amatite Roofing

The accompanying view shows a series of buildings at the Saskatoon Exposition, all of them covered with Amatite Roofing.

Amatite was selected because it was inexpensive, easy to put on, required no care or attention or expense afterwards, and would give excellent durability.

If ordinary smooth roofing had been used, these roofs would require painting every year or two at considerable expense and trouble. Amatite, however, has a mineral surface which requires no painting.

Use Amatite for every roof where you want to save expense. It is the most economical solution of the whole roofing problem.

Amatite Roofing requires no skilled labor to apply; it costs no more, (in fact much less) than

other roofings; and the fact that it requires no painting makes the total expense far below that of any other type of roof covering.

You can use Amatite for every kind of steep roofed building. We supply galvanized nails and liquid cement for the laps free of charge.

Send for free sample and booklet. Address our nearest office.

Everjet Elastic Paint

Everjet saves money for the farmer because it costs only half as much as the next cheapest good paint. Only one color—a deep, glossy black. Suitable for roofs, out-door iron work, fences, farm machinery, furnaces, carts, etc.

Creonoid Lice Destroyer and Cow Spray

Hens will be healthy if disease germs are eliminated from the poultry house by spraying regularly with Creonoid, a powerful, cheap farm disinfectant. Creonoid suppresses odors, kills germs.

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New York Chicago Philadelphia Boston St. Louis Cleveland
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Seattle London, England

BETTER SAFE THAN SORRY

Potatoes, tomatoes, cucumbers, cantaloupes, small fruits, orchards, can be sprayed, at slight comparative cost for protection against blight, bugs, scale, etc., with an "IRON AGE" SPRAYER. Also, actually increases the yield. The machine is adjustable to various widths rows—solution thoroughly mixed—delivered in a fine spray that covers the plant—single or double acting pumps—three, four, six or seven rows—one or two horses—55 or 100 gallon steel or wood tanks. Also orchard attachment and many others.

IRON AGE Farm and Garden Tools

are practical, effective, economical. They give permanent satisfaction. We have been making the dependable kind for 15 years. Formulas for solutions furnished on application. Write for our free Anniversary Catalog showing potatoes, machinery, horse hoes, cultivators and complete line of garden drills, wheel hoes, orchard tools, etc. **BATEMAN MFG CO. Box 1049 Grenloch, N. J.**

I'll Save You \$50 On a Manure Spreader

If You'll Let Me

This is just a little ad—but a postal will bring my Big Book—and give you my \$50.00 Saving Price and Special Proposition. You can save as much answering this little advertisement as if it covered a page.

My Spreader positively will do better work and last longer than any Spreader made—no matter what the price—so why pay \$50 more? 49,000 farmers have stamped their O. K. on my spreader and money-saving price. My Special Proposition will interest you. Just a postal addressed to Galloway of Waterloo, Iowa, will bring you everything postpaid.

Will You Pay a Penny For The Postal and Save \$50.00? Address Wm. Galloway, Pres. WM. GALLOWAY CO. 649 Galloway St., Waterloo, Ia.

Anyway, Try this DIGGER

Saves you at least 15 cents a bushel on the cost of digging. Gets the potatoes out of the ground clean and whole. All sizes. Elevator diggers for large fields. Success Jr. for small patches. Write for new catalogue of Diggers and Farm Machinery and let us tell you how you can try a Farquhar. A. R. FARQUHAR CO., Ltd. Box 210 York, Pa.

Big News For INCUBATOR BUYERS

The famous Belle City Incubator wins the "Tycos" Cup Contest over machines costing 2 to 5 times as much—making it the Double World's Champion. And the winner raised over 97% of the chicks. ORDER NOW—Get in the champion class of chicken raisers.

Order Direct From This Advertisement

to get early start. W. S. Reynolds, Avon, Mass., says: "My first Belle City hatch was 76% BETTER THAN the highest priced machine made which stood alongside. I lost nothing by ordering direct from your ad. Count on me for 4 to 8 machines. If others did business as you do there would not be much trouble in the business world." That's my policy. You take no risk. Read remarkable offer below. Then order or send for "HATCHING FACTS"—FREE. J. V. ROHAN, President Belle City Incubator Company.

\$7.55 Buys the Best **140-Egg** Incubator Ever Made

\$4.85 Buys the Best Brooder
Both Incubator and Brooder, Ordered Together
Cost You Only \$11.50—Freight Prepaid

WHY PAY MORE? Investigate—send your name and address today, the easiest way, by postal or letter. I tell you the prices right here—and how my machines are made. You can have ninety days' trial on both incubator and brooder—and I'll send all money back if they do not do all I represent.

Be sure to send for my illustrated, free booklet, "Hatching Facts." But, if in a hurry, you are perfectly safe in ordering right now from this ad. Thousands do this way every year. I guarantee to ship all orders sent from this ad on day received—(from warehouse nearest you, or Racine.) No disappointments. Order a Complete 140-Chick Belle City Hatching Outfit. Send only \$11.50 for both incubator and brooder—freight prepaid (East of Rockies). You'll surely need the

140-Chick Belle City Brooder ONLY \$4.85 Belle City Incubator Co. Racine, Wis.



Belle City Incubator Company Box 14, Racine, Wisconsin

brooder, too. So make the savings. Satisfaction Guaranteed or money back.

BELLE CITY WORLD'S CHAMPIONSHIP Incubators and Brooders

This I guarantee. Double walls—dead air space all over—copper tank and boiler—hot water heater—best regulator—deep, roomy nursery—strong egg tray—high legs—double door—and everything that's any good on an incubator—all in the Belle City. "Tycos" thermometer—egg tester—burner and safety lamp included. The Belle City Brooder is the only one having double walls and dead air spaces. I guarantee it to raise more healthy chicks than any other Brooder made. Hot-water top heat—large, roomy, wire runway yard, with platform—metal safety lamp and burner.

Complete Hatching Outfit Only \$11.50

Over 75,000 machines in use—all doing perfect work. The Belle City should be your choice. Send your order now or send a postal card for "Hatching Facts" booklet and full particulars. Don't pay more than my price. No machines, at any price, are better hatchers or brooders.

Mrs. M. J. Clifton, of Quinlan, Oklahoma, won the World's Championship with her Belle City Incubator by hatching the 140-egg size—140 eggs set—140 chicks hatched. This was 100% perfect on the full capacity of the Belle City. Many other incubators selling at from 2 to 5 times the low price of the Belle City did not equal or even approach this performance. Thousands of testimonials show you Belle City can do best for you also.

J. V. Rohan, President

Woman and Her Needs

At Home and Elsewhere

HAPPINESS IS OFTEN LIKE PAIN.

"If happiness has not her seat and center in her breast, We may be wise, or rich or great, but never can be blessed."

To which every person who thinks will say a hearty "Amen." The only point of contention will be, what is happiness? We all have our own idea of what would make us happy. For instance, I heard a woman say today she would be perfectly happy if she could have a private line telephone so her neighbors couldn't listen to her conversation over the wire! Of course, she wouldn't be a bit happier if her wish were granted than she is now, and neither would you if you could have that new addition on your house, or the new windmill, or the new black silk dress that stands alone, or you, daughter Nellie, if you could go to the ball your father has forbidden you to attend, nor I, if I had that four years at the University I am ever mourning as forever lost. We wouldn't any of us be a bit happier if we were able to get our wishes, though we might be a bit more comfortable or a bit better able to cope with the world. Just as soon as we get the one thing we desired we would think of a dozen other things to long for, and we would be just as unhappy as ever.

You see, the trouble is, we confound happiness with pleasure or with the joy of possession, when it is really something very different. The Standard dictionary says of it: "Happiness is a subjective condition resulting, in moral agents, not from the possession of something, as commonly supposed, but from the free, full, unimpeded use of the powers in un-

have to put a mortgage on the home; our parties and balls if the children are neglected. We want these things and we say we can't be happy without them, so we take what we most desire and our chances for happiness grow smaller and smaller. At first we aren't conscious of diminishing content, but as the years flit by we find to our alarm that we are discontented, irritable and "unhappy." We demand fresh pleasures to make us happy only to discover we are falling deeper

the working out of cause and result the same as for breaking any of the laws of nature, those of health for instance. We overeat and we are sick from indigestion. We covet our neighbor's possessions and we are unhappy, envious and discontented. We dishonor our parents, and unless we are monsters, remorse becomes our companion. Every commandment we break, whether of the physical life or the mental and spiritual, brings its punishment. Therefore we are wise, and happy, only when we see to it that we choose right before everything else.

Happiness can only come from within. Think of that the next time you say you would be perfectly happy if you could have this or that or live here or go there. If you are not happy today right in your own little corner and with your own small possessions you would not be happy tomorrow could you be transported to the delectable land of your dreams. You would be yourself wherever you went or whatever you obtained and the discontent and unhappiness you now fret under would travel along too.

DEBORAH.

CANDY BOXES AND BAGS FOR EASTER.

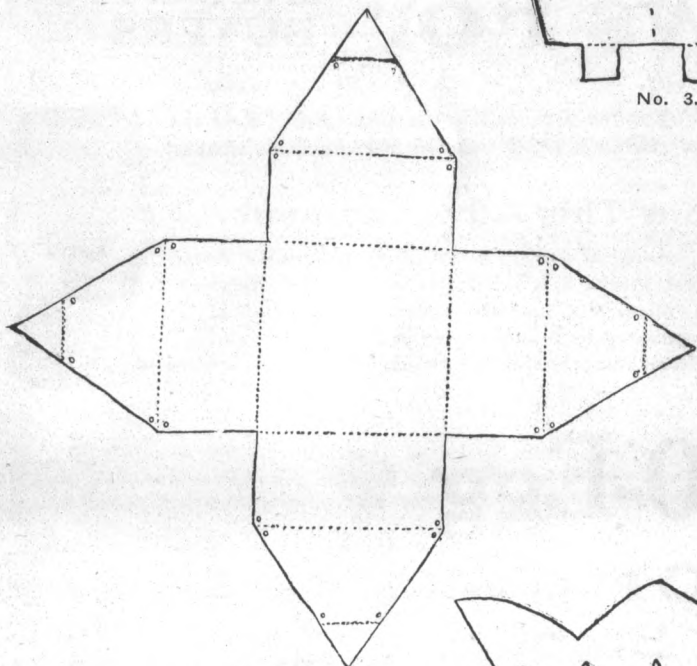
BY MAE Y. MAHAFFY.

Each recurring Easter sees more celebrations in its honor, whether of a quiet home nature, or an elaborate social function to mark the close of Lent. All of these affairs, particularly those in which children are especially interested, call for receptacles for candy and bonbons, and hostesses are constantly watching for new ideas along this line. To be sure, the shops are always well supplied with novelties for such times, but they are usually quite expensive when purchased for a large number. The housewives who

prefer to make less costly receptacles may like one or more of the following ideas. The boxes and bags are not difficult to make; indeed, if given a few instructions, the children themselves will be able to make most of them without trouble.

The materials required for the boxes are colored cardboard, not thick and clumsy to handle, but thin and strong. The thick paper used in the majority of kindergartens will be found appropriate. Any art supply house, and almost any book store will be able to furnish suitable material. The boxes should be made to conform to whatever color scheme is to be followed in the decorations, if any; otherwise they may be of a variety of colors.

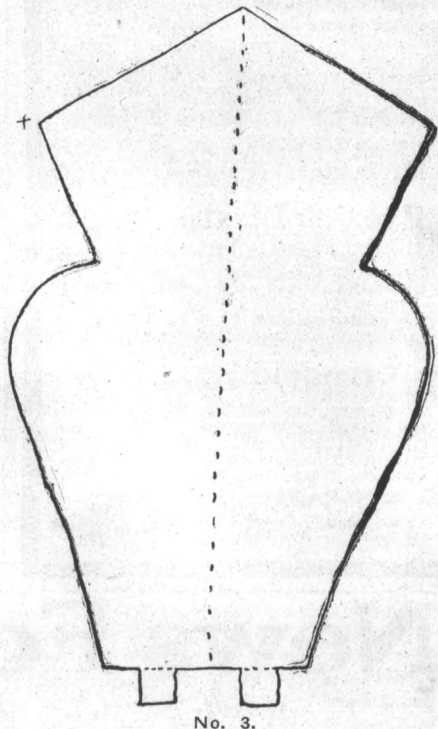
For No. 1 make a six-sided base, each side measuring three inches. This places the two parallel sides five and a quarter inches apart, and the points, or widest space, six inches. This represents the space within the dotted lines of the cut. From each of these sides draw lines two inches long straight outward from the ends of the side, and unite the two lines in each instance by a curved line, thus rounding them at the top. Punch holes near the top and bottom of each, through which to lace ribbon or cord. Bend the



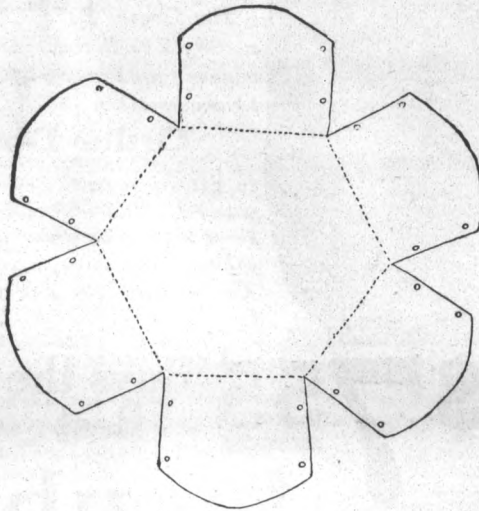
No. 1.

selfish service." "Happiness follows obedience to laws." In speaking to "Lillo" we hear Romolo say, "We can only have the highest happiness, such as goes along with being a great man, by having wide thoughts, and much feeling for the rest of the world as well as for ourselves; and this sort of happiness often brings so much pain with it that we can only tell it from pain by its being what we would choose before everything else, because our souls see it is good."

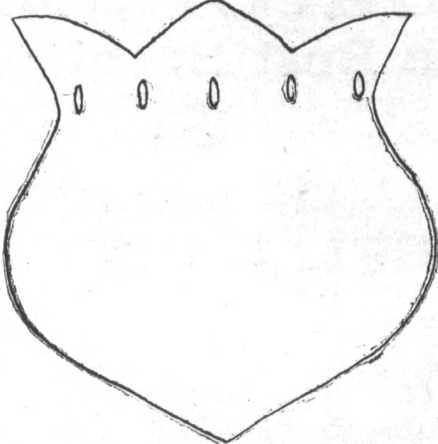
There you have the real meaning of happiness. A mental condition which often we can only tell from pain by knowing we would not act any differently if we were given the power of choosing over again. Or to say it more simply, happiness is the consciousness of having done right. Now, after that I know there are a great many people who will not care for happiness of the real sort. Doing right involves so many sacrifices, so much giving up of what we want, such a tremendous amount of unselfishness that many of us would rather be unhappy. We want our pleasures, our pretty clothes, no matter what father and mother have to do without; our automobile, if we do



No. 3.



No. 2.



No. 4.

into the gulf of unhappiness. Some of us wake up to the truth and look for happiness in the right way, the way of duty, but many more never learn the true meaning of the word.

The more I think about the ten commandments the more I can see they were not arbitrary laws laid down for us to break at our peril, but that they were sane, wise and just rules of living for those who would be happy. We break them at our peril, it is true, but the punishment we get for breaking them is only

COFFEE HEART

Very Plain in Some People.

A great many people go on suffering from annoying ailments for a long time before they can get their own consent to give up the indulgence from which their trouble arises.

A gentleman in Brooklyn describes his experience, as follows:

"I became satisfied some months ago that I owed the palpitation of the heart from which I suffered almost daily, to the use of coffee, (I had been a coffee drinker for 30 years), but I found it very hard to give up the beverage.

"One day I ran across a very sensible and straightforward presentation of the claims of Postum, and was so impressed thereby that I concluded to give it a trial.

"My experience with it was unsatisfactory till I learned how it ought to be prepared—by thorough boiling for not less than 15 or 20 minutes. After I learned that lesson there was no trouble.

"Postum proved to be a most palatable and satisfactory hot beverage, and I have used it ever since.

"The effect on my health has been most salutary. The heart palpitation from which I used to suffer so much, particularly after breakfast, has disappeared and I never have a return of it except when I dine or lunch away from home and drink the old kind of coffee because Postum is not served. I find that Postum cheers and invigorates while it produces no harmful stimulation." Name given by Postum Co., Battle Creek, Mich.

Ten days' trial proves an eye opener to many.

Read the little book, "The Road to Wellville," in pkgs. "There's a Reason."

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

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For FREE Book
and Save 1/2 to 3/4
Your Fuel Bills**

**Take Your
Time to
Decide for
Comfort,
Efficient
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Let us quote you a price and send you our Home Heating Book Free—save you on first cost and lasting economy and reduce your fuel bills 1/2 to 3/4. Find out about the thousands of satisfied owners of Holland's Double Grate Surface—Patented Cored Air—admitting Double Firepot, burning fuel from sides and top, nature's way for greatest even heat. Consumes gas, soot and clinkers with least smoke. No explosions or gas. Book tells all improved tested points, convenience and satisfaction of

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Have Electric Lights On the Farm at Low Cost

Electric Lights make the brightest, safest, cleanest and most reliable lighting system known for farms and country homes. The Dayton Electric Lighting Outfits are low in cost, easy to install, cost almost nothing to operate. Give you better lights than most city people enjoy. Write today for complete illustrated catalog showing outfits, fixtures, etc.

DAYTON ELECTRICAL MFG. CO.,
237 St. Clair Street Dayton, Ohio

10 DAYS FREE TRIAL
We ship on approval without a cent deposit, freight prepaid. DON'T PAY A CENT if you are not satisfied after using the bicycle 10 days.
DO NOT BUY a bicycle or a pair of tires from anyone at any price until you receive our latest art catalogs illustrating every kind of bicycle, and have learned our unheard of prices and marvelous new offers.
ONE CENT is all it will cost you to write a postal and everything will be sent you free postpaid by return mail. You will get much valuable information. Do not wait, write it now
TIRES, Conster - Brake rear wheels, lamps, sundries at half usual prices.
Mead Cycle Co. Dept. 877 Chicago

12 YOUR NAME IN GOLD 10c
or town greetings on beautiful Flower cards.
M. GROSS CO., 2147 Arthur Ave., New York.

pieces up from the dotted lines, and tie together in whatever color harmonizes nicely with the paper used. The box will be a very pretty affair, and with the addition of an oiled paper lining will serve

The base of No. 2 is four inches square, with two-inch projecting pieces running nicely for any kind of bonbons, nuts etc. straight out from each side. These in turn are carried out into points three inches deep. The single dotted lines show where the box must be bent up toward the inside, and the double dotted lines near the point indicate where it must be bent outward. This makes a square bottomed box with a slanting, partial cover, the points of which flare outward in an attractive manner. Ribbon or cord serves to lace this box also. No. 3 calls for some zephyr or floss as well as the paper. Even pretty wall paper which has no poisonous matter can be used in this case, though in that event an interlining of oiled paper should be used without fail for fear the colors would run if any of the contents became moist. The pieces like the diagram must be six and three-fourths inches at the highest point, two inches at the base, and two and three-fourths inches at what we will call the neck, to designate it. Extending from the base are two little blocks of the paper to be used as hinges in joining the sides to the bottom. From six to twelve of these pieces should be used in each box; the size can be regulated to suit the particular needs. Crease each piece along the dotted line. Then unite the various pieces by overcasting or buttonholing the edges together up to the points marked with a cross. When all are united to form a circular form turn the little hinges inward and glue them securely to a four-inch square base. These bottoms may be removed after the boxes have served their purpose, and the tops will answer nicely as flower-pot covers, in lieu of the usual crepe paper. The creased portion must go inward toward the center, while the stitched parts project outward.

The bag section shown at No. 4 is four and one-half inches high, four inches wide at the widest part, and three inches at the breadth where the eyelets or buttonholes must be placed. Three of these sections must be used in each bag. Silk or prettily figured cotton may be substituted for the paper, if preferred. The sections are sewed together in a seam if silk is used, but for the paper the buttonholing or overcasting with the seams outward, as in the box just described, will answer. Buttonholes or eyelets are worked, if the material is suitable, or slits cut if paper is the medium used, through which ribbon is run to draw the bags up at the top. The points then fall out in a pretty, flower-like fashion.

The size of any of the boxes or bags may be changed, provided the proportions are kept reasonably accurate.

AN EASTER PARTY.

This party is planned for 15 guests who previously drew slips on which the names of the guests were written. To the person whose name was drawn a present of some simple nature was to be given. These gifts are to be sent to the home of the hostess, who is to see that the parcels are hidden in all sorts of places, over the house.

The night of the party the first thing on the program is to be the grand Easter hunt. A good suggestion for prizes is home-made candles and hand-painted eggs done up in novelty boxes made by the hostess.

Another good suggestion for an Easter party is to have an egg hunt, each guest to have his name printed on the egg.—M. A. P.

SHORT CUTS TO HOUSEKEEPING.

In making the bands for little girls' drawers, also for little boys' knickers, I use an extra good grade of muslin, cutting the bands a seam deeper than is usually done. When the seats of the garments are gone I cut the bands off and use them for new pairs, the buttonholes being good enough to wear out the second garment.—Mrs. P. C. L.

A breakfast food that is very cheap and good. Take graham flour and make mush. Just let your water come to a boil, salt it and stir in your graham flour until it is thick. One-third of a pound is all three of us want for breakfast. This costs one cent. Eat with sugar and milk or cream.—A. K.

Oil your kitchen, or other bare floors, and save scrubbing. To one quart of boiled linseed oil add one cup of turpen-

tine. Put in basin. Let come to boil. Apply with paint brush, reheating the oil every few minutes to keep at boiling point. If you must use the room, oil it at night. The next morning cover with pieces of oil cloth, carpet, or even newspapers. Two or more coats may be necessary.—Mrs. S. (Will Mrs. S. please send name and address).

As the edges of good rugs are weakened by cleaning them on the line it is much better to lay them on the grass and go over them with a wicker beater. Do this to both sides, thus loosening the dirt. After this sweep the wrong side thoroughly and then the right, taking care to use the broom the way the nap of the rug lies.—Mrs. D. J. W.

RECIPES.

We do not pay for recipes. If you are glad to get the "favorite recipe" of others, send in yours in an even exchange.

So many recipes for fruit cake have been received in answer to Mrs. J. M.'s request that only a part will be printed. The editor joins with Mrs. J. M. in thanking the contributors.

Black Fruit Cake.

Am sending this recipe in answer to Mrs. J. M. I got it from an old German chef who had a large family of children. At the birth of each he baked a cake by this recipe, which was kept until that child's marriage. One each year he wet a clean cloth in brandy and wrapped the cake in it until the next year. It takes several hours to bake this. He used the same recipe for English plum pudding by taking out two pounds of fruit (any kind), and substituting two pounds of suet chopped very fine, and boiling or steaming. One lb. butter and 1 lb. sugar thoroughly creamed. He uses his hands for this. Add 10 eggs, one by one, beating thoroughly after each one; 2 lbs. raisins, 2 lbs. currants, whole, 1 lb. citron, 1 lb. figs, ground; 2 ozs. cinnamon; 1 oz. cloves, 1 oz. allspice, 1 oz. mace, 1 nutmeg grated, ½ pint New Orleans molasses, ½ pint of cream, sour or sweet, ½ pint cider, grape-juice, brandy or wine, 1 lb. flour. This makes a 12-lb. cake. Bake in a very slow oven.—Mrs. S.

Wants Cucumber Pickle Recipe.

Mrs. J. M., of East Jordan, wanted a good recipe for fruit cake. Here is one that I know is good and it will keep a year or more. One and one-half cups of butter, 3 cups sugar, 5 eggs, 1½ cups sour milk, 1 teaspoon of soda, 3 teaspoons cinnamon, 3 teaspoons cloves, 2 nutmegs, 1 lb. raisins, ½ lb. citron, 1 cup molasses, 4½ cups of flour or a little more. Can use just half of recipe if you like.

Will someone please give a good recipe for canning cucumber pickles? I never have had good luck with them, they wrinkle or spoil so they are no good what ever.—Mrs. M. C., Sparta.

Use for Cold Meat and a Request.

I will send in a recipe I have often found useful, and hope it will help others who have to practice economy. Take of the cold meat left from a roast of beef or chicken, enough for one cup, cut in small pieces. Put into a medium-sized basin and just cover with water. Season to suit and let simmer on the back of the stove while preparing the rest of your supper, then stir one spoonful of flour, smooth in a little milk and stir into the meat. Dish up while smoking hot, and served with baked or mashed potatoes it makes a fine dish. In a large family use more. Can any of the readers send a recipe for a cake filling made of jelly and nuts?—Mrs. J. D. C.

Aunt Rose Fruit Cake.

One lb. raisins chopped, 1 lb. currants, 1 lb. English walnuts chopped, 10 cents worth of citron shredded, 1 cup lard, 2 eggs, 1 cup molasses, 1 cup white sugar, 1 teaspoon cinnamon, ½ teaspoon allspice and clover, 1 cup sour milk, 1 teaspoon soda. Flour to make quite stiff. Fine, and will keep a year or longer.

A Fruit Cake that Will Keep.

Two cups sponge, set and raised as for bread, ½ cup butter, 3 cups sugar, 1 cup sour cream, 1 teaspoonful each of soda and cinnamon, ½ nutmeg, the grated rind of one lemon, four eggs, add flour and fruit. To combine, grate a lemon rind onto three cups of suagr. Add sour cream and sponge, melt the butter and add to this, then put the soda in the flour or one may add hot water to soda but in case of using hot water do not add the sponge until later. Beat the eggs last altogether and use enough flour to make a very stiff mixture. From a hotel cook I learned to cook the raisins and cool them before adding to fruit cake. This makes them



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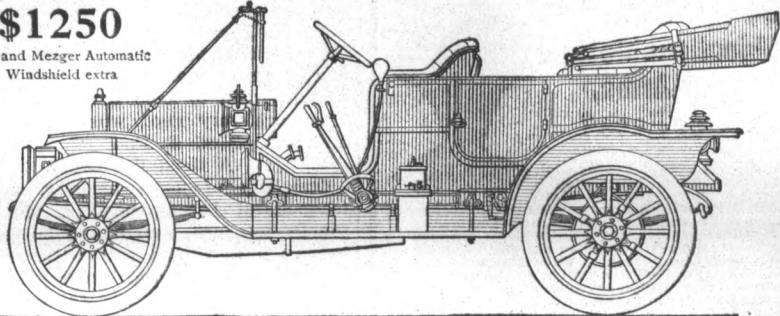
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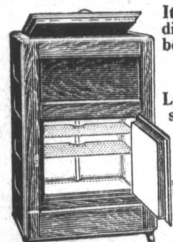
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moist and tender. Do this before you start the cake, of course, and stew the water down on them and add it all to the cake. Chopped dates are nice fruit to use in fruit cake. Put this mixture, which will make two large bread loaves, into tins lined with buttered paper and let it set in a warm place, the same as for bread. Apparently it will not raise much but bubbles will form on the top. Keep it covered and bake in a moderate oven about one hour. Allow about an hour and a half or more to raise. One might try a half of this recipe without the fruit if they wish to test its merits. The longer kept the better.—Mrs. L. E. R., Lowell.

Drop Cakes.

One cup molasses, 1 cup brown sugar, 1 cup lard, a little salt, 3 eggs, if scarce two will do, 1 cup boiling water, 1 tablespoonful soda dissolved in water, 1 teaspoonful cinnamon, 1/2 teaspoonful allspice, about 5 cups flour. Set in a cold place for a time to chill. Drop in spoonfuls on a well-buttered dripping pan, leaving some space between. Better try one on a small tin to see that it is just right. When right they are delicious.—Mrs. G. W. P.

Dear Deborah:—I should be pleased to see patterns and directions for drawn work and crocheted lace in our department. Here is my recipe for making popcorn crisp. Take 1 pint brown sugar, 1/4 pint granulated sugar, 1 tablespoonful of New Orleans molasses, 1 1/2 tablespoons glucose, 1 tablespoon butter. Put on to boil stir often, and let almost scorch, but not burn. Add 1 teaspoon soda. Pour over popped corn.—Mrs. L. L. G.

Prince of Wales Cake.

Dark part. One cup brown sugar, 1/2 cup each of butter and sour milk, 1 cup chopped raisins, 1 teaspoonful soda dissolved in warm water, 1 tablespoonful molasses, the yolks of 3 eggs, 1 teaspoonful each of cloves and nutmeg, 2 cups of flour. White part. One cup flour, 1/2 cup each of cornstarch, sweet milk and butter, 1 cup of granulated sugar, 2 teaspoonfuls of baking powder, the whites of 3 eggs. Bake all in four layers put together with icing, a dark layer, then a white one alternately.—V. W.

To Can Corn.

Nine cups of corn, after it is cut from cob, 1 cup of sugar, 1/4 cup of salt, 3 tablespoons of water. Boil 20 minutes, place in glass cans, and seal while hot.—V. W.

Who Has Potato Salad Recipe?

Will someone please send recipe for potato salad, through the Michigan Farmer?—C. A.

Pare as many large potatoes as you want, slice them the flat way of the potato and about a half-inch thick, put them in biscuit pans with the flat side up, salt and pepper each one, then put warm meat fryings or butter on each slice, enough to keep the potatoes moist. They are very good when baked brown and soft.—Mrs. E. F. .

A Good Pie Crust.

One cup of flour, heaping, one-third teaspoonful baking powder, pinch salt, fourth cup lard, fourth cup butter. Mix baking powder and salt with the flour, rub in the butter and lard until fine and dry like meal, then mix to a stiff paste with cold water.

Requests Chocolate Frosting Recipe.

I would like to have a good chocolate frosting recipe. Will some one please give it through Michigan Farmer?—Mrs. E. F. T., Stanton.

Cream Pie.

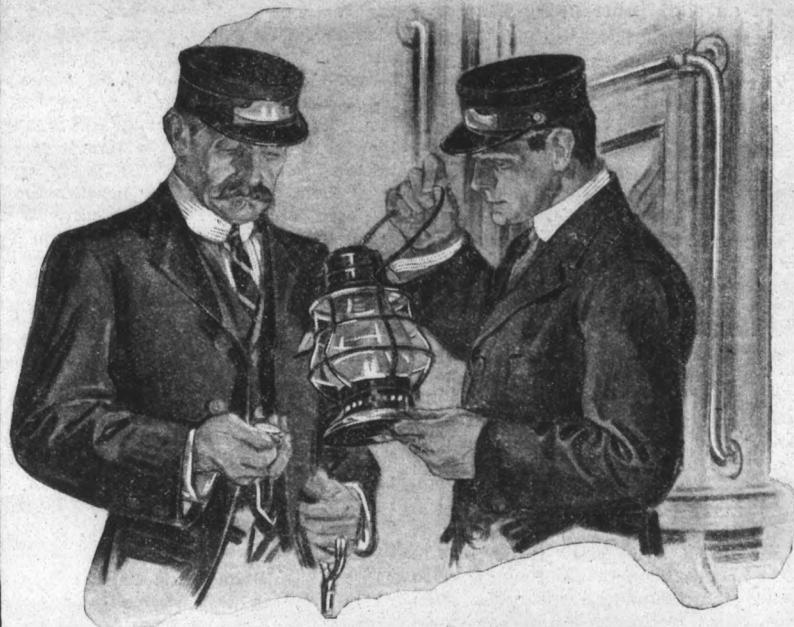
Two eggs, 3/4 cup sugar, 1 cup milk, 2 tablespoons flour, 1 teaspoon lemon. Cook this until thick in double boiler. When done put in pie crust which has been previously baked. When cold and just before serving, whip one large cup thick sweet cream which is very cold. Add 1/2 cup sugar and put on top of pie.—Mrs. H. (Would be glad to receive the other recipes.—Ed.)

Banana Pie.

Bake the lower crust the same as for any pie. When done to a golden brown, slice in sweetened bananas. Cover with the same filling that is used for lemon pie. Frost with the whites of two eggs, well beaten, and sugar enough to have the frosting one-half inch thick. It is the nicest pie that one can make if one is fond of bananas. Any other fruit in season is nice, as strawberries in the place of bananas, or oranges, raspberries or ripe peaches or musk melon.

Canned Strawberries with Natural Flavor.

Take enough fruit to fill a quart can. Press out each berry, measure the fruit and add an equal amount of sugar. Fill the jar, seal and set away for winter.



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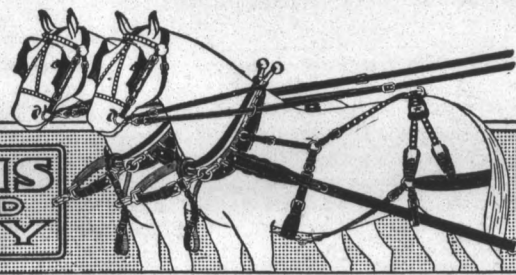
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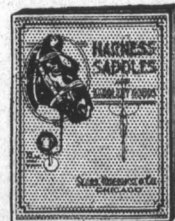
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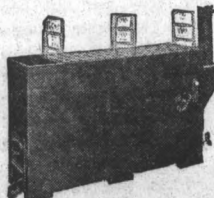


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POULTRY AND BEES

DUCK RAISING A NEGLECTED INDUSTRY.

Considering the amount of profit that is to be derived, it is strange that more people do not engage in duck raising. The facilities of almost any farm are such that ducks can be easily raised. Contrary to the usual supposition, a pond or stream of water is not necessary, for about the only difference between ducks that have free access to a pond and those reared where there is no water for bathing, is that the former have whiter and cleaner feathers.

Ducks quickly arrive at maturity, are good layers and non-sitters. They are easily reared and seem to thrive best on out-door life. The feathers protect them from cold, except their feet, so their house should be well drained and have plenty of hay or straw for them to nestle in. When a duck is properly fed its flesh is free from any grossness and is fine for table use. Ducks are ready sellers and, considering the small cost of bringing them to a marketable size, yield a greater per cent of profit than do chickens.

A duckling grows nearly twice as rapidly as a chicken and should be fed accordingly. It is desirable to obtain as rapid a growth as can possibly be had, and that is best accomplished by feeding a well balanced ration of food in a soft, mushy state. In a wild state ducks obtained their food from swamps and marshes. They ate grass, water insects, fish and other things that imparted an unsavory taste to the flesh. This diet must, in a way, be imitated to secure the best results, but care must be used in feeding so that the flesh will not be given a bad flavor.

For the benefit of those who have had no experience, a few pointers upon proper rations and care will not be amiss. During the first week of the duckling's life a ration composed of equal parts corn meal and wheat bran, mixed together while dry and then moistened sufficiently to make a stiff mush, is the best diet. It is also a very good plan to add a small amount of sand to each mess of feed. At the beginning of the second week commence adding finely chopped vegetation of some sort and gradually increase the amount. Feed liberally four times a day, but if the ducks fail to clean up the feed, remove what remains before it becomes stale and unclean, and strive to reduce the allowance to the point where it will be cleaned up perfectly.

A liberal supply of drinking water is essential to their well being and should be located at the feeding place so that while eating they can plunge their heads into it to wash the soft food from their bills. Despite the fact that a duck has no crop like a chicken, they require grit and should have access to it at all times. With proper care and feeding ducks will reach marketable size in ten or eleven weeks and, considering the ready market there is for them, the chance for profit seems tempting. Unlike the chicken business, duck raising is not overdone, and people living on farms who are looking for a money-making side line will do well to consider its possibilities.

Ohio.

S. C.

KEEPING UP THE EGG PRODUCTION THROUGH COLD SPRING DAYS.

A certain philanthropist, who yearly gave away hundreds of pairs of shoes and stockings to the poor of New York city, is reported to have said that a man with warm, dry feet would, if necessary, cheerfully go to that place not generally esteemed popular as a summer resort. Be that as it may, "cold feet" are never a stimulus to effort, and this applies equally well to fowls. With the alternate freezing and thawing, and rapid changes of temperature, incident to this season of the year, it is necessary that the poultry owner look well to the comfort of his fowls. Keeping a large flock upon ground where the drainage conditions are not right will be sure to result in a disagreeable mud surface unless the moisture is taken up by absorbents. This condition often causes a lot of trouble and loss.

Sawdust makes one of the best absorbents where available. Some object to it on the ground that it detracts from the value of the droppings as fertilizer, rendering them sour, and where it is used in considerable quantities this is undoubtedly true. Where clover chaff is

available it makes the very best absorbent of all, besides contributing some valuable food elements.

Right here I would remark that this is one reason why ducks should not be allowed to run in the chicken yard, as one lone duck can create more mud out of less material than a dozen other fowls.

As soon as conditions permit, that is, after the snow is gone and the ground has thawed, the droppings, corn cobs and rubbish of all kinds should be raked up and carted away. Then put down a liberal coat of some good absorbent. This applies, of course, to a limited outside run or to the common feeding grounds.

But let us return to the question of making the hens comfortable through the early spring days, for this is the season of heavy egg production—the harvest time, in fact. On the nice sunny days it is an easy and simple matter. They'll almost take care of themselves. It is the cold, windy, cloudy days that cut the egg yield. We usually take these days as a matter of course, and we accept the lessened yield as a matter of course, also, but this is not good business policy. You can, by providing "indoor" comforts, such as warm drinking water, plenty of clover chaff with grain thrown into it, sunlight admitted through an abundance of windows, ground bone, oyster shells and green food, prevent the fowls from subjecting themselves to cold and dampness in order to secure what they require. This looks like a lot of trouble and fuss, not to say expense, but it is not so much of either and, in any event, it "brings home the bacon."

A cold snap, lasting, perhaps, three days, will usually decrease the egg production for the following week to the extent of from 15 to 50 per cent. I know this to be a fact, that is, where no precautions are taken to counteract it, the per cent of loss depending upon the amount of exposure.

Now I am not "pounding on cold iron," for it would surprise a lot of people, who have not been around, to see the conditions under which a large proportion of poultry flocks, especially upon farms, are kept. How about your own, Mr. or Mrs. Reader? We often say, true, very true, as applied to the "other fellow," but how about ourselves? When it applies to our flock it also applies to the fattening or the depletion of our bank account, and then only does it become a personal matter.

One other thing: At this season the hen seems to have an inordinate craving for green food, and at this time it is most difficult to supply it. Just buy a 75-cent food chopper and cut up a panful of cabbage, turnips or other vegetables at hand. Throw this to them and watch results.

Isabella Co.

WM. J. COOPER.

SPRING WORK AMONG THE BEES.

The long winter's sleep is over and the bee is herself again. Those colonies wintered on summer stands should now be cautiously examined. It may be that a little feed, given inside of the hive, will save a colony from starvation and death. When feeding for stimulating brood rearing, feed from 4 to 8 ounces per day, according to the strength of the colony; and give this just at dusk—good honey diluted with an equal amount of water or syrup made of granulated sugar (10 to 12 lbs. of sugar to the gallon of water), and three pints of honey to this amount as a flavor and to induce the bees to take it more readily. I prefer to feed right over the cluster from above, but under no consideration keep breaking the sealings of the cover joints if the weather is at all cool. If your colonies are in two-story hives, place the "set of combs" that the bees use as a brood-nest at the top, until you are ready for the harvest, then put the surplus arrangement above. Combs below the brood-nest are protected from the moths fully as well, if not better, than those above.

It frequently happens that the dead bees become molded together in large lumps, and it is well to remove these putrid masses as early as it may safely be done. Many of the dead bees may be removed through the entrance by the use of a crooked wire or stick. This same advice holds true with the bees in the cellar, though it is well to use the utmost care not to disturb or break the cluster of bees. Much heat and vitality is thus lost. Some suppose that if any uniting of weak colonies is to be done, the earlier in the spring it is accomplished the better the results will be, but from years of experience along this line I am positive that too early uniting is a mistake.

New Jersey.

F. G. HERMAN.

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THOROUGHBRED S. C. BROWN LEGHORN Eggs at \$1.00 per 15 or \$5.00 per 100. Stock all sold. **LEWIS T. OPPENLANDER, R. No. 4, Lansing, Mich.**

EGGS: EGGS: EGGS—White & Buff Orpington, White & Barred Rocks, Black & White Minorcas, White & Buff Leghorns, Rose & Single Comb Reds, Houdans & White Crested Black Polish. **R. H. King, Willis, Mich.**

EGGMAKERS Strain S. C. Brown Leghorns. Eggs 95c per 15; \$1.48 per 50; \$3.98 per 100. **WM. J. COOPER, Mt. Pleasant, Michigan.**

EGGS—Barred Rocks & Mottled Anconas. They win. They lay—They pay. 15 eggs \$2. **JAMES A. TUCKER, Concord, Michigan.**

Eggs for Hatching from pure bred Buff Wyandottes. Excellent layers. 15 eggs \$1.25; 30 eggs \$2. **W. J. Ireland, Cass City, Mich.**

Eggs—Light Brahma, White Wyandotte and Barred Rocks. \$1 a setting, \$1.50 for two settings. **E. D. BISHOP, Route 38, Lake Odessa, Michigan.**

R. C. Brown Leghorns—Kulps 242 egg strain, prize winners, farm raised. Eggs \$1.00 15; \$3.00 50. **S. W. HENSEL, Basil, Ohio.**

R. C. B. Leghorn Cockerels—Kulps strain, the best in season. **C. W. WAITE, Goblesville, Michigan.**

S. C. B. MINORCAS—Cockerels, Pullets, and yearling hens for sale. Eggs \$2 to \$3 per setting of 15. **R. W. MILLS, Saline, Michigan.**

Standard Bred R. I. Reds, rose and single combs. Eggs either variety, \$1.50 & \$1 per 15. R. O's at \$6 per 100. Good size, color and great winter layers. **Bourbon Red turkeys**, show quality, eggs 50c each. World's best Gray African game, eggs during April at 75c & \$1 each. Address **W. T. FRENCH, Ludington, Mich.**

SINGLE Comb Brown Leghorns—One of Michigan's largest breeders of the Brown Beauty's winning at the leading shows. Send for catalog with prices and photos of my birds. **Box 324 D. Charles Ruff, St. Clair, 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.**

S. C. REDS—Eggs from full blooded, farm raised Rhode Island Reds. \$1.00 per 15. **Mrs. IDA COLE, R. No. 30, Charlotte, Michigan.**

SILVER, GOLDEN and WHITE WYANDOTTES 100 White cockerels at \$2 and \$3 each. New circular after January 15th. **C. W. Browning, Portland, Mich.**

Wyckoff and Blanchard Strain S. C. W. 545ed, Trap nested, heavy winter layers. Eggs \$2.00 15; \$3.15 50. **F. E. BOSTEDOR, Eaton Rapids, Mich.**

White Wyandotte and S. C. White Leghorns. **Wyckoff, Moore strains** \$1.50 per 15 or \$5 per 100. **WATERBURY, Clarkston, Mich.**

White Wyandottes—Noted for their size, vigor and egg production. Send for circular. **A. FRANKLIN SMITH, Ann Arbor, Mich.**

DOGS.

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

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

FOR SALE at farmers prices, pure bred sable and white Scotch Collie Puppies. **CHARLES A. BEATTY, Milford, Mich.**

MARKETS

DETROIT WHOLESALE MARKETS.

April 5, 1911.

Grains and Seeds.

Wheat.—Grain prophets do not seem to know just where or in what regard conditions could be improved for growing the new crop of wheat, with the result that traders are wont to get values down as low as possible, an effort meeting with very little opposition. The bulls revived to point out an increase in the call for flour, and explain the effect of poor spots in sections of Kansas and Oklahoma, but the information had little bearing upon the trade. A decrease of stocks in England has injected firmness into the Liverpool market for cash goods. Europe is bearish, although the world's visible supply shows a substantial decrease; however, the amount afloat is much larger than a week ago. No. 2 red wheat was quoted at \$1.16½c per bu. at this time in 1910. Prices for the past week are:

	No. 2	No. 1	Red.	White.	May.	July.
Thursday	85½	83¾	87¼	88½		
Friday	85	83¾	86¾	88		
Saturday	84	82¾	85¾	87		
Monday	83¾	81½	85	86		
Tuesday						
Wednesday	84½	83	86¼	87		

Corn.—Could the corn market be severed from the wheat trade, it probably would show a stronger tone, since the wet weather and small receipts had a bullish effect; but the uncertain trend of wheat values is irresistible and corn is being swept down to a lower basis by it. The local market is easy. One year ago the price paid for No. 3 corn was 60½c per bu. Quotations are:

	No. 3	No. 3
	Corn.	Yellow.
Thursday	47	48
Friday	47	48
Saturday	46½	47½
Monday	46½	47½
Tuesday		
Wednesday	47	48

Oats.—Market dull and steady. Prices rule on last week's basis, the influence of wheat not resulting in any material change. A year ago the price was 46½c for standard oats. Quotations are:

	Standard	No. 3
	White.	White.
Thursday	32¾	32
Friday	32¾	32
Saturday	33	32¼
Monday	33	32¼
Tuesday		
Wednesday	33¼	32¾

Beans.—The higher level of values reached last week was maintained, although the trade is dull with no transactions of consequence reported. The quotations are:

	Cash.	May.
Thursday	1.96	2.00
Friday	1.96	2.00
Saturday	1.96	2.00
Monday	1.96	2.00
Tuesday		
Wednesday	1.96	2.00

Clover Seed.—On Monday cash seed recovered what it lost the week previous. Market is firm and active at the advance. Alsike rules at \$3.75 and is easy. Quotations are:

	Prime.	Alsike.
Thursday	8.60	8.75
Friday	8.60	8.75
Saturday	8.60	8.75
Monday	8.75	8.75
Tuesday		
Wednesday	8.75	9.00

Rye.—Another cent has been added to the price of rye, putting the No. 1 grade on a 93c basis.

Timothy Seed.—This deal is steady at \$5.25 per bu., the price reported last week.

Flour, Feed, Provisions, Etc.

Flour.—Market continues slow with prices unchanged. Quotations are:

Clear	\$4.25
Straight	4.65
Patent Michigan	4.90
Ordinary Patent	4.90

Hay and Straw.—Values are unchanged. Quotations on baled hay in car lots f. o. b. Detroit are: No. 1 timothy, \$16.50@17; No. 2 timothy, \$15.50@16; clover, mixed, \$15; rye straw, \$7@7.50; wheat and oat straw, \$6@6.50 per ton.

Feed.—Prices are steady with a week ago. Carlot prices on track are: Bran, \$27 per ton; coarse middlings, \$26; fine middlings, \$28; cracked corn, \$22; coarse corn meal, \$22; corn and oat chop, \$20 per ton.

Potatoes.—Those having potatoes to sell should breathe easier since the firmer feeling mentioned last week has developed into a bullish market with prices higher, demand good and the stock of tubers somewhat limited. In car lots Michigan potatoes are selling at 42@45c per bushel.

Provisions.—Family pork, \$19@20; mess pork, \$17.50; medium clear, \$17@18.50; smoked hams, 13@14½c; briskets, 10½c; shoulders, 10½c; picnic hams, 9½c; bacon 15½@17c; pure lard, in tierces, 9½c; kettle rendered lard, 10c.

Hides.—No. 1 cured, 10c; No. 1 green, 8c; No. 1 cured bulls, 8½c; No. 1 green bulls, 7c; No. 1 cured veal kip, 11c; No. 1 green veal kip, 10c; No. 1 cured murrain, 9c; No. 1 green murrain, 8c; No. 1 cured calf, 15c; No. 1 green calf, 13½c; No. 2 kip and calf, 1½c off; No. 2 hides 1c off; No. 1 horsehides, \$3.75; No. 2 horsehides, \$2.75; sheepskins, depending on wool, 50c@1.50.

Dairy and Poultry Products.

Butter.—For some time back the Elgin butter market has shown a tendency to hold up prices, as last week the values there declined 1c, while other markets put quotations down two and three cents. But this week it became necessary to put values on a common basis so Elgin

drops three cents and the local trade only a cent putting both on the same basis. Prices are now at the lowest point seen in the past two years. Quotations are: Extra creamery, 21c; firsts, do., 19c; dairy, 16c; packing stock, 13½c per lb.

Eggs.—A broad demand is sweeping over the egg market giving a firm tone to the deal and driving prices higher, fresh receipts, case count, cases included, now being quoted at 15½c per dozen, which is ¼c above last week's figures.

Poultry.—The demand for different kinds of poultry is increasing and prices are higher for nearly all grades. Market is firm. Quotations: Dressed—Turkeys, 16@20c; chickens, 16@17c; hens, 16@17c; ducks, 17@18c; geese, 13@14c per lb. Live—Spring chickens, 15@15½c; hens, 16@16½c; old roosters, 10@11c; turkeys, 15@18c; geese, 12@13c; ducks, 15@16c per lb.

Cheese.—Michigan, old, 15@16c; Michigan, late, 13@14c. York state, old, 16@18c; do. late made, 14@15c; limburger, early, 14@15c; Swiss domestic block, 18@20c; cream brick, 15@16c.

Veal.—Market easier. Fancy, 10@10½c; choice, 9@9½c; ordinary, 7@8c per lb.

Fruits and Vegetables.

Cranberries.—Steady. Quoted at \$3.50 per bu.

Cabbage.—Steady. Selling at \$1.75 per bbl. for new.

Onions.—Higher. Quoted at \$1.25@1.30 per bushel.

Honey.—Choice to fancy comb. 15@17c per lb.

Apples.—The demand is active at unchanged prices. Fancy Greenings are quoted at \$5.50@6; Baldwins, \$4.50@6; Steel reds, \$6; ordinary grades, \$3@3.50 per bbl. Western apples, \$2.25@2.75 per box.

OTHER MARKETS.

Grand Rapids.

The potato market continues strong and higher, with farmers holding back their stock and buyers anxious to do business on 35@45c basis. Tuesday's price at Cadillac was 40c. The bean market is doing somewhat better. Creamery butter has dropped 2@3c, and dairy butter is off 1c, the buying price being 21½c and 19c respectively. Eggs are firm at 13½c. In live poultry, geese are worth 12c; fowls, 14c; chickens, 15c; ducks, 16c, and turkeys, 19c. Dressed hogs are bringing 8@8½c. Wheat has dropped to 79c.

Chicago.

Wheat.—No. 2 red, 85¼@86¼; May, 84½c; July, 85c per bu.

Corn.—No. 2, 46¼@46½c; May, 46½c; July, 48½c per bu.

Oats.—No. 2 white, 31½@32½c; May, 30c; July, 30½c.

Barley.—Malt grades, 88c@1.07 per bu; feeding, 70@85c.

Butter.—Receipts at this week's opening showed a slight decline, but the market remains congested and weak, with prices a full cent lower on all grades. Quotations are: Creameries, 14@21c; dairies, extra, 18c.

Eggs.—Trade is broadening and fancy grades remain steady at former values. Miscellaneous receipts, however, have lost ½c since last week. Quotations are: Prime firsts, 15c; firsts, 14½c; at mark, cases included, 13@13½c per dozen.

Potatoes.—Another phenomenal advance has been scored the past week, all grades now being quoted 10@12c higher than a week ago. Receipts are increasing but are still 650 cars behind last year for the period since Jan. 1. Choice to fancy are quoted at 60@62c per bu; fair to good, 56@58c.

Beans.—Demand for pea beans shows improvement and prices have advanced. Red kidneys slow and unchanged. Choice hand-picked beans quoted at \$1.98@2.05 per bu; prime, \$1.85@1.95; red kidneys, \$2.75@3.

Hay and Straw.—Hay firm and higher, while all kinds of straw are quoted lower and dull. Quotations: Choice timothy, \$18@19; No. 1 timothy, \$16.50@17.50; No. 2 do. and No. 1 mixed, \$14.50@16; No. 3 do. and No. 2 mixed, \$9@14; rye straw, \$6.50@7; oat straw, \$5.50@6; wheat straw, \$5@5.50 per ton.

New York.

Butter.—Market continues weak, prices showing another sharp decline. Creamery specials are quoted at 20½@21c; extras, 19½c; seconds to firsts, 14½@15½c.

Eggs.—Market is firm. Prices generally a little higher. Fresh gathered extras, 17½@18c; firsts, 17c; near-by gathered, white, 18@21c.

Poultry.—Live, steady. Western chickens, 14@15c; fowls, 16@16½c; turkeys, 13c per lb. Dressed, irregular. Roasting chickens, 15@20c; fowls, 14½@16½c; turkeys, 15@20c.

Boston.

Wool.—Because of the uncertain future wool merchants are disposing of their holdings and they do not appear to hesitate about cutting values in order to do this. As a result the bins are being well cleaned up preparatory to receiving the new clip; no pronounced activity on the part of brokers is being made to get in touch with wool producers, however, hence farmers are complaining that the market is very unsatisfactory. Following are the leading domestic quotations: Ohio and Pennsylvania fleeces—Delaine washed 30@32c; XX, 28@29c; fine unmerchantable, 23@24c; ½-blood combing, 25@27c; ¾-blood combing, 25@26c; ¼-blood combing, 24½@25½c; delaine unwashed, 24@25c; fine unwashed, 20@20½c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 20@21c; delaine unwashed, 24@25c; ½-blood unwashed, 23@26c. Kentucky, Indiana and Missouri—¾-blood, 25@26½c; ¼-blood, 23½@24c.

Elgin.

Butter.—Market steady at 21c per lb., which is 3c below the quotation of last week. Output for the week, 490,200 lbs., as compared with 464,900 lbs. for the previous week.

THE LIVE STOCK MARKETS.

April 3, 1911.

Buffalo.

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

Receipts of stock here today as follows: Cattle, 145 cars; hogs, 12,000; sheep and lambs, 20,000; calves, 2,000.

With 145 cars of cattle on our market again today, and 22,000 reported in Chicago, all cattle weighing 1,150 lbs. and upwards, sold about 10c below last Monday's prices. All the handy weight butcher cattle of all sexes sold steady with last week.

We quote: Best 1,350 to 1,500-lb. steers, \$6.40@6.75; good prime 1,200 to 1,300-lb. steers, \$6@6.40; best 1,100 to 1,200-lb. shipping steers, \$5.85@6.15; medium butcher steers, 1,000 to 1,100 lbs., \$5.40@5.80; light butcher steers, \$4.85@5.35; best fat cows, \$4.50@5.15; fair to good do., \$3.75@4.40; common to medium do., \$3@3.50; trimmers, \$2.75@3.15; best fat heifers, \$5.40@5.75; good do., \$4.90@5.35; fair to good do., \$4@4.60; stock heifers, \$4.25@4.50; best feeding steers, dehorned, \$5.25@5.40; medium to good feeding steers, \$4.50@4.75; stockers, all grades, \$4.25@4.50; best bulls, \$5@5.40; bologna bulls, \$4.25@4.75; stock bulls, fair to good, \$3.75@4.25; best milkers and springers, \$4.50@5.50; good to best do., \$3.00@3.50; common to good do., \$2.50@3.00.

Hog market opened slow; prices generally about 10c lower than Saturday, except pigs, which were about steady. Strictly pig weights sold generally from \$7.45@7.50, and yorkers, \$7.15@7.25, according to weight and quality. Mixed hogs, \$7@7.15; heavies, \$6.60@6.90. Roughs generally 6c a pound. Stags, \$4.75@5. After the opening, the market ruled fairly active on all the lighter weights, and very slow on the heavier grades. Indications point to a fair supply of hogs throughout the country, and there is nothing right at this time to indicate any improvement in prices.

Lamb market opened active today; most of the choice handy lambs selling at \$7.10@7.15; heavy, \$6.10@6.25. Look for little lower prices the last of the week unless the runs should be light. Sheep market was dull today; most of the choice ewes selling at \$4.50@4.75; wethers, \$5@5.25. Look for about steady prices on sheep the balance of the week.

We quote: Best handy lambs, \$7.10@7.15; heavy lambs, \$6.10@6.25; bucks, \$3.25@4; heavy ewes, \$4.50@4.75; yearlings, \$5.50@6; wethers, \$5@5.25; cull sheep, \$3.25@4; handy ewes, \$4.75@5; veals, choice to extra, \$7.75@8.25; fair to good do., \$6.50@7.50; heavy calves, \$4@5.50.

Chicago.

April 3, 1911.

Cattle. Hogs. Sheep
Received today 22,000 46,000 22,000
Same day last year .. 10,338 16,385 17,837
Received last week .. 46,595 153,628 73,263
Same week last year .. 45,592 17,108 44,038

This week opens with a moderate cattle supply and a fairly active general demand, early prices ruling strong for desirable lots, and butcher cattle selling especially well. This followed last week's advance of 10@15c in fat butcher cattle, steers closing Saturday not much different from a week earlier. Hogs were in good supply, and prices broke 5@10c, with a fairly good general demand at \$6@6.40 for the commoner to good heavy packing lots and \$6.45@6.85 for the better class, light hogs going at \$6.45@6.85. A week ago hogs sold at \$6.20@7.20. Pigs are selling at \$6.15@6.85, boars at \$2.50@3 and stags at \$6.25@6.65, all stags being sold subject to 80 lbs. dockage per head. Hogs received last week averaged in weight 220 lbs., compared with 220 lbs. a year ago and 208 lbs. two years ago. It is generally expected that farm work will keep farmers busy now and thereby check the early marketing of hogs. Sheep and lambs closed last Saturday 10@15c lower than a week earlier, receipts having increased faster than the demand. Today the market was fairly animated at about steady prices, with some prime light woolled lambs bringing \$6.60, an advance of 10c. Shorn flocks predominated, and sales were on the following basis: Lambs, \$4.50@5.90; wethers, \$4.25@4.60; ewes, \$3@4.25; yearlings, \$4.30@5.40. Shearing and feeding lambs were scarce and salable at \$5.85@6.35. Woolled lambs sold all the way down to \$4.75. Some prime feeding lambs that averaged 85 lbs. each were sold a few days ago at \$6.40, the highest price of the season. Colorado lambs are being hurried to market, with only about 20 per cent coming unshorn.

Cattle would have suffered severe reductions in values without doubt last week had not supplies been held down to extremely moderate proportions, for the demand was nothing to boast of, eggs and other meats being largely substituted for beef. Monday, usually the day of big receipts, saw arrivals of well below 17,000 head, and prices had a good boost, but declines took place on Tuesday and Wednesday, 18,293 head arriving Wednesday. There was an advance Thursday on moderate offerings, and the bulk of the sales of beef steers during the week were at \$5.60@6.60, common to medium lots selling at \$4.90@5.90, medium to good lots at \$6@6.45 and good to fancy heaves at \$6.50@7.05. Butcher cows and heifers were good sellers on the whole at \$3.60@6.15, while cutters sold freely at \$3.05@3.50, canners at \$2.35@3, and bulls at \$3.75@5.50. The stocker and feeder branch of the market is one that seldom shows any signs of weakness, as these cattle are not shipped in with much liberality, and killers are good buyers of the well-bred feeders carrying a moderate amount of flesh. Stockers have been finding buyers at \$4.40@5.60; feeders at \$5.25@5.95 and stock and feeder heifers at \$4@4.80. Calves were marketed with extreme liberality, the greater bulk of them hailing from the dairy districts tributary to Chicago and grading poorly, as they

were sold too soon after birth to render them desirable for veal. Sales were at a range of \$3@7 per 100 lbs. Milkers and springers were in moderate supply and demand at \$30@60 per head, the eastern shipping demand calling for choice cows. The future course of the cattle market will depend on whether stock is marketed freely or not. Doubtless stock feeders will ship in their holdings as they mature, but it will be bad judgment to market well-bred cattle before they are fat, with such an abundance of cheap feed and every promise of first-class pastureage in most feeding sections.

Hogs have shown a marked tendency for several weeks, with a disposition upon the part of stock feeders to get their maturing pigs shipped without further delay. All that discourages this is the frequent reductions in values, amounting at times to 15@25c in a single day, causing numerous stockmen to hold back their hogs until a rally takes place in prices. The scarcity of light hogs and pigs not quite weighty enough to be classed as hogs causes them to sell at liberal premiums all the time, there being larger orders for bacon hogs than can be filled while extremely heavy packing hogs sell at a big discount. The spread in prices is extremely wide and likely to continue so, cheap corn encouraging stock feeders to make their swine heavy before marketing. The demand for fresh pork products continues extremely large, and the consumption of provisions is as liberal as could be expected with such high prices ruling for lard, bacon, hams, etc. The largest hog runs show up at the stock yards on Mondays, and prices are usually lower that day for this reason.

Sheep and lambs were marketed last week with fair freedom, the great bulk of the consignments being shorn, and Colorado sent considerable numbers of lambs, mainly of a good grade. The demand has been variable, prices fluctuating considerably, and prime lambs sold usually at firmer prices than other offerings. Orders from sheep feeding districts for good feeding lambs and prime yearling breeding ewes were as numerous as ever, but not many were to be had, and lots of orders had to go over unfilled day after day. Prices for both sheep and lambs have been much lower than in most former years, especially so as compared with a year ago, when the offerings were unusually small. From now on sheepmen should watch the market reports carefully and avoid so far as possible glutting the market. Mutton is now popular on account of its reduced prices in the markets of the country, but whenever packers get well stocked up they are sure to hold back for lower prices.

Horses sold better last week, the bad closing of the preceding week causing country shippers to send in considerably smaller offerings. There was during the first half of the week a large attendance of buyers from all parts of the country from the Atlantic to the Pacific coast, and good horses sold much more freely and at firmer prices. A good many drafters of good to choice quality sold at \$220@275 per head, while good chunks that weighed around 1,500 lbs. had a good sale at \$200@250. Light drivers sold more freely at \$125@175, largely at \$150@165, and horses for the United States army were wanted at \$160@180. Farm horses had a good sale at \$140 and upward, an inferior kind going below \$140, while farm mares of good to prime grade were wanted at \$175@265, but no large sales were made near the top price. F.

LIVE STOCK NOTES.

Texas breeders of leading beef breeds of cattle state that they never had a larger call for pure-bred bulls than at the present time, the demand coming from Texas, Alabama, Louisiana and Mississippi. The south is forging ahead in both cattle breeding and cattle feeding, and high-grade beefs are supplanting scrubs. For the first time in history a bunch of one hundred well-bred Texas steers are being fattened in Mississippi, these cattle being two-year-olds. Southern farmers are preparing to raise feed crops and cattle on a broader and better scale than ever before.

A Wisconsin firm of sheep and lamb feeders recently sold in the Chicago market a five-deck consignment of lambs that averaged about 67 pounds at \$6.60 per 100 lbs. These lambs were purchased six months earlier as feeders at \$4 per 100 lbs., their average weight at that time being only 35 lbs. The same firm sold a previous consignment of lambs at \$6.50 that weighed on an average but 33 lbs. when put on feed, this lot gaining 30 lbs. each on feed. The lambs in both instances were of Montana breeding and were bought in the St. Paul market. They were all fattened on pea ensilage and corn, the grain having been fed for the last three months. Pea ensilage is a low-priced feed, and it is expected to become a leading feed in preparing sheep and lambs in Wisconsin for the market.

A good authority has estimated the United States wool clip this year at 275,000,000 lbs., a falling off of 25,000,000 lbs. from the normal clip. While the clip is expected to show up all right in grading it is a short one because of the hard winter a year ago, later drouth and widespread marketing of flocks during the period of extremely high prices for live muttons in 1910. The fact is recalled that two years ago, on an advancing market, Boston, New York and St. Louis dealers contracted fully one-half of the entire clip before April, but this year scarcely any contracting has been done, as manufacturers are waiting to see what congress will do regarding revision of the wool tariff.

Dairy districts are crowding their spring calves on the Chicago market, and prices have had a crash. The packers have been picking up lots of bargains, and veal retailers about as high as ever, notwithstanding the great fall in wholesale prices for live calves.

THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

March 30, 1911.

Cattle.

Receipts, 853. Market strong at Wednesday's prices. Butcher grades 10@15c higher than last week.

We quote: Best steers and heifers, \$6@6.10; steers and heifers, 1,000 to 1,200, \$5.50@5.75; steers and heifers, 800 to 1,000, \$5@5.50; steers and heifers that are fat, 500 to 700, \$4.50@5; choice fat cows, \$4.50@5; good fat cows, \$4@4.40; common cows, \$3.75@4; canners, \$2.75@3.25; choice heavy bulls, \$5@5.10; fair to good bolognas, bulls, \$4.25@4.50; stock bulls, \$3.75@4; milkers, large, young, medium age, \$4@4.48; common milkers, \$2.50@3.5.

Bishop, B. & H. sold Fronn 4 cows av 965 at \$4.20, 2 do av 890 at \$3.45; to Parker, W. & Co. 4 do av 1,112 at \$5, 11 steers av 1,061 at \$5.85; to Sullivan P. Co. 4 do av 862 at \$5.35, 2 do av 590 at \$4.50, 23 do av 1,050 at \$5.85, 10 do av 930 at \$5.60; to Breitenbeck 8 do av 813 at \$5.20; to Parker, W. & Co. 1 bull weighing 1,130 at \$4.70, 1 do weighing 1,100 at \$4.60, 1 steer weighing 800 at \$5.25, 14 do av 1,008 at \$5.75, 5 do av 736 at \$5.10, 1 do weighing 890 at \$6, 1 cow weighing 900 at \$4.50; to Bresnahan 6 heifers av 566 at \$4.65; to Mich. B. Co. 13 butchers av 821 at \$5.25, 6 cows av 1,038 at \$4, 12 steers av 666 at \$4.90, 1 do weighing 940 at \$5.75; to Newton B. Co. 6 butchers av 1,011 at \$5, 3 steers av 773 at \$5, 1 bull weighing 1,000 at \$4.50, 2 cows av 1,000 at \$4, 2 do av 675 at \$3; to Goose 2 cow and bull av 1,245 at \$5.65; to Sullivan P. Co. 1 bull weighing 1,350 at \$4.75, 3 steers av 1,150 at \$5.75, 9 do av 818 at \$5.40, 3 cows av 870 at \$4.50, 12 steers av 1,120 at \$5.75, 9 do av 653 at \$4.50, 7 cows av 1,143 at \$5, 19 butchers av 820 at \$5.25; to Mich. B. Co. 17 steers av 1,085 at \$6; to Parker, W. & Co. 1 bull weighing 1,580 at \$5; to Bresnahan 15 butchers av 711 at \$4.80; to Breitenbeck 17 steers av 1,035 at \$5.55, 3 cows av 1,123 at \$4.25.

Venus sold Mich. B. Co. 4 cows and bulls av 1,150 at \$4.50.

Roe Com. Co. sold Newton B. Co. 5 butchers av 700 at \$5.10, 11 do av 775 at \$5.40, 2 cows av 960 at \$4, 6 steers av 846 at \$5.50; to Rattkowsky 1 cow weighing 730 at \$3.75, 2 do av 975 at \$4.25; to Sullivan P. Co. 18 butchers av 658 at \$5.10; to Newton B. Co. 1 cow weighing 650 at \$3.2, 2 do av 985 at \$3.75, 3 bulls av 757 at \$4.50, 3 steers av 1,123 at \$6, 5 butchers av 690 at \$4.50, 19 steers av 871 at \$5.50; to Newton B. Co. 11 do av 750 at \$5.40, 2 cows av 960 at \$4; to Mich. B. Co. 3 do av 843 at \$3.50, 5 do av 883 at \$4, 21 steers av 831 at \$5.65, 1 bull weighing 1,430 at \$5.

Haley & M. sold Newton B. Co. 2 cows av 915 at \$3.60, 2 do av 785 at \$3.50, 1 do weighing 830 at \$2; to Hammond, S. & Co. 20 steers av 915 at \$5.50, 2 do av 850 at \$5.10, 22 do av 807 at \$5.50, 8 do av 743 at \$5.40, 3 cows av 950 at \$4.50, 1 bull weighing 990 at \$4.50, 8 heifers av 761 at \$5.40, 2 bulls av 685 at \$4.35, 1 do weighing 1,480 at \$4.90; to Kammon 14 steers av 918 at \$6; to Lachalt 15 steers av 800 at \$5.40, 1 cow weighing 1,080 at \$3.75.

Spicer & R. sold Newton B. Co. 2 cows av 875 at \$3, 21 steers av 1,127 at \$6, 2 cows av 770 at \$3, 1 do weighing 1,020 at \$3.50, 2 do av 1,015 at \$4.50, 5 steers av 954 at \$5.60; to Sullivan P. Co. 5 do av 866 at \$5.75, 1 cow weighing 1,120 at \$3.75, 1 do weighing 1,280 at \$5, 1 steer weighing 700 at \$5.50; to Thompson Bros. 5 cows av 944 at \$4.75, 1 steer weighing 920 at \$5.40, 6 do av 613 at \$5.10; to Regan 4 do av 467 at \$4.35; to Kamman B. Co. 11 do av 970 at \$5.75, 4 do av 670 at \$5.25; to Bresnahan 6 heifers av 460 at \$4.50; to Sullivan P. Co. 4 cows av 1,295 at \$4.75; to Marx 14 steers av 950 at \$5.75; to Fronn 1 cow weighing 970 at \$3.85; to Hammond, S. & Co. 2 bulls av 1,190 at \$5.

Sharp sold Lingeman 1 bull weighing 1,270 at \$4.75, 6 steers av 1,000 at \$5.75.

Robb sold Goose 2 cows av 1,105 at \$4.50, 5 butchers av 534 at \$3.50.

Robb sold Bresnahan 4 heifers av 637 at \$4.25.

Robb sold Hammond, S. & Co. 1 steer weighing 730 at \$5.

Veal Calves.

Receipts, 592. Market steady at last Thursday's prices; steady with Wednesday. Best, \$7@7.50; common, \$4.50@5.50; heavy, \$3@5; milch cows and springers dull.

Roe Com. Co. sold Newton B. Co. 7 av 125 at \$7, 4 av 140 at \$7.50; to Breitenbeck 12 av 135 at \$7.25.

Bohn sold Bront 4 av 125 at \$6.50; to Robb 3 av 150 at \$7.

Kalaher sold Newton B. Co. 10 av 136 at \$7.

Long sold Burnstine 10 av 140 at \$7.

Walker sold Sullivan P. Co. 3 av 175 at \$7, 2 av 120 at \$5.50.

Bishop, B. & H. sold Burnstine 1 weighing 130 at \$7.50, 6 av 145 at \$7, 6 av 150 at \$7, 13 av 130 at \$7.50, 1 weighing 150 at \$8; to Parker, W. & Co. 5 av 150 at \$7.75, 4 av 100 at \$6.50; to Freeman 3 av 100 at \$6, 2 av 135 at \$7.50, 3 av 140 at \$7.75; to Hoffman 4 av 135 at \$7; to Goose 3 av 190 at \$4.50, 2 av 250 at \$4, 4 av 95 at \$4.50; to Rattkowsky 3 av 165 at \$6.75; to Mich. B. Co. 12 av 140 at \$7.75; to Parker, W. & Co. 11 av 130 at \$7.25, 15 av 115 at \$6.50, 3 av 115 at \$7, 28 av 135 at \$5.50; to Rattkowsky 12 av

130 at \$6.60; to Goose 19 av 140 at \$6.60.

Spicer & R. sold Parker, W. & Co. 7 av 135 at \$7, 13 av 130 at \$7; to Mich. B. Co. 16 av 140 at \$7.50; to Golden 7 av 118 at \$6.50; to Brant 5 av 120 at \$6.50, 6 av 165 at \$5; to Barlage 3 av 95 at \$4.50, 6 av 135 at \$6.75.

Haley & M. sold Mich. B. Co. 10 av 138 at \$7.50, 14 av 125 at \$6; to Sullivan P. Co. 3 av 100 at \$6.50; to Mich. B. Co. 6 av 125 at \$7, 6 av 95 at \$6.50, 27 av 135 at \$7.

Sheep and Lambs.

Receipts, 2,155. Market strong at last week's prices and Wednesday this week. Best lambs, \$6.75; fair to good lambs, \$6@6.50; light to common lambs, \$5@5.75; clipped lambs, \$4@4.25; common sheep, \$3@3.25; wethers, \$4.75@5.15; best ewes, \$4.25@4.50.

Bishop, B. & H. sold Sullivan P. Co. 74 sheep av 85 at \$3.50, 60 lambs av 77 at \$6, 10 do av 54 at \$5, 10 clip lambs av 57 at \$4, 36 do av 73 at \$5, 11 do av 70 at \$5, 8 lambs av 90 at \$6.50; to Parker, W. & Co. 224 do av 70 at \$6.65; to Mich. B. Co. 43 do av 83 at \$6.25, 4 sheep av 145 at \$4.25, 33 lambs av 70 at \$6.40; to Street 38 sheep av 120 at \$5; to Hammond, S. & Co. 10 lambs av 73 at \$6.50, 13 clip sheep av 110 at \$3.75; to Fitzpatrick 25 sheep av 120 at \$4.50, 5 do av 125 at \$4.50, 60 lambs av 95 at \$6.75; to Eschrich 10 do av 59 at \$6; to Newton B. Co. 86 do av 110 at \$6.40; to Hammond, S. & Co. 108 clip lambs av 80 at \$5.25.

Haley & M. sold Mich. B. Co. 12 lambs av 110 at \$6.25, 4 do av 50 at \$6; to Barlage 67 sheep av 100 at \$5.25.

Spicer & R. sold Parker, W. & Co. 35 lambs av 68 at \$6.25; to Newton B. Co. 237 av 75 at \$6.70; to Mich. B. Co. 166 do av 78 at \$6.70; to Sullivan P. Co. 62 clip lambs av 75 at \$5.50; to Mich. B. Co. 24 lambs av 68 at \$6.25, 11 sheep av 82 at \$3.60; to Breitenbeck 38 lambs av 70 at \$6.

Roe Com. Co. sold Street 18 lambs av 73 at \$6; to Nagle P. Co. 94 do av 75 at \$6.50; to Breitenbeck 17 do av 65 at \$5.

Bohm sold Newton B. Co. 26 clip lambs av 83 at \$5.25.

Miller sold Mich. B. Co. 24 lambs av 77 at \$6.25.

Lowenstein sold same 9 do av 95 at \$6.25.

Bohm sold Hammond, S. & Co. 7 clip lambs av 75 at \$5.25, 6 sheep av 70 at \$3.25, 35 lambs av 77 at \$6.

Weeks sold Thompson 10 sheep av 110 at \$5, 14 lambs av 68 at \$6.50.

Hogs.

Receipts, 3,379. No hogs sold up to noon; will be 10@15c lower than on Wednesday; looks like \$6.90 for best.

Market 40c lower than last Thursday. Bishop, B. & H. sold Hammond, S. & Co. 2,650 av 170 at \$6.85, 200 av 200 at \$6.80, 150 av 225 at \$6.75, 50 av 400 at \$6.40.

Haley & M. sold Parker, W. & Co. 370 av 170 at \$6.85, 215 av 190 at \$6.80.

Spicer & R. sold same 470 av 170 at \$6.85.

Roe Com. Co. sold Sullivan P. Co. 425 av 170 at \$6.85, 225 av 190 at \$6.80, 123 av 200 at \$6.75, 170 av 210 at \$6.70, 32 av 240 at \$6.60.

Friday's Market.

March 31, 1911.

Cattle.

The run of all grades was light at the Michigan Central yards and everything was cleaned up early.

Receipts this week, 1,488; last week, 1,281. Market was full steady with Thursday on all grades.

We quote: Best steers and heifers, \$6; steers and heifers, 1,000 to 1,200, \$5.50@5.75; steers and heifers, 800 to 1,000, \$5@5.50; steers and heifers that are fat, 500 to 700, \$4.50@5; choice fat cows, \$4.50@5; good fat cows, \$4@4.25; common cows, \$3.25@3.75; canners, \$2.50@3.50; choice heavy bulls, \$5; fair to good bolognas, bulls, \$4.25@4.75; stock bulls, \$3.75@4; milkers, large, young, medium age, \$4@5; common milkers, \$2.50@3.5.

Veal Calves.

Receipts this week, 1,222; last week, 1,216. Market steady with the close on Thursday, but 25c lower than at the opening. Best grades bringing \$7.25. We quote: Best, \$7@7.25; others, \$4@6.75.

Sheep and Lambs.

Receipts this week, 4,924; last week, 7,396. Quality was not so good as on Thursday, but prices full steady, quality considered. Best lambs, \$6.50@6.75; fair to good lambs, \$6@6.50; light to common lambs, \$5@5.75; clip lambs, \$4@5.25; wethers, \$4.75@5.75; culls and common, \$3@3.25; best ewes, \$4.25@4.50.

Hogs.

Receipts this week, 7,331; last week, 6,037. Market opened up dull with packers trying to buy them at steady prices, but finally the Sullivan Packing Company took everything on sale at prices 5c higher than on Thursday.

Range of prices: Light to good butchers, \$6.85@6.90; pigs, \$7; light yorkers, \$6.85@6.90; heavy, \$6.40@6.75.

The Bureau of Animal Industry has done such splendid work in the extermination of cattle ticks during the past year that nearly 11,000 square miles of land have been released from federal quarantine against Texas cattle fever or tick fever by order of the secretary of agriculture. Dr. Melvin, chief of the bureau, says that stockmen should take up the eradication of the tick and cattle fever and give their vigorous support to the government officials as a means of improving conditions. Congress appropriates \$250,000 a year for this express purpose.

The dairy interests of the country are growing very fast, and the production of butter and eggs is greater than ever before. In the recent great cold storage fire in Chicago a million pounds of butter was burned up, yet butter prices were lowered immediately after, as the fresh

arrivals were extremely large. Eggs, too, are marketed in enormous quantities and are selling at unusually low prices, this tending to greatly stimulate their general consumption. To a remarkable degree cheap eggs, low-priced fresh pork and cheap mutton are lowering the sales of beef, for beef prices in retail markets are slow to decline as much as other meats and in a ratio with wholesale beef and cattle prices.

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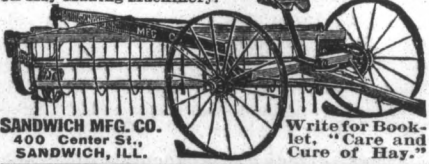
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Is a heavy yield, but that's what John Kennedy of Edmonton, Alberta, Western Canada, got from 40 acres of Spring Wheat in 1910. Reports from other districts in that province showed other excellent results—such as 4,000 bushels of wheat from 120 acres, or 33 1/2 bushels per acre. 25, 30 and 40 bushel yields were numerous. As high as 132 bushels of oats to the acre were threshed from Alberta fields.

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At the recent Spokane Fair was awarded to the Alberta Government for its exhibit of grains, grasses and vegetables. Reports of excellent yields for 1910 come also from Saskatchewan and Manitoba in Western Canada.

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HOME AND YOUTH

APRIL.

BY LALIA MITCHELL.

April woos the heart from sorrow,
Griefs unseen and fears we borrow,
With her trill of golden laughter
Under copse and roof and rafter,
Cheering hearts that long were troubled,
Halving sighs that once were doubled;

April woos the mind from worry,
Mad ambition, useless hurry,
With her face of jocund beauty
Whispers pleasure after duty,
Councils courage and resistance
And a merrier existence.

April woos the lips from frowning,
And the life with blessings crowning
Sets all feet with nature dancing,
Bending, swaying and advancing;
In each heart her mystic story
Tuning threats to songs of glory.

MOCCASIN MOSE.

BY WALTER SCOTT HASKELL.

An old Indian stood balancing on a log in the middle of a turbulent stream, while a lumber crew stood on either side of the water and watched his maneuvers.

The man on the log was Mose Keno, commonly called Moccasin Mose. The crew on the left bank were his camp mates, while the crew on the right bank were from a neighboring camp.

The reason that Mose was riding a log was because the camp had been flooded by heavy fall rains, all bridges had been swept from the stream, and there was no other means of reaching the opposite bank where a dry camp was waiting for them.

"He'll make it!" said one, confidently, as he watched the evolutions of the log-rider battling with the swift current.

Scarcely had the words left his lips when some floating object came swiftly down with the current and collided with the log on which Mose was balancing. The rider was precipitated into the raging stream and rapidly borne toward the falls.

The object that had floated down was plainly a cow moose, and both man and moose were destined to go over the falls, for no power on earth could stay the mad rush of the waters so near the cataract.

"God! he's gone!" cried the foreman, wringing his hands in despair.

They ran below the falls and looked for the body—there was no hope of his being alive after falling into that seething mass of raging water and being hurled against the rocks below the natural dam.

Vain search. There was no trace of man or moose, though both had gone over the falls, and both were somewhere in the undertow, probably whirling around and around in ceaseless watery graves.

There was nothing now to do but try to cross the stream higher up where the danger of shooting the falls would be eliminated. They did so, and succeeded in gaining the other shore by means of a raft. Then they went to the dry camp and discussed the accident that had deprived them of a valuable woodsman and an expert river-driver. They talked about it in subdued tones, and couldn't get over talking about it.

"It's the worst thing that ever happened in these Malen woods," said Elisha Baker, puffing on an old clay pipe.

"We'll all meet with some accident, now that this thing has happened. Troubles never come singly," mused a superstitious lumberman with a nasal twang.

"It's sad," said the boss, "but we can't help it. We must bear up under this, boys, and get to work mighty early in the morning and make up for lost time."

Night settled upon the tall pines and spruce, and weird shadows flitted here and there as the trees, swayed by the wind, intercepted the moon's rays. The boss went out for a look at the weather before retiring. The camp was close to the falls and he could hear the continuous roar as the water poured over the dam. Suddenly, above the roar of the falls he fancied that he heard a human voice calling "Help!" And it sounded to him like the voice of Old Mose.

The boss went back to camp and called out the crew, telling them what he had heard. Unable to account for it, except on the theory that it was Old Mose's spirit calling to them from the "happy hunting ground," they tremblingly went up and down the river, listening, but fearing to hear a repetition of the voice. They heard nothing, and after awhile returned to camp. They had just reached the door of the camp when the still night

was disturbed by the muffled sound of a moose calling, and it sounded exactly as though it was issuing from the falls.

"It's the spirit of the moose that died along with Old Mose," chanted a lumberman with dread solemnity.

The next day the crews took up their accustomed work of cutting and hauling logs to the river's bank. Although they did not talk much during the day, they thought a good deal. When night came they wended their way to camp and instinctively turned to look at the falls as they passed. Strange phenomenon! Smoke was issuing from the vapor above the falls. What could it mean? They looked long and earnestly, until the smoke died down and the falls assumed their accustomed appearance.

"It couldn't a been smoke," opined Sam Getchel, philosophically.

"Yes 'twas," declared Hennesy, of Old-town, "and I know it. This camp is doomed, with such witchcraft doings where Old Mose went down."

"Oh, you're a grandmother!" said a Yankee from New Hampshire, derisively.

"There is something strange in this seeing things over the falls," mused the boss. "If my old grandmother was alive she'd lay it to witches, and she'd apply the witch-killer formula that she learned me when I was a boy. Yes, grandma always did believe in witches and spirits."

"What is the formula?" asked twenty voices at once.

The boss looked surprised that his crew should manifest such interest in an old formula.

The crew went to camp but one subject led to another, and around and back again to the original subject.

"Say, boss! Give us the formula for laying the witches and evil spirits," said Perkins, from the Provinces.

"Well, you'll have to get around the table in a semi-circle and repeat the words as I say them," answered the boss, who indicated by his manner that he was not at all averse to performing the witch-cure act.

In a moment every chair had been slid up to the table and they began, with solemn faces, to repeat the chanting words after the boss. Between sentences each man gently tapped the table with his fore-finger. Then the boss said: "Be-gone, all evil spirits and witches, as we ravel out these stitches."

They each ravelled an old stocking while they said it. Then the last part of the chant turned into a demand on the spirits or witches to show themselves or forever remain silent. This was said in a defiant air, as much as to say: "We dare you to show yourself, you can't, for we have laid you."

"If there is yet a spirit that we have not laid,

Let him come and show himself, with his unholy shade,

Let him—"

The last words of the chanters ended in a shriek, for at that moment the door burst open and Old Mose stood before them, looking exactly as he looked when he went to his supposed death over the falls.

"What's the matter with you fellows?" cried the apparition.

"You're dead," answered one with his teeth chattering.

"No, I'm too young to die," said the supposed spirit. And they didn't see the humor of it until they recollected that Old Mose was 102 years old.

"What you all backin' away from me for, as though I was pizen?" again asked the ghost.

"You're dead," said the boss of the camp with his teeth chattering.

"I'll bet you a chew of tobacco that I ain't dead," said the Indian, a grin illuminating his stolid face.

"You ain't dead?"

"No."

"But you went over the falls—"

"So did the moose."

"How is this? We can't understand."

"Well, gimme something to eat and I'll tell ye the story," said Old Mose, looking hungrily at the stove where a pot of soup was boiling.

They gave the ghost something to eat, and it ate so naturally, and slobbered all over its face, just like the real Mose, that the crew began to have suspicions that after all it might be the real Mose instead of the ghost.

Here is the story that the ghost told them: "When I was pushed off the log by the moose, and we both went over the falls, we were whirled into the undertow and tumbled over and over until I was nearly strangled. Then I grabbed at something that proved to be a corner of the ledge that makes the dam. I drew

What Does It Cost To Operate An Automobile?

THAT depends almost entirely on the make of car you buy. The first cost of some cars is little and the operating, or second cost, is big.

¶ The logical and safe thing is to consider the second cost first, and the first cost last.

¶ In designing, in selecting material, in manufacturing Overland cars, we have spared no effort or expense to produce cars that will give utmost service at the least possible expense.

¶ That our policy is correct is amply proven by the unparalleled success of the Overland—the most economical car in the world both in first cost and second cost.

¶ There are now about one thousand Overland dealers. One of them wants the opportunity to prove to you by actual comparison and demonstration the full significance of the strong statement just made.

¶ Twenty-five thousand enthusiastic

Overland

owners will vouch for that statement in no uncertain terms. Below we reproduce one typical, unsolicited expression. We have purposely selected from the mass the letter of a physician, because, of all men, he is the one who must have an absolutely dependable, economical car for continuous service—summer and winter, day and night.

INDIANAPOLIS, IND.,

OVERLAND AUTO CO., TOLEDO, OHIO.

GENTLEMEN—When I talked of buying an automobile more than a year ago there was so many very important questions that no one was prepared to answer: They were concerning the upkeep of the machine. I have kept a careful tabulated account of my year's expense, and am glad to furnish you with this information.

With the exception of ten days' sickness last winter, my machine has been run as a physician runs a machine in his practice scattered all over the city, besides taking many pleasure rides of evenings and some Sunday rides to adjoining country towns.

My gasoline cost me for the year	\$59.67
Lubricating oil	8.65
Transmission grease	2.63
Anti-freeze fluid	3.25
Battery cells	4.25

This makes for the year an average of 21½c. per day for actual running expenses.

Other expenses, including all supplies and mending tubes, tires, patches, etc., as well as licenses and all expenses connected with owning a machine, cost an additional 23½c. per day, making a total of 45c. per day. I have not heard of any car that compares with the Overland in economy for upkeep.

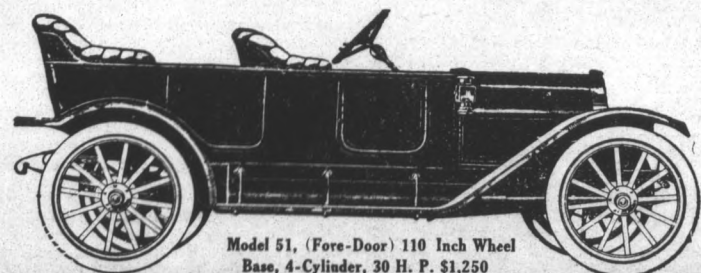
Yours for the Overland,

W. R. STEWART, M. D.

¶ It is, of course, impossible for any manufacturer to say how much it will cost an owner to operate his car. There is a wide range of difference in conditions and in drivers. The very nature of Overland manufacturing methods insures a car that must perforce be efficient, reliable and economical. We know from our own experiments and from the actual experience of Overland owners that it offers the greatest automobile value when purchase price is considered and that it can be operated and maintained at less cost than any car of similar rating. We make five models, all with high duty, quiet, four cylinder motors, from 20 to 40 horse-power. There are twenty-two body styles, priced from \$775 to \$1675. This car shown below is Model 51, with fore-doors and center control, that is to say, the shifting lever and emergency brake lever are inside the car in the center at the left of the driver. Notice on other fore-doors makes the levers are outside, proving that the body is patched up with the fore-doors to meet the latest ideas. Model 51 has a thirty horse-power, four cylinder motor that is a marvel of efficiency, quietness and reliability. Dual ignition, magneto and battery, 110 in. wheel base, seats five people, tires 34x3½ in., three speeds reverse and selective. Brakes internal expanding, external contracting.

Get in touch with the OVERLAND dealer nearest you and compare this car with others about this price. WRITE FOR CATALOG.

The Willys-Overland Company
160 Central Avenue TOLEDO, OHIO



Model 51, (Fore-Door) 110 Inch Wheel
Base, 4-Cylinder, 30 H. P. \$1,250

myself forward and got out of the swift water into an open space back of the falls. It's just like it is at Niagara, with a space back of the water that a person can stand up in and with some room to turn around. I saw the moose's leg fly past me and I grabbed it and drew the poor critter into the little house. She was so scared and conquered like that she licked my hand like any pet calf. And she allowed me to milk her, and I drank the milk, and would have fared pretty well, only the darned critter took a notion to bolt. She went right through the falls and scrambled out on the other bank. I see how she done it, and I followed suit. But I got an awful bump on the head gittin' over the rocks. Say, why didn't you fellows come when I holtered? And didn't you see me make a fire out o' driftwood an' some matches that I had in a water-proof safe, to attract yer attention, while I dried my clothes and took a smoke? Ye might a known I was under the falls. Where else could I be?"

With all this convincing argument the crew were finally forced to the conclusion that Old Mose in flesh and blood stood in their midst. Then there was some handshaking and congratulations.

"Ye had a purty narrow squeak," mused Gus Landers the story-teller of the camp; "but it don't compare wid the close shave I had onct wid a grizzly."

"Tell it," said the boys.

And the camp liar began his yarn.

A FRIEND TO ORPHANS.

BY JANET THOMAS VAN OSDEL.

You cannot be in the city of New Orleans long before you hear "Margaret" mentioned. In time you will grow curious and ask who this Margaret is. Then perhaps you will be taken to an open space, near one of the city's large orphan asylums, and shown the statue of a plain-featured woman seated in a rustic chair and holding against her heart a little child who stands beside her. They may tell you that Margaret was a house-servant, and a laundress, and a baker, and a milk peddler, and that will make you wonder, but then they will tell you why plain Margaret Haughery is simply and lovingly known as "Margaret."

She loved little children and gave her life, her active daily life, for helpless and bereaved children. She knew the loneliness of an orphan, for she had been one; she knew the agony of losing a dear husband for she had lost hers while she was still scarcely more than a girl; she knew the sorrow of having a little child taken from her, for hers had died. But instead of brooding over her own sorrows, Margaret longed to comfort others who had suffered and she opened wide her empty arms and sought to gather into them all the motherless children. But she was a very poor woman and uneducated. How could she help those she so longed to help? Nothing was too humble or too hard for her to do. She became a servant in the Poydras Orphan Asylum. Cooking, sweeping, laundry work all had their turn and in addition Margaret used her spare moments to go about the town soliciting contributions of clothing, food or money for the orphans. From one grocery store she wheeled to the asylum a wheelbarrow heaped high with groceries which she had taken from the store in reply to a jest from one of the firm who told her that she might have all the supplies she could get on a wheelbarrow, provided she would wheel it through the streets herself. She took him at his word and said she would gladly wheel a barrowful for the orphans every day.

Later Margaret opened a dairy, driving the milk wagon herself. In time she added to the dairy a bake shop and was often seen driving the bread wagon. Both the dairy and bakery prospered. From those who could pay for their goods, she exacted a fair price, but let the needy or suffering come to her and they might help themselves without charge.

Margaret's business prospered beyond her greatest expectations, but with the coming of prosperous days Margaret made no change in her simple style of living. She still wore her plain black skirt and loose-fitting waist, with a shawl about her and wool mittens on her hands in cold weather; in warm weather without the shawl and barehanded. She never had fine dresses nor gloves nor furs. She always said she could not afford them while there was so much suffering for lack of money in the world. But though she never had money to spend on herself, it became known when she died that she had spent \$600,000 on others. The three largest homes for orphans, as well

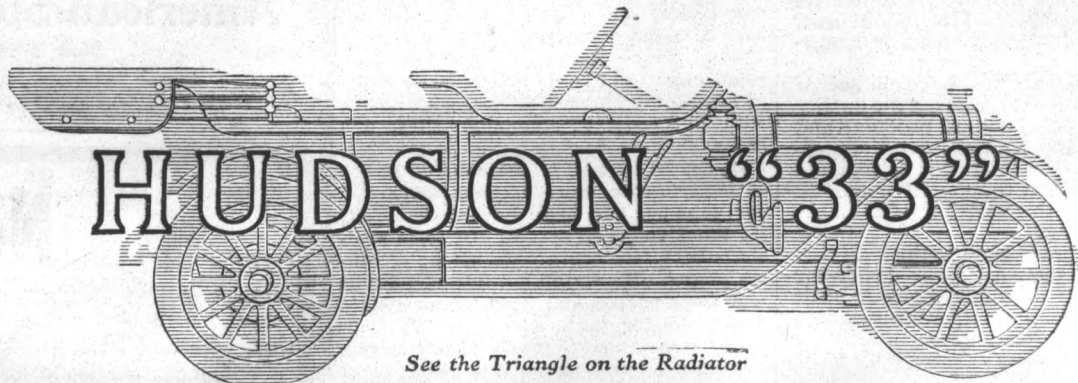
In This Car You Get Features Others Will Have Two Years Hence

THE HUDSON "33" with its dust-proof features, the elimination of parts and remarkable simplicity, set a new pace in motor car designing. It is an example which other makers are now following. They, too, are planning to bring out cars of simplicity, extra strength, greater power—providing the mechanical advantages that are now found only in the HUDSON "33."

SINCE it will be impossible to change the design and factory equipment and dispose of the present stock within one year, you will not find these features that are offered now on the HUDSON "33" on other cars much before 1913. Hence, this car is two years in advance of others.

THIS advertisement is not to solicit your order. It merely urges you to investigate the HUDSON "33." An examination, no matter how simple or complete you make it, confirms all that is suggested in our advertisements about the simplicity, quietness and extra value offered in this car. Wherever shown, it has been the favored model. Wherever demonstrated, it has won against every competitor, at its price. It is Howard E. Coffin's latest car—the first to express all that he has learned in building his other four famously successful models. The fact that he built it establishes it as a proven car.

The HUDSON "33" is furnished in three types: a Touring Car at \$1,400, a Pony Tonneau at \$1,450 and the Torpedo at \$1,500. These prices include complete equipment with dual ignition system, including Bosch magneto, mohair top, Prest-O-Lite gas tank, gas and oil lamps, tools, repair kit, etc. These prices do not include freight from Detroit.



See the Triangle on the Radiator

Hudson Motor Car Company
6037 Jefferson Ave., Detroit, Mich.

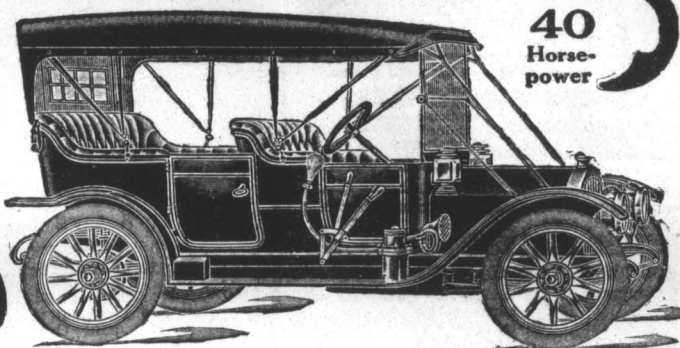
Pratt-Elkhart "40"

is the quietest, simplest and most powerful car in the "40" class. They are in use today in over half the States in the Union.

BACKED BY THIRTY-EIGHT YEARS' SUCCESSFUL MANUFACTURING EXPERIENCE.

Made in four classy designs; 117-inch wheel base, Unit power plant, three-point suspension, offset crank shaft, Bosch Magneto, 34x4-inch tires. List Price—\$1800.00. Top and wind shield extra.

We Want a Sample Car in Every Locality—Write for Catalog and very liberal proposition
ELKHART CARRIAGE & HARNESS MFG. CO., Elkhart, Indiana.



BUY THE LOWEST COST ENGINE

MADE. Lowest fuel cost; lowest up-keep cost; easiest on the machine it operates, delivering steadier power than any other gasoline engine, adapting it especially for operating farm machinery, with better results and least waste of grain. Lowest fuel cost for it runs on Gasoline, Kerosene, Distillate, Gas or Alcohol and has perfect lubrication. Lowest cost because it delivers greatest available power per horse. A slow speed, high duty engine. Starts easier and quicker than any other engine, occupies less space, is less cumbersome, with less vibration, therefore adapting it for either stationary, portable or traction use. IT IS THE POWER CONTRACTOR'S FAVORITE ENGINE. No engine made has so wide a range of use. YOU WILL MAKE A MISTAKE IF YOU DO NOT WRITE US FOR INFORMATION. 1½ H.P. to 5½ H.P. single cylinder. 6 to 20 H.P. two cylinder. 30 to 50 H.P. four cylinder. State your requirements and get our advice. THE TEMPLE PUMP CO., Manufacturers, 412 West 15th St., Chicago, U. S. A. This is our 58th year.



When You Want "Best" Quality At the "Right" Price, Buy the

"SUNBEAM" BRAND GOODS.

The goods that are guaranteed to be equal, if not superior, to any other goods on the market. All leading Michigan dealers handle the "SUNBEAM" line of

Harness, Collars, Implements, Trunks, Suit Cases, Cravenettes, Rubber Goods, Fur Coats, Saddlery Hardware and Horse Clothing.

Demand Our Goods of Your Dealer.

Brown & Sehler Co., Grand Rapids, Mich.

LIGHTNING RODS 8½c PER FOOT

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

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

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

HARVEY BOLSTER SPRINGS

Soon save their cost. Make every wagon a spring wagon, therefore fruit, vegetables, eggs, etc., bring more money. Ask for special proposition. Harvey Spring Co., 752-11th St., Racine, Wis.



LOGS WANTED—Walnut, Oak and Elm.
GEORGE L. MCCLURE, Detroit, Michigan.



Natives digging and loading asphalt at Trinidad Lake

All "asphalt roofing" is not Trinidad Lake Asphalt Roofing—there's a great big difference. Look out for that when you buy your roofing.

Ordinary so-called asphalt roofings are made of artificial products masquerading as real asphalt. They are nothing more than the residue from petroleum oil or native bitumens made into a black pitch, which is easily affected by changes in weather.

Genasco

the Trinidad-Lake-Asphalt Roofing

is made of genuine *natural* asphalt—perfectly stable and uniform in quality.

Trinidad Lake Asphalt is endowed by Nature with *natural* oils; and they stay in it. This gives Genasco its wonderful resistance to rain, snow, sun, wind, heat, and cold—and keeps it lastingly waterproof.

The artificial asphalts have oils *mixed* with them, but they haven't the quality of the oils in the natural product; and they soon evaporate and leave the roofing "dead"—and it cracks, breaks and leaks, although at the first it may look like Genasco, the real Trinidad-Lake-Asphalt roofing.

To make sure of roofing that will permanently protect, ask your dealer for Genasco, the Trinidad-Lake-Asphalt Roofing, with either mineral or smooth surface. Fully guaranteed.

The Kant-leak Kleet waterproofs the seams of Genasco Roofing without cement, does away with nail-leaks, and gives the roof an attractive finish. Ask your dealer for Genasco with Kant-leak Kleets packed in the roll.

Write for samples and the Good Roof Guide Book.



The Barber Asphalt Paving Company

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

Philadelphia

New York San Francisco Chicago



Scientific Rupture Cure

DON'T WEAR A COMMON TRUSS OR APPLIANCE



Dr. Appley's Scientific appliance—movable pads to conform to every kind of rupture, no matter how severe.

No under straps, springs or other annoying features. Worn with same comfort as an old pair of shoes. Call at office or write for booklet. Lady attendant for women and children.

APPLEY TRUSS CO., 48 Monroe St.
Grand Rapids, Michigan.

AGENTS Here It Is

POCKET SEWING MACHINE
That's what Ed Hopper calls it. Sold 97 in few days. He's pleased. Retail at 100% PROFIT. If you want a quick seller, one that gets the money easy, send now for confidential terms and FREE BOOKLET, "Inside Information on the agency business." A few hours a day means many a dollar in your pocket. Send a postal. A. MATHEWS 6245 Wayne Street, DAYTON, OHIO

PATENTS: For facts about Prize and Reward offers and Inventions that will bring from \$5000 to Ten Million Dollars, and for books of Intense Interest to Inventors, send 8c. postage to Pubs. Patent Sense, Dept. 89, Barrister Bldg., Washington, D.C.

WANTED FOR U. S. ARMY—Able-bodied, unmarried men, between ages of 18 and 35; citizens of United States, of good character and temperate habits, who can speak, read and write the English language. For information apply to Recruiting Officer, 212 Griswold Street, Detroit, Michigan; Heavenrich Block, Saginaw, Michigan; Corner 1st & Saginaw Streets, Flint, Michigan; Dwight Building, Jackson, Michigan; corner Huron Avenue & Quay Street, Port Huron, Mich.

Let Me Start You in Business!
I will furnish the advertising, matter and the plans. I want one sincere, earnest man in every town and township. Farmers, Mechanics, Builders. Small business man, anyone anxious to improve his condition. Address Commercial Democracy, Dept. D 30, Elyria, Ohio.

YOUNG MEN WANTED TO LEARN VETERINARY profession. Catalogue free. GRAND RAPIDS VETERINARY COLLEGE, Dep. 11 Grand Rapids, Mich.

as a home for old people, were established in New Orleans almost wholly through Margaret's efforts. At her funeral the whole city strove to do the simple woman honor, but most touching of all was the procession of children from eleven orphan asylums who mourned their loss of a true friend.

COMMON CENTS.

BY GLADYS HYATT SINCLAIR.

We are all interested in the new cents with their gravely smiling face of Lincoln. One can almost imagine him as constantly amused, this child lover, at the urchin's perennial willingness to run, scramble, dive, sweat or beg for a "penny."

Though "penny," being a bit of verbal flotsam left from the days of English money, is not a correct name for our least of coins, it is more commonly spoken than the right word, cent, which was adopted as meaning one one-hundredth.

The first cent was formally issued as money in 1793. It seems to have been very hard for our great-grandfathers to decide on a design appropriate to one one-hundredth—the next year fifty-six different kinds of cents were coined.

Most of the old-fashioned large cents issued before 1858 carried Liberty heads of various styles. Since then cents have borne eagles, stars, mottoes, wreaths, circles and flowers, each having its own date of coinage. Several patterns had milled edges; one had one smooth side; one had a hole in the middle; another a center of silver. There were big cents and very small cents, and cents middle-sized; cents of copper mixed with bronze, with nickel, with tin; cents of aluminum, silver and brass.

Of course, not all of these cents, struck as experiments, were adopted as part of our coinage, but there have been nearly 800 kinds regularly issued. Of some models only a few coins were made; of others, many. Nearly all got into circulation and were passed and accepted as money. Small wonder that, with over 780 kinds of true "pennies," people should accept anything offered under that name.

The early coined cents are valuable to collectors, the rarest of them being worth more than fifty thousand times their original value.

The first cents like those so long familiar to us were coined in 1864—so the Indian has been buying candy for many years. Was the original of this Indian really an Indian, or was the design modeled, as the story goes, from the head of a little white girl, Sally Longacre, wearing the head-dress of an Indian chief who came to visit the mint at Philadelphia, where Sally's father was engraver? The face does not look childish but it certainly looks feminine, and there are no Indian features except the high cheek bones.

A LIFE LESSON.

BY MILDRED M. NORTH.

How the wind howls! But yesterday 'twas blowing
So softly, and the sky was clear and blue;
Down by the brook I found some violets growing,
The birds were singing and the brook sang, too.

I cannot find the flowers; the birds go flying
With anxious twitter to some sheltered place;
The little brook like a hurt child is crying
And big cold raindrops dash against my face.

I could not know, nor did I guess how quickly
The clouds would come and shut away the light.
I scarce can find my way they hang so thickly
Across the sky that yesterday was bright.

Yet well I know the clouds will soon go flying,
The flowers will sweeter be because of rain,
Soon this rough wind, too, will be softly sighing,
Ere long the sky will all be clear again.

'Tis well, impatient heart, you should remember,
That sun and storms make up the passing years,
Life's days are not all March nor yet December,
May sunshine always follow April's tears.

As after storms and clouds, and rain and blowing,
The earth lies sweet and fresh beneath June's sky,
So through life's tears and trials trust God, well knowing
He will bring sunshine for you by and by.



Heavy Fence For Economy

WOVEN-WIRE FENCES must be heavy as they have to turn animals by sheer strength of the wire. A fence with barbs is protected from excessive pressure because the animal fears the barbs. Remove the barbs and the greatest strength of the animal is thrown upon the fence. Its wires must be larger and stronger. To have a long-life woven-wire fence the fence must be heavy.

AMERICAN FENCE

is a thoroughly galvanized square mesh fence of weight, strength and durability. Large wires are used and the whole fabric is woven together with the American hinged joint (patented)—the most substantial and flexible union possible. Both wires are positively locked and firmly held against sideslip and yet are free to act like a hinge in yielding to pressure, returning quickly to place without bending or injuring the metal.

Dealers Everywhere—Stocks of American Fence are carried in every place where farm supplies are sold. The Fence is shipped to these points in carload lots, thereby securing the cheapest transportation, and the saving in freight thus made enables it to be sold at the lowest prices. Look for the American Fence dealer and get the substantial advantages he is enabled to offer. He is there to serve the purchaser in person, offer the variety of selection and save the buyer money in many ways.

FRANK BAACKES, Vice President and General Sales Agent

American Steel & Wire Company

Chicago

New York

Denver

San Francisco

Send for copy of "American Fence News," profusely illustrated, devoted to the interests of farmers and showing how fence may be employed to enhance the earning power of a farm. Furnished free upon application.

No hill too steep No gully too deep

It takes absolutely equal length of line wire and knot of proper construction to make wires fence climb a hill and do it right. You can be sure of wire that is measured and cut with precision and woven by accurate machines when you buy

Jackson Fence

Guaranteed Full Gauge Hard Steel Wire

Insist on Jackson. If you cannot get it at your town write us. Send anyhow for the Jackson Fence Tool Free and particulars of our big prize photograph contest. \$50 in gold in prizes. Use this coupon or write.

JACKSON FENCE COMPANY
Box 14, Jackson, Mich.

Dealers:—Our double-barrelled selling plan for 1911 will increase your sales. Write and ask about it today.

FREE TOOL COUPON
Jackson Fence Co., Box 14, Jackson, Mich. Tell me about photo contest and send me a Jackson Fence Tool free. I expect to use _____ rods of fence _____ in. high this spring
I trade at _____ (town)
Name _____
P.O. _____ County _____
R.F.D. _____ State _____

FENCE For Lawns, Churches, Cemeteries, Public Grounds, 100 Patterns. Write for special offer and our free handsome Pattern Book. **THE WARD FENCE CO., Box 943 Decatur, Ind.**

STAR FENCES COSTS NOTHING
to find out about our fences. Guaranteed in every respect. Best quality wire used. Easy to erect. Allowance for expansion and contraction. See our crimp. Nothing like it elsewhere. Write for Free Catalog.

Dwiggins Wire Fence Co., 212 Dwiggins Ave., Anderson, Ind.

13¢ Cents a Rod
For 18-in. 14 3/4-in. for 22-in. Hog Fence; 15¢ for 26-in.; 18 3/4-in. for 32-in.; 25¢ for 47-in. Farm Fence. 48-in. Poultry fence 28 1/2¢. Sold on 30 days trial. 80 rod spool Ideal Barb Wire \$1.45 Catalogue free. **KITSELMAN BROS., Box 278 MUNCIE, IND.**

WHITE WIRE FENCE
and gates. For lawns, gardens, parks, cemeteries, etc. Inexpensive, but neat, durable and effective, made of No. 9 galvanized crimped wire and coated with a special white paint. Shipped in rolls any length, any height. Booklet on request. **THE ACME WIRE FENCE CO., 638C ATWATER ST., DETROIT, MICH.**

P. & B. Fence Anchors
Keep hogs from going under wire fence. Hold fence down in crossing depressions. Protect stock from lightning by ground connection. Hold in any soil. By their use you can set your **Posts 35-40 Ft. Apart** Simple, cheap, easy to use. No digging necessary. Special driving tool free with orders of 100 or over. Ask your dealer or write to **J. M. PEEL & BRO., Box 102 Marysville, Ohio**

BROWN FENCE
STOUT—STRONG—DURABLE—CHEAP
Brown Fences will outlast any other because of heavier wires and thicker galvanizing. Investigate before you buy. 160 styles for all purposes. **Bargain Prices—14¢ Per Rod Up** delivered at your railway station. Send today for catalog and free sample for test. **THE BROWN FENCE & WIRE CO., Dept. 49 CLEVELAND, OHIO**

FENCE Strongest Made
Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37' height of farm and poultry fence. Catalog Free. **COILED SPRING FENCE CO., Box 21 Winchester, Indiana.**

FARMERS' CLUBS

Address all communications relative to the organization of new Clubs to Mrs. C. P. Johnson, Metamora, Mich.

Associational Motto.—

The skillful hand, with cultured mind, is the farmer's most valuable asset.

Associational Sentiment.—

The farmer, he garners from the soil the primal wealth of nations.

CLUB DISCUSSIONS.

Hold Club Institute.—The Looking-glass Valley Club has held two bumper meetings, both in quantity and quality. In February an all-day institute was held at the home of Chas. Ingalls, with an attendance of 94. A. B. Cook, of Owosso, was the speaker of the day and many and profitable, as well as practical, were the pointers he gave concerning "Beans as a Money Crop," and "How to Maintain Soil Fertility." Reports by Club members gave the cost per acre of raising beans as between \$15 and \$17, while the profits per acre were about \$5, this being a short bean year in Watertown.

Annual Oyster Dinner.—The March meeting was the annual oyster dinner held at Woodman hall in Wacousta, with an attendance of 100. Reports were given on clover seed and sheep, the former netting \$24 per acre and the latter a profit of \$3 per head. The year's work will close with a sugar social in April. Next year the Club has voted to put on a lecture course of four numbers, also to hold a Fourth of July picnic. The meetings are holding out in attendance and interest, and are proving of great benefit to the community.—Bel Maier, Reporter.

Oppose Reciprocity.—The March meeting of the Salem Farmers' Club was especially good, a large number being in attendance. Met at the pleasant home of Mr. and Mrs. Frank Huff. Fine music by our male quartette, and a general interest in timely topics was shown by all the members, rendered this an interesting meeting. A resolution was passed putting the Club on record as utterly opposed to reciprocity with Canada, so-called. They considered it a very one-sided affair and a letter was sent to Congressman W. Wedemeyer showing him the views of the Club on the subject. A select reading was given by Miss Carrie Roberts and an enjoyable recitation by Ruth Ross. Mrs. John Munn, in place of her husband, gave a report of the last day at the State Association, it having been postponed from the February meeting. The Club expressed its sorrow in the loss of one of its charter members, always very active and for four years its president, Mr. Tid Walker. Also his beloved wife, both having passed away in one week. Mr. and Mrs. Daniel Smith and Mrs. John Munn were appointed a committee to draft resolutions for the Club. Some remarks of interest to every farmer were made by the president. He also requested several members of the Club to bring a dozen ears of their favorite seed corn to the next Club meeting. Several new members were received. Club adjourned to meet with Mr. and Mrs. Wm. Naylor, April 5.—Cor. Sec.

Organize a New Club.—March 10th a few farmers met at the home of Mr. and Mrs. O. S. Howe, in Allegan county, and organized a Farmers' Club, to be called The Clover Leaf Club, and to meet every second and fourth Wednesday in the month. On March 22 the Club met again at the home of Mr. and Mrs. O. S. Howe and after the order of business was over listened to a fine program. While partaking of light refreshments, different subjects were ably discussed, a very social time was enjoyed, and we hope in the future our meetings will be instructive and prove beneficial to all interested. We extend a cordial invitation to all.—Cor. Sec.

Discuss Local Option.—The Norvell Farmers' Club held its April meeting at the town hall. On account of a small attendance in the forenoon it was thought advisable to postpone the election of officers until our next meeting. At 1:30 the meeting was called to order by President C. P. Holmes and was opened by prayer by C. H. Heaton. Having present with us Captain Hatch and Rev. Smits, of Jackson, it was decided to give the meeting over to them. The question for discussion was the local option issue. Both speakers gave very interesting talks on the subject. There did not seem to be any present to take the "wet" side of the question although the invitation was extended. After a rising vote of thanks to the speakers and friendly hand shaking they departed for Jackson in an auto awaiting them.

Oppose Reciprocity.—The meeting was again called to order and Mr. Halladay and others went on with the discussion. The reciprocity bill was talked of by Mr. Halladay and others, and after some discussion the following resolution was adopted: Resolved, That the farmers of Norvell are opposed to the reciprocity bill with Canada and ask our representatives in congress to defer its adoption. The secretary was advised to send copies of this resolution to our representative and senator. A petition against the Fitzsimmons bill was circulated for voters to sign. The general opinion was that the passing of the bill would bring about conditions which we do not want. The Club adjourned to meet with Mr. and Mrs. V. Roberts, April 29.

GRANGE

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

THE APRIL PROGRAMS.

State Lecturer's Suggestions for First Meeting.

"The springtime treasures I bring to you are brightest of all the year."
Song or recitation, "Spring Song."
Home Nursing—First Aid to the Injured.
Music.
Recitation, "Dar's a Warm, Warm Wind."

The "One Improvement Club."
Legislation Favored by the Grange—1. Thus far secured in 1911. 2. Still to work for.

Easter millinery competition.
Closing song.

Suggestions for Second Meeting.

"How dear to his heart is the little farm garden,
My congressman pictures with laudable skill."

Song, led by Grange chorus.
Is the distribution of seeds by the government a graft?

Recitation, "Government Seeds."
Report of "The One Improvement Club."

Feed and Care of young chickens.
Roll call, responded to by each man showing a seed potato or ear of seed corn as nearly like his ideal as possible to find, and each woman showing a piece of fine sewing.

Song by Grange chorus.

AMONG THE LIVE GRANGES.

Transportation Rates and Facilities monopolized the attention of Grand Traverse Pomona Patrons at their recent meeting at Summit City. Bro. D. H. McMullen brought up the question of the freight discriminations that are being practiced by all the railroads in the state, and it was the general impression that it is time that something is done to bring the roads to the point of seeding that it is for their own interests as well as the interests of the region that a more equitable basis and treatment be adopted. When the resolutions that had been prepared by the board of trade and local business organizations were presented they were adopted unanimously, every member of the Grange being interested in securing fair rates from this region to the leading market centers. In the evening a program of recitations was given, and Wilbur F. Taylor, deputy state master, gave an address upon Grange work that was very much appreciated. Six out of the ten Granges in Grand Traverse county were represented during the afternoon and evening.

Emmet Pomona held its first meeting of the year with Bear Creek Grange on March 10. Officers for the year were installed as follows: Master, Frank Stock, Bear Creek; overseer, Adelvert Carpenter, Harbor Springs; lecturer, Mrs. Geneva Leveck, Petoskey; steward, John Swift, Harbor Springs; asst. steward, Elliott Maxwell, Epsilon; chaplain, Mrs. Catherine Jackson, Harbor Springs; treasurer, William Morris, Harbor Springs; secretary, A. L. Fennimore, Resort; gatekeeper, R. T. O'Reilly, Brutus; Ceres, Mrs. A. L. Fennimore, Resort; Pomona, Miss Emma Anderson, Bear Creek; Flora, Mrs. Mary Bechtel, Brutus; lady asst. steward, Mrs. Ida Maxwell, Epsilon. More than 70 Patrons were in attendance and a class of nine was given the fifth degree. The discussions of measures for recovering members who have ceased attending brought out some helpful suggestions. Recitations and talks by members were largely along temperance lines. A committee was appointed to secure prizes for the corn contest which the Pomona will conduct this season.

Fruit and Garden Topics were discussed by Ithaca Grange at its regular meeting on March 12. A supply of lime-sulphur solution for San Jose scale was ordered and several members ordered spray pumps. Bro. Glenn DuBois, of Charlevoix Co., was present and described the fine fruit grown in his county, especially apples. He said they did not have high color but had flavor and keeping quality that no other apple in Michigan had, and he thinks it due to thorough spraying. Bro. Cowdrey told why garden peas were sometimes wormy. He said that a fly stings the pods and if peas are at the right stage they will be wormy. It may be the very early ones or may be the later ones, so there is no certain time to plant to escape the fly for it all depends upon the weather. By planting every two weeks in early spring and summer it is probable that the peas from only a single planting will be affected.

More Intensive Culture, or a better knowledge of how to handle the land already in the possession of the average farmer, was the answer given by the members of Arcada Grange, Gratiot Co., to the question, "What does the farmer need most, more land, more labor or more education?"

COMING EVENTS.

Pomona Meetings.
Cass Co., with Wayne Grange at Wayne town hall, Saturday, April 8. J. C. Ketcham, state speaker.
Van Buren Co., Thursday, April 13.
Allegan Co., Wednesday, April 19.



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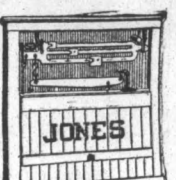
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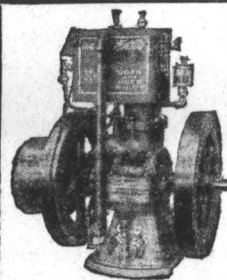


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30 PONIES AND THE BOYS AND GIRLS WHO GOT THEM FREE

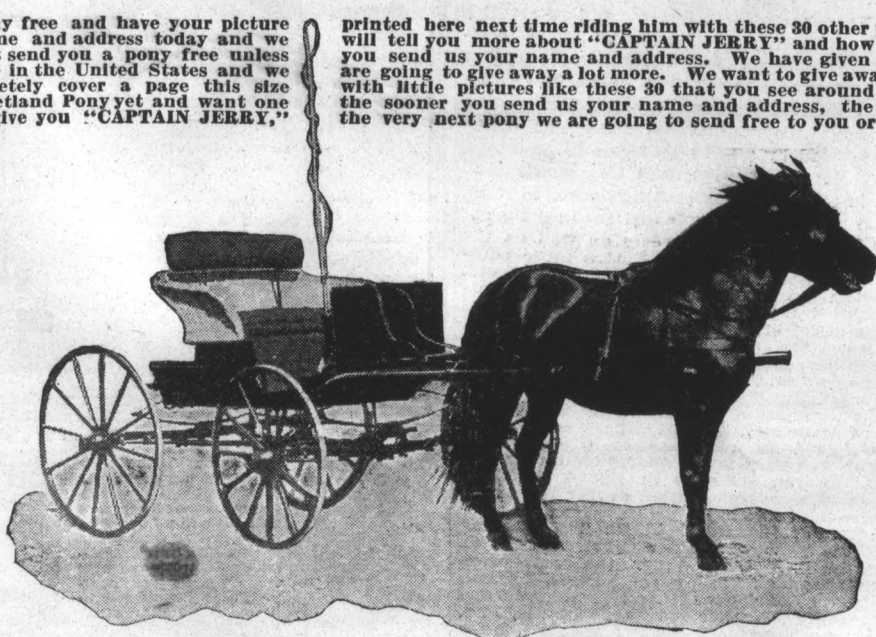
Notice we print the photographs, names and complete addresses of the whole 30 Ponies (count them) and the boys and girls who won them, which we wouldn't dare do if it wasn't true we give away real live Shetland Ponies and complete outfits. If you write these boys and girls (be sure to enclose a two-cent stamp for reply) they will tell you how lovely their ponies are, how easily they won them and how fairly we treated them. None of these boys or girls can compete for "Captain Jerry" (which we are going to give to you or some other boy or girl as explained below) because we wouldn't want any one child to win two ponies and it gives you a much better chance to get him.

ANOTHER PONY FREE With Complete Outfit Shown Below

If you want a pony free and have your picture to send us your name and address today and we for him. We can't send you a pony free unless any other publisher in the United States and we can just completely cover a page this size if you haven't a Shetland Pony yet and want one stand of having us give you "CAPTAIN JERRY,"

"Capt. Jerry"

is a fine, three-year-old, coal black Shetland Pony, 43 inches high and weighs about 300 pounds. He's the cutest and prettiest little pony you ever saw and just as gentle and clever as can be. He dearly loves children and is the dandiest chum you could possibly desire. We have owned lots of ponies but never one you would like to own better than "Capt. Jerry." He is a fine driver and can haul a wagon-load of youngsters along at a merry clip. If you send us your name and get him everybody in town will envy you and will run to the door and say: "My isn't that the prettiest little Pony Outfit you ever saw?" And you would be the happiest child alive if "Capt. Jerry" was yours, and just think of the fine times you can have taking your friends driving all around, and to neighboring towns, and to church, and to school, and to the post-office and everywhere. Read this page through carefully and then send your name and address to us for you can win it if you try.



WOULDN'T YOU LIKE TO DRIVE TO SCHOOL IN THIS OUTFIT?

a more desirable pony outfit then this one which we are going to send free and pay all freight and express charges. This is surely the best chance you ever had to get a Shetland Pony, so if you haven't one and would like to have us give you this one, send us your name and address right now.

The Outfit

And best of all we send free with "Captain Jerry" the complete Pony Outfit as you see it in the picture. The pony-wagon is just the best we could buy for our purpose. We have given away so many that we know exactly what kind most boys and girls like. The handsome black harness with nickel trimmings looks just fine on "Captain Jerry." The riding bridle is imported and the saddle we had made to order for "Captain Jerry." And we send a handsome English driving whip, not to use because we know you wouldn't whip "Captain Jerry" for he will trot just as fast as he can if you simply ask him to, but this whip makes the outfit all complete. No child, no matter how rich his parents may be, owns



"Teddy," George Cooper, St. Cloud, Minn.



"Trixie," Frank Harris, Billings, Mont.



"Daisy," Leta Hainline, Orient, Ia.



"Bonnie," Amyle Kafer, Gildlen, Ia.



"Jack," Bernice Harvey, Creston, Ia.



"Prince," Norris Nupson, Preston, Minn.



"Sonny,"

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Our ponies are given away so quickly that you will stand a better chance to get this one if you sit right down and write us a letter or a postal card or send the coupon opposite filled out with your name and address (either way will be all right). Any boy or girl who can drive a pony can become a contestant for "Captain Jerry."

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The Farmer's Wife, 323 Webb Bldg., St. Paul, Minn. Please send me Certificate of Entry, and pictures of "Captain Jerry" and tell me how to take care of Shetland Ponies and feed them. I haven't any Shetland Pony and want to own "Captain Jerry."

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"Jim,"

"Sonny,"

These three ponies were given away March 27. Winners announced April 3, 1911