

KANSAS FARMER

FOR THE IMPROVEMENT



OF THE FARM AND HOME

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MOST potent of all single influences in the building of this, the mightiest nation in history, is the cow. Her sons drew the plows which first cultivated the land of the new world; hauled to market the products of the field, and with slow energy, moved the chattels and household goods beyond the mountains to new homes in the farther west.

They supplied the beef which is the food of the Anglo-Saxon, a race that was never conquered since history began. They furnished the shoes of the pioneers who trod the unknown wilds and made of them the farmsteads and cities of our present enlightenment. They gave the clothes and robes to protect the pioneer against the destroying blasts of winter and made commerce possible before the railroad was. They covered the chair upon which he sat, filled the mattress upon which he slept and glued together the furniture he used.

The old cow is the mother of the whole bovine and foster mother of half the human race. From the roadside weed she manufactures the most nourishing of human foods. She is the ready aid of the farmer, the pet of the rich man and the ever present help of the poor. She is the economist of the people and the conservator of their resources. She partakes of the grass of the field and leaves the farm the richer for her presence.

As she helped to develop the farm from the wilderness and as she ate of its first fruits, so she will renew the life of the soil and make a still greater agriculture possible.

In all our history the cow has been man's closest friend and benefactor. Upon her products are built the great business interests which center in the stock yards, the creameries, the shoe factories, the harness shops and the mills. Without her Chicago would be a village and Kansas a prairie waste.

Take away the cow and our banks would close, our graveyards yawn and the wheels of commerce would cease to turn. Foster and care for her and business flourishes, the fertility of the soil is conserved and she becomes the custodian of the Nation's prosperity.

I. D. GRAHAM



Before you buy a Cream Separator See and try a DE LAVAL

IS THERE ANY DOUBT IN YOUR MIND as to which cream separator will give you the most satisfactory service and be the most economical for you to buy?

Here is a proposition that should interest you.

Ask our nearest agent to bring a DE LAVAL out to your house and set it up for you. (If you don't know the DE LAVAL agent drop us a line and we will give you his name and address.) Try out any other separator you wish alongside of it. Give them both a fair, honest trial. Then buy the machine that

Skims the cleanest
Turns the easiest
Is easiest to wash
Is best constructed

If there is any doubt in your mind when you make this test as to the comparative skimming of the two machines, take a sample of skim-milk from each separator and send it to your State Experiment Station. They will tell you which sample contains the most butter-fat.

We sell thousands and thousands of cream separators every year upon just such tests.

We don't hesitate to ask you to make such a test because we know the DE LAVAL will skim cleaner and give you better service than any machine on the market. That's why we are perfectly willing to let you try it out alongside of any "would-be" competitive machine ever built. Our willingness to have you make such a test should mean more to you than volumes of printed claims.

Give your cows a square deal. Be fair to yourself. If there is any one farm machine that should be of the very best possible construction it is the cream separator. It is used oftener than any piece of farm machinery—730 times a year—and the very best machine that you can buy will be far the cheapest in the end. You have always heard the DE LAVAL spoken of as a high-grade machine. All DE LAVAL users are DE LAVAL "boosters," because it always "makes good."

DE LAVAL cream separators are made in all sizes and capacities, from a 135-lb. an hour machine that sells for \$35 to a 1,350-lb. machine that sells for \$160.

DE LAVALS are made to run by hand, or can be furnished with attachments for operation by various kinds of power.

We have agents in almost every locality who will be glad to set the machine up for you and give you a free trial, and we have an arrangement with our agents whereby a purchaser, if he desires, may make a partial payment at time of purchase, and pay the balance on easy terms covering a period of twelve months.

If you are interested in the purchase of a cream separator, be sure to write for our new catalog which illustrates and describes in detail the features which have made the DE LAVAL the universal favorite among dairymen all over the world.

In writing please address your inquiry to nearest De Laval office.

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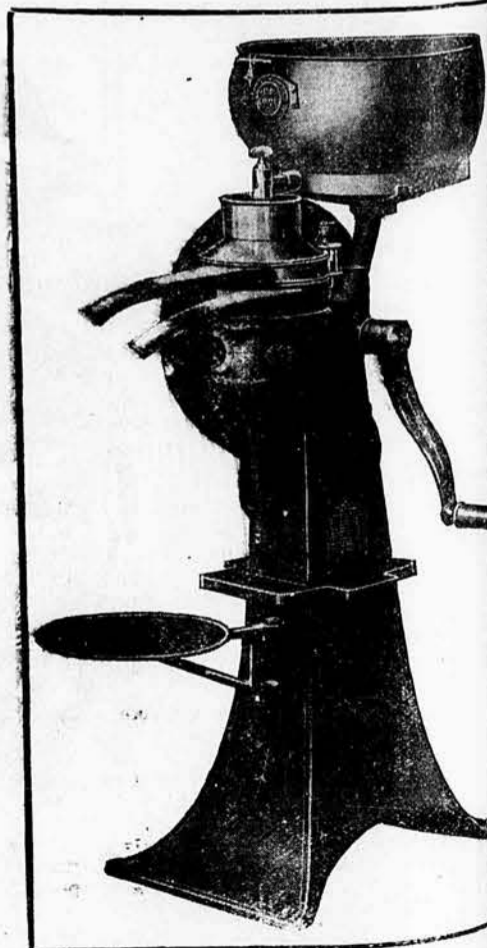
Ten years ago there were a dozen different makes of creamery or factory separators in use. Today over 98 per cent of the world's creameries use DE LAVAL separators exclusively.

It means a difference of several thousand dollars a year whether a DE LAVAL or some other make of separator is used in a creamery.

Exactly the same differences exist on a smaller scale, in the use of farm separators. Owing to the fact, however, that most farm users do not keep as accurate records as the creamery man, they do not appreciate just what the difference between a good and a poor separator means to them in dollars and cents. Nine times out of ten the farmer can't tell whether or not he is wasting \$50 to \$100 a year in quantity and quality of product through the use of an inferior cream separator.

Now, if you were in need of legal advice, you would go to a lawyer. If you were sick you would consult a doctor. If you had the toothache you would call on a dentist. Why? Because dentists, men are all specialists in their line, and you rely upon their judgment and skill. When it comes to buying a separator why not profit by the experience of the creameryman? His experience qualifies him to advise you correctly. He knows the separator will give you the best service and the most economical for you to buy. That's why 98 per cent of the world's creameries use the DE LAVAL exclusively.

There can be no better recommendation of the DE LAVAL than the fact that the men who make the separation of milk a business use DE LAVAL to the practical exclusion of all other makes.



KANSAS FARMER

EDITORIAL

AN ACRE BUYS MORE.

Some of the most valuable statistical matter that is compiled in this country is to be found in the various reports issued by the United States Department of Agriculture. Some figures recently supplied by that institution give interesting comparisons between the purchasing power of an acre of wheat or corn in 1899, as compared with 1909. These figures show that the value of an acre of farm crops, based on an average of ten leading products, increased 72.7 per cent during that ten year period while the implements, household goods, wearing apparel, staple groceries, hardware and other things which the farmer must buy advanced only 12.1 per cent in that time. This leaves a difference in favor of the farmer. The table further shows that the value of one acre of corn would purchase 481 pounds of barbed wire in 1909 as compared with 287 pounds in 1899. Almost the same figures would apply to nails, while wire fencing could be bought at the rate of 42.2 rods for one acre of corn in 1909 and only 25 rods in 1899. Binding twine showed 156.1 pounds for 1909, as compared with 93.9 pounds in 1899. In articles of household use it required the value of 2.3 acres of corn in 1899 to purchase a cook stove, while ten years later 1.4 acres would do it. At the beginning of the period mentioned 11.8 acres of corn were necessary to buy a manure spreader, while at the end only 6.8 acres were necessary. The purchasing power of one acre of corn at the beginning and end of the ten year period for some of the household necessities was as follows: Coffee, 1899, 49.5 pounds, 1909, 80.4 pounds; flour in barrels, 1.8 at the beginning of the decade and 2.4 at the end. In other words, if 100 were used as the value of the purchasing power of the average of the different farm crops in 1899 these same crops would have a purchasing power in 1909 as follows: Manure spreaders and mowers, 168; plows, 162; harrows, 153; double wagons, 152; cream separators, 190; barb wire, 162; woven wire fencing, 163. If 100 represented the purchasing power of the value of one acre in 1899, the average for 1909 applied to all the articles in a list of 85 selected for comparison, including all commodities bought by the farmer, then corn in 1909 would have a purchasing power of 160, wheat of 191, and the average of all crops of 154.

Twenty-five or thirty years ago practically every farm had its orchard and from this was derived not only a considerable revenue, but a delicious change of diet which was appreciated by every member of the family. It is a scientific fact which has long been known to experts but which is only coming into the knowledge of some people, that any great extension of the food supply of insects or birds tends to the increase of such pests. With the great wheat fields of Kansas came a multiplication of the chinch bug, which was not known here before that time. With the miles of growing corn came the root worm and other insect pests previously unknown. With the planting of orchards generally over the state came the increase in their insect foes. Lack of care of these orchards, and in many cases lack of knowledge, has resulted in their deterioration or utter destruction. Now, the San Jose scale has secured a hold in the state and seems difficult of eradication. It will never be eradicated unless prompt and effective measures are taken and these are best taken in the winter season. Application of the sulphur spray, applied during the dormant state of the trees, is the only remedy that has yet been discovered which is efficacious. In strong solution this should be used in the winter season, though it may be used in a dilute form for the destruction of larvae which appear on the trees in July and August. This spray is also efficient as a fungicide, though some people prefer to mix with the old Bordeaux mixture in the belief that they insure the best results. For biting insects arsenate of lead may be used with the lime sulphur spray with best results.

With which is combined FARMER'S ADVOCATE, established 1877.
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KANSAS FARMER COMPANY, TOPEKA, KANSAS.

A KANSAN DID IT.

The United States Department of Agriculture is the greatest educational institution, along agricultural lines, in the world. Its development has been rapid in the last few years. It has kept more closely in touch with the needs of the people than perhaps any other department of the Government. The vast amount of good it has accomplished, the real educational work it has performed and the rapid growth it has made have been due primarily to the efficiency of two men. Secretary Wilson at the head of the Department has read the needs of the people, the advancement of agricultural knowledge and the development of modern methods as none of his predecessors was able to do. His work, however, would have fallen far short of the results attained and those aimed at but for the able and efficient service rendered in another branch of the Government by another man. That man was a Kansan and to him, as to few other men in public life today, is due a mead of praise from all Americans who are interested in the agricultural development of the country, such as has not been earned by many men.

Hon. Chas. F. Scott, for many years a member of Congress from Kansas, and for the last decade the chairman of the House Committee on Agriculture, will have reason to be proud of the record which he has made when he leaves the House of Representatives at the close of his present term. Not only has the Department of Agriculture been increased in efficiency by reason of his work in the House of Representatives, but the agricultural interests of the country have been better conserved, the progressive legislation in behalf of the farmers more advanced, and restrictive measures for their protection rendered more effective by the activities, sound judgment and good sense of Representative Scott of Kansas.

His record has been such that it has been generally conceded throughout the country that, should Secretary Wilson desire to retire from his office on account of advancing years, no better or more capable man could be found in the whole country to carry on the work which he has so advantageously begun than Hon. Chas. F. Scott. Such men are all too rare in public life and surely his state if not the nation, will have need of him in the work of conserving and fostering our greatest industry.

It would seem strange if the ordinary farmer were to try to sell his farm by the acre. Does it seem any less strange that he should sell it by the wagon load, as is true when he does grain farming only? Don't haul your crops to market; drive them on the hoof.

MORE FREE SEEDS.

Congress will appropriate \$289,680 this year for a continuation of the free seed graft. This is done in the face of the fact that the Secretary of Agriculture has protested against it as an unnecessary burden upon his department which is neither appreciated nor wanted by the people. It is done in spite of the fact that the people have protested through their congressmen, their granges, their institutes and their farm papers against it. It is done in spite of the fact that congressmen, who are the only beneficiaries, do not want it and it is done in spite of the annual deficits reported in the Postoffice department which has to bear the burden of the free distribution of this seed and without which there would probably be little or no deficit.

The people don't want these free seeds, don't ask for them and don't plant them. The original purpose of the free seed distribution was to secure the testing of new and untried varieties by farmers in various sections of the country, and thus determine their adaptability to our soils and climates, but in practice it has worked out as a donation, by the government, of the common, ordinary farm and garden seeds which are bought from seed dealers in carload lots and distributed at an expense of seven months of time and three-fourths of the clerical help of the entire department.

If the postal department were relieved from the cost of distributing these wholly valueless free seeds and if it were allowed to charge for the matter carried under the franking privilege for other governmental departments and officers, there would not only be no deficit but an actual profit and a big one at the end of each year.

"The wettest February on record" is the gratifying statement made by numerous people whose memories do not cover the whole record but who are duly thankful for the drouth-breaking downpour. Many sections of the southwest have not had rain for some time and, in some places this has caused much trouble and expense for stock water. During this dry period the crop killers have been busy with their "reports" on Kansas conditions, regardless of the fact that other states have also had the dry spell and have suffered worse. Advices from the state generally and more particularly from the wheat belt, serve to show that the prospects are exceptionally good. Wheat, which was retarded by dry weather, is now showing up in good condition and present indications point, so far as they can point at this time of year, to a good crop. Our crop killers get scared easily but they have plenty to eat just the same.

THE SEVENTEEN YEAR LOCUST.

According to the daily papers much apprehension is being felt by people in different localities of the United States because of the current report that 1911 is the year for the regular appearance of the seventeen year locust. There need be no apprehension whatever and for several reasons. In the first place, the insect in question is not a locust at all, but a cicada, nearly akin to the common cicada or "dog day fly" which we hear buzzing in the trees every summer. Formerly a great deal of superstition attached to the appearance of the seventeen year locust, and predictions of war, pestilence and scourge were freely indulged in. Apparently it was not remembered that none of these things ever came true.

It was also believed that the appearance of this insect in such enormous numbers would bring devastation to crops and trees, though it is now well known that the male insect never takes any food at all and the female dies as soon as she deposits her eggs. The larvae of this insect is said to be the longest lived of any known to entomologists. After the eggs are deposited by the female in little punctures made in the bark of trees by the saw like ovipositor, the young hatch out shortly and fall to the ground where they dig down to the roots of the tree and insert their beaks into the roots and there remain, feeding on the sap for sixteen years. The real damage which they do is done during their period of life underground, and when they show above the surface in their winged form, they are beyond the power of doing any material harm.

They do not appear all over the country at one time. The entomologists of the Department of Agriculture have located about thirty centers of population for this insect and their appearance in each of these does not coincide. They may appear in one year in New Jersey, another in California, and still another in the corn belt states. They are entirely harmless after they emerge from the earth but are splendid poultry food. The farmer who can stock up with a nice bunch of turkeys this spring and then grow a good crop of cicadae is pretty sure of profits this fall.

TEST THE SEED CORN.

Too much emphasis can not be laid upon the necessity for a careful inspection and testing of the seed corn this spring. The vagaries of the last season were such that corn is very uneven in its quality, even in those localities where apparently good crops were produced. This gives rise to special necessity for careful testing of the corn before it is planted, and this testing should be made only after the corn has had an opportunity to become thoroughly free from frost and remain so for several days prior to the testing.

Much seed corn will probably have to be purchased this spring, and in this it is well to remember that home grown corn is always the best where it can be secured. Southern corn planted in Kansas grows too slowly and runs too much to stalk to suit our climatic conditions. It is not likely to mature. On the other hand, northern grown seed will mature more rapidly and yield well, though if it comes from those states which have a much heavier rainfall, considerable time is likely to be required in order that it may be properly acclimated. Corn purchased from Kansas grown seed or from seed grown in nearby states to the north and east, will undoubtedly prove the best. Wherever the seed is obtained, however, it should be either tested for vitality or be accompanied by a certificate of test from the dealer. It will not pay to plant seed of less than 90 per cent vitality while 100 per cent is none too little. A testing machine costs very little and proves its worth each year though fair results may be obtained through home made methods.

The corn binder and the silo will do more to get rid of weeds than any other combination of modern farm implements. The binder takes them off the field and the silo cooks the seeds so they cannot germinate. At the same time they make good stock feed if not too numerous in the silo.

RAISING LARGER LITTERS

*Good Blood Lines With Proper Care
Will Bring Success To All Breeders*

By PROF. HENRY M. COTTRELL

A large litter of heavy, vigorous pigs at weaning time is the foundation of profits. To secure it, prolific sows and the boar from a prolific strain must be selected. The boar must not be given over service and the pregnant sow must have the feed, exercise and care that will keep her in best health and condition and that will produce thrifty development in the unborn pigs.

At and after farrowing time the sow must be given shelter, bedding, feed and care that will carry her through this period with the least disturbance and save all her pigs in good condition.

As the pigs gain in size and strength, the sow must be fed to develop her highest milk production, the young pigs must be taught to eat grain and other feeds before they are weaned. The weaning must be done so that the pigs are in fit condition to shift for themselves when they leave the mother and the sow's udder must be left in perfect condition for suckling the next litter.

These things look formidable to the beginner, and he is likely to consider that the expense will be too great, but successful methods are not a matter of expense but of good judgment and skill and daily attention to little details.

A young sow should be selected whose mother and grandmother have eight or more good pigs at a time, are heavy milkers and quiet, good mothers. The strain should be sufficiently active to thrive on pasture. The young sow should be thick, deep and lengthy and should have not less than ten good teats.

The sow pig intended for a breeder should be pushed for the first year and given feeds that will make rapid growth, but that will not fatten. Such feeds as milk, alfalfa or clover pasture, or hay, and moderate quantities of grain, such as wheat, peas, barley, milo maize, and shorts. She should weigh from 300 to 375 pounds at 12 months of age when in thrifty condition, but not fat. Ample exercise every day is necessary for health and to develop muscles and lungs. If the sow has made good growth, she may be bred to drop her first litter when she becomes twelve months old. She should be in perfect health and in good flesh when bred. The gestation period for the sow is about 112 days.

As soon as the pigs have been weaned the sows should be culled and those that are cross or nervous or have produced small litters or are poor sucklers, should be discarded.

Good sows improve for several years in the number and size of the pigs they have at a litter. The United States Department of Agriculture compiled the records of over six thousand sows and found yearling sows averaged 6.65 pigs per litter, and five year old sows averaged 8.4 pigs per litter. At the Wisconsin Experiment Station the year old sows averaged 7.8 pigs per litter, with an average weight per litter of 14.2 pounds, while sows from four to five years old averaged 9 pigs per litter with an average weight per litter of 26 pounds. The common practice of farmers selling their old brood sows each year and reserving immature ones for breeding is a bad practice, as the older sows are much better mothers and their pigs have a strong advantage in greater vitality at the start.

One of the most profitable sows the writer ever handled had a choice litter when she was nine years old.

The boar should be evenly balanced—good in every point. The custom of selecting a boar unusually strong where the sows are weak and perhaps weak where they are strong, is a dangerous one. The pigs can most easily inherit the weak characteristics of both parents.

The boar is more than half the herd, so far as influence goes. Each year he may show his strength or weakness in a hundred or several hundred pigs, and it is most important that he should be of the right type and in great bodily vigor with such strongly bred ancestors that he will with certainty produce pigs of uniformly profitable type, good feeders that will mature early. A boar should be selected whose mother and grandmothers have had large litters. The boar should be pushed with

growing feeds, so that he will make a gain every day until he reaches full, mature weight. A mixture of any two or more of the following grains is good: Corn, barley, or milo maize; with wheat, peas or shorts. A liberal supply of skim milk is especially good. He should have all the alfalfa or clover he will eat every day, either pasture or hay. A small feed of roots or cooked potatoes is good. Stunting, even for a short time, will permanently injure his value. He should weigh 300 to 400 pounds when 12 months old.

After reaching full growth, the boar, when not in service, should be given bulky feeds that will keep him full, satisfied, and in good condition, but that will not put on fat. Alfalfa, roots, and a small daily ration of any kind of grain.

A few weeks before the beginning of the breeding season the grain feed should be gradually increased, and the amount of roots and alfalfa should be slowly reduced. The animal should be put in perfect condition and good flesh, but not made fat. The best results are not secured from a sire that is either fat or thin.

During the breeding season the boar should have an abundance of food, using the same combination as recommended for him while growing, except just sufficient succulent feeds should be given to keep his bowels in good condition. A full supply of succulent feed at this time is likely to make him infertile.

The boar should have comfortable shelter at all times—dry and free from drafts. His surroundings should be kept free from vermin. He should have daily exercise to keep him healthy and muscular. A half-acre pasture will furnish this. He will keep better natured and be easier to handle if allowed to run with the barrows outside the breeding season. If allowed to run with the sows during the breeding season, he will weaken himself by over service. At other times there is danger that he will injure the sows. Keeping him in close, dirty quarters, or allowing him to range over the farm and neighborhood half starved, are both sure ways of making him valueless. Too much attention is rarely given to the boar, and his health and comfort should be looked after every day throughout the year.

The boar should serve a sow but once, and two sows a day should be the limit for a mature boar, and then he should have a day's rest after every second or third day. He should be used before being fed. Handled in this way, a mature boar is sufficient for fifty sows. Over service results in pigs that are dead, weak or puny at birth. Probably the greatest cause of pigs born dead or born so weak that they soon die, is allowing the boar to run with the sows. It is a sure way of reducing the number raised in a litter and of reducing the profits.

A boar should not be used for much service until he is at least twelve months old. A fully matured boar produces the most vigorous pigs, other things being equal, and if properly fed and handled, may be profitably kept for several years. His tusks should be cut or knocked off as often as they show considerable size.

Mark the sow when bred and record the date so that she can be separated from the other sows and become accustomed to her farrowing quarters two weeks before the pigs are due.

While pregnant, the sow should be given muscle and bone making feeds that will develop in the unborn pigs size and strong vital organs. When the sow has good alfalfa pasture, only a small quantity of grain is needed. The sow should be kept in good flesh, but not fat. A heavy condition of flesh is favorable if it is put on with muscle making feeds and the sow has been given ample exercise. Under feeding is extremely detrimental. The pigs from a half-starved sow are weak and undersized at birth, and are stunted while suckling from lack of sufficient milk.

Sows fed much corn while pregnant make poor mothers, do not give a full supply of milk, are likely to be clumsy and the pigs are often small and weak. Peas, shorts, tankage, skim milk, and alfalfa, clover, cow peas or peanut hay or pasture are the feeds to give the sow for developing strong pigs at birth.

Corn is deficient in the bone, muscle-making and blood-making materials necessary to develop the unborn pig. If the sow does not have these materials in abundance, the pigs are small and weak and the supply of milk is poor. A sow fed corn without

enough bone and muscle making feeds to supply the demands of her unborn pigs is often so feverish and unsatisfied that she eats her pigs when they are born. All the alfalfa hay she can eat daily or a good supply of skim milk are cheap feeds and unequalled as a balance to corn.

Constipation in the sow while she is pregnant or suckling must be avoided. Pig eating is often caused by constipation. Laxative and bulky feeds, such as pasture hay, will prevent this trouble, and should form part of the daily ration. Exercise is necessary to keep the bowels in good condition. Small feeds of roots are good. Heavy feeding of roots is often the cause of weak or dead pigs at birth. Feeding frozen roots is likely to cause abortion. The pregnant sow should be fed, sheltered, exercised and handled in such a way as to keep her in good flesh and health. Everything that facilitates this condition tends to secure pigs with greater vigor and more profitable as feeders.

A blow or a strain of any kind to the belly of the pregnant sow is likely to result in pigs dead at birth, or pigs born the wrong way, with the consequent injury to the sow, or her death. Sows had to step over a six inch board in passing through an opening between their yard and pasture. There were many dead pigs at farrowing time, and some of the sows died from trouble while giving birth. The ground next to a hog pen was eight inches lower than the floor, and the brood sows had to climb over the step—dead pigs and dead sows at farrowing time was the consequence. Potatoes were dug with a plow and the land left in ridges. Pregnant sows had to travel over these to get to a field. At farrowing time there were many dead pigs, and two sows died. A boar allowed to run with sows that are bred will frequently knock them around and bring the same trouble. Horses or cattle running in a lot with brood sows will often injure the sows the same way. Not over five or ten bred sows should be allowed to sleep together, as crowding in cold weather may result in losses at farrowing time. Pregnant sows should not be allowed to run with fattening hogs.

Two weeks before the pigs are expected the sow should be placed in a farrowing pen connected with a yard large enough to allow her to exercise. Her bowels should be kept loose. She should have dry, sunny shelter, free from drafts. The sow should be petted, so that she will have her feeder handle her.

It is best to have the sows farrow at nearly the same time, and then the owner can watch them day and night during farrowing time. There should be just enough bedding for comfort and dryness. Cut straw or chaff is best. Little pigs often get tangled in deep straw and are either crushed by the sow or die from exposure. The sow as little attention while she is farrowing, unless she must have assistance. In severe weather place the pigs as fast as they come in a basket in which a blanket is laid over a warm stone. Keep them well covered, and after all are born and have become warm and take them to their mother and place each one at a teat. Then cover the mother and pigs. During the forty-eight hours watch carefully, and if a pig strays from its mother, put it back against her body where it will be warm.

Give the sow all the water she wants for the first twenty-four hours after the pigs are born, but no grain. Take the chill off the water in cold weather. For three or four days after the first twenty-four hours, give plenty of water, but feed grain and milk sparingly. Then slowly increase until, when the pigs are three weeks old, the sow is having all the feed she will consume. Give the pigs exercise and sunshine from birth, but do not allow them to get damp nor to be exposed to the wind.

When the sow is given a warm, slop, or other milk producing feed just after her pigs are born a strong milk flow is forced. The new born pigs get too much and have diarrhoea, which often kills them. They cannot take all the milk, and



WHERE THE MONEY GROWS, OUT THERE IN KANSAS.

(Continued on page 19.)

The Influence of The Sire on The Herd

Good Sires Build Up Herds, Poor Ones Destroy Them, Good Sires are Invaluable

By O. E. REED, Manhattan, Kan

The subject, "The Influence of the Sire on the Herd," is an exceedingly important one and the western breeder is beginning to understand its meaning better than ever before. This fact is borne out by the great demand there is now and has been during the past few years, for pure bred sires. This subject is of equal importance to all breeders whether his pet stock is dairy cattle, beef cattle, horses, sheep or hogs. In speaking of the value and influence of the sire in the herd, one generally infers the common or grade herd of cattle; for in such the sire has the greatest influence and is most needed. By the use of good pure bred sires, it is possible in a very short time to breed animals that are more uniform in type and quality and as a result, the offspring are more valuable when sold in the market, no matter for what purpose they are used or to what class of live stock they belong.

Such system of improvement is called grading, and for the small breeder this is the quickest, most economical, and most profitable method to follow in building up the herd.

The main requisite for success in this work is the selection and continued use of good sires that are typical of the breed. As shown in the following chart, the continued use of pure bred sires in the herd will result in the offspring of the sixth generation being practically pure bred animals:

EFFECT OF THE PURE BRED SIRE IN THE HERD.

Generation	Sires per cent purity	Dams per cent purity	Off per cent purity
1	100	0	1-2
2	100	50	3-4
3	100	75	7-8
4	100	87 1/2	15-16
5	100	93 3/4	31-32
6	100	96 3/4	63-64

As is seen by this chart, the offspring of the sixth generation is 63-64 per cent pure bred. Such improvement is, of course, limited to the improvement of the herd of animals of a breed and not the breed itself. For all practical purposes such animals are as good as pure bred animals, but they can not be registered in the herd books. As a general rule, this system of building up a herd of cattle is the best, especially for the small farmer. Often a small breeder sets out to build up a herd by buying a herd of pure bred animals to start with. Such a practice is not only costly but often results in the discouragement of the breeder.

For the large breeder who handles pure bred live stock, the probability of breeding better stock than he has is by no means an easy one. The very reason of the influence of the sire on the herd. When a herd of cattle has been brought to an almost perfect state, the breeder must exercise the best knowledge and judgment he has to keep up the quality. The selection of the sire for use in a herd that is already established is a different problem and also an expensive one. The best illustration showing the influence of the sire on a herd is obtained from records made in the Jersey dairy herd at the Missouri Agricultural College. The Jersey herd at that institution was started 26 years ago. Four registered sires were purchased, and the entire herd at the present time has descended from these cows. Records of milk and butter-fat production of each cow in the herd has been kept for almost twenty years. Six different bulls have been used at the head of this herd and the records made by the members of the herd will furnish a very accurate record of the influence of each sire as it is possible to compare the records of the daughters of each bull with the records of their

The first bull used in the herd was the Missouri Rioter; he was a son of the famous Bachelor of St. Lambert. But the only animal of any note in the bull's pedigree was his sire. This bull left 4 daughters in the herd and the following table gives the comparison

son of the records of these daughters with their dams:

	Dams	Daughters
Average milk yield....	5380	4381
Average per cent of fat... 4.85	4.93	4.93
Average yield of fat....	234	216

It is noticed that the average production of the daughters was 1,009 pounds of milk and 18 pounds of butter-fat per year, below that of their dams. In every instance the daughter was inferior to the dam. It is evident that this bull gave the herd a setback. The next bull was Hugarotus; he was a cheap bull and did not have any particular backing in his pedigree. He left 11 daughters in the herd, and the following table shows the record of these daughters and their dam:

	Dams	Daughters
Average yield of milk....	4969	4576
Average per cent of fat... 4.66	5.49	5.49
Average yield of fat....	231	245

The daughters of this bull did not come up to their dams in production. They fell 393 pounds of milk below their dams and made an increase of fat of 14 pounds in the year. This increase of fat was due to the milk testing higher. Only five of the daughters were as good or better than their dams; the rest were decidedly inferior. It is noticed that as long as this bull was in the herd that the tendency was backward.

The next herd bull was Lorne of Meridale. It seems that some care was taken in the selection of this bull as the herd header, since his pedigree contained animals with large records of production. The comparison of his daughters with their dams in the college herd show that he was a very good producer and that his backing showed up in his offspring

	Dams	Daughters
Average yield of milk....	4559	5969
Average per cent of fat... 4.85	4.51	4.51
Average yield of fat....	221	287

As noticed in the table, his daughters made an increase in both fat and milk production over their dams, and increase in milk production of 1,410 pounds and 66 pounds of fat. One re-

markable thing about the daughters of this bull was that the large majority of them was as good or better than their mothers, only two out of the 12 daughters fell below their dams in production. This bull made a remarkable increase in production in the entire herd and we can get an estimate of what a good bull is worth to a herd from studying the records of the daughters of this bull in the herd. The 10 daughters made an average increase per year of \$150 over their dams, figuring the products at ordinary butter-fat prices.

The next bull at the head of the herd was Missouri Rioter 3d. This animal was sired by the first bull used in the herd. He was raised on the college farm and kept for use in the herd; the main reason for keeping him was that he was out of the best cow in the herd. This bull sired the best cows that were ever in the herd; the following table shows a record of production of the daughters as compared with their dams:

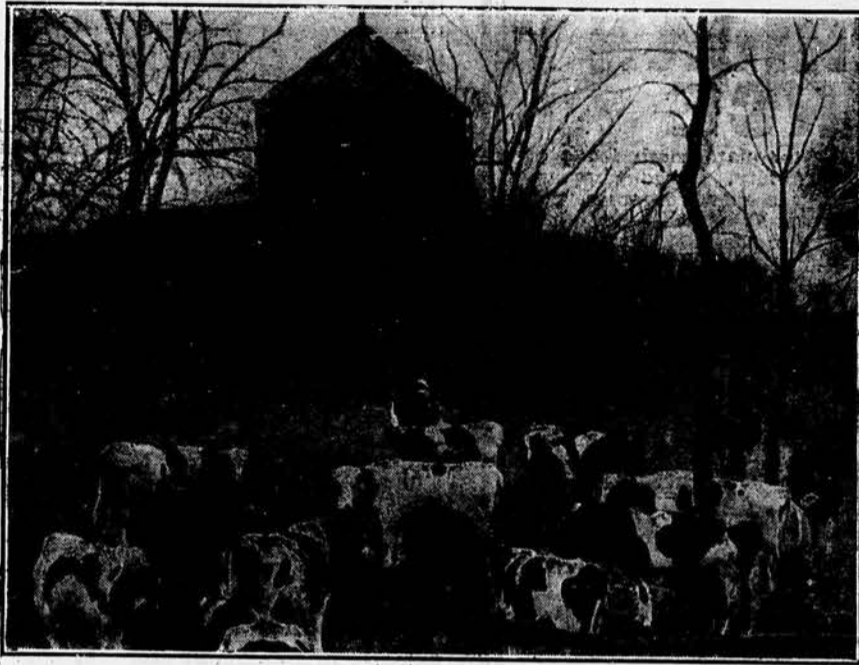
	Dams	Daughters
Average yield of milk....	4609	7154
Average per cent of fat... 5.16	4.36	4.36
Average yield of fat....	238	318

Unfortunately, only 3 daughters of this bull was left in the herd, and he was sold before his value was found out. His daughters made an increase of 2,546 pounds of milk, and 110 pounds of fat over their dams.

Minette's Pedro was the next bull used at the head of the herd. His pedigree showed many high producing animals, and judging from this we count him as an excellent bull. He left 20 daughters in the herd, and the following tables give their records as compared with their dams:

	Dams	Daughters
Average pounds of milk...	5321	5376
Average per cent of fat... 5.04	5.04	5.04
Average yield of fat....	248	271

One-half of the daughters made a lower production than their dams and the other half was some better than their dams; but on the whole, the production of the herd was not increased;



THE HOLSTEIN, THE SILO AND ALFALFA MADE KANSAS INVINCIBLE. SCENE ON THE FARM OF S. E. STOUGHTON, HUTCHINSON.

but the daughters made about the same average production as their dams. They gained in actual figures, 55 pounds of milk and 3 pounds of butter-fat for the entire year. The best daughters sired by this bull were out of the best cows in the herd, and the poorest daughters were out of the poorest cows in the herd, so this gives emphasis to the fact that this bull kept the herd at a standstill, not making an increase or a decrease. The last bull used in this herd was Brown Bessie's Registrar, and the following table gives the comparison of his daughters and their dams:

	Dams	Daughters
Average pounds of milk...	6029	5295
Average per cent of fat... 4.88	5.05	5.05
Average yield of fat....	293	217

The figures represent the records from 5 of his daughters in their first period of lactation and do not really give a fair comparison of his value or influence; but from these records it is noticed that the daughters are quite inferior to their dams. These records show in a very striking manner how difficult and important a matter it is to select sires for use in a herd so that we may look for good results in the offspring. Another fact that is also brought out by the above records, is the importance and necessity of keeping the bull in the herd until he proves himself to be either a good or a poor producer; it also shows that it pays to keep the records of milk and butter-fat production of each cow in the herd.

In selecting the sire for the herd, a great many breeders, particularly among the amateur breeders, make only one demand—that the sire be pure bred or registered. One should go farther than this and demand that the ancestors of the animal in question be animals of merit, large producers and be typical for the breed. A great many of the pure bred bulls in use today as herd headers are no better than scrubs. For the best results we should demand that the female ancestors be large producers of milk and butter-fat instead of being satisfied with knowing that the sire or dam or some other animal in the pedigree carried off the show ring prize at a certain fair. The dairyman is primarily interested in how much milk and butter-fat he can obtain from his herd. This is the basis of income and profit. Very few milk producers or dairymen will ever lead his herd bull into the show ring; then why should so much attention be paid to the show ring ancestry of the bull or of the bull himself? I would not say that one should breed and select animals for records or production entirely, but this should always come first; the type and character of the individual should come second. The immediate ancestors of the herd bull are the ones that should concern us most; it is more important that his dam and grandams be high producers than for him to be related to some great and wonderful cow that appears in his pedigree five or six generations back. Too much attention is paid to individual animals or families that may be represented or appear in the pedigree. Some men hold that a bull is valuable because he traces to some famous animal that lived five or six generations ago and probably sold for a fabulous price or held some other distinctive honor.

In selecting the herd bull, there are two courses open to the breeder; the one is to select a young bull, and the other is to select an old bull that has been tried and proven to be a prepotent animal. The first method is the vantage in selecting a young bull for the herd is that it is cheaper and less risk is attended toward getting a mean and ugly bull as well as bringing any disease into the herd. In selecting a young bull, one runs greater risk in getting one that will transmit the characteristics desired than in selecting an old bull that has been tried. The performance and records in the ancestry is about the only guide that can be used in this selection. When one selects an old bull that has been tried, he has some certainty that this animal will raise the production of his herd. When this can be done, it is probably the best method to use; but where one knows the value of a bull, the price asked for him is oftentimes prohibitive.

AID FOR RURAL SCHOOLS

Kansas has millions of cash in her school fund. This fund represents the only aid that is given to rural schools outside of that derived from the local districts. Kansas is one of the very few states in this Union which does not give state aid to rural schools. The interest derived from the school fund is a gift by the general government to the people of Kansas and, while it looms large in the aggregate, it produces a very small sum for school use. The available funds de-

rived from the interest on the school fund amounts to about 96 cents per year for each pupil and of course the cities receive the larger share of this. In the country school this fund would hardly buy the coal necessary to heat the school room. Everything else in the way of furniture, equipment and teachers' salary must be provided for out of the pockets of the local taxpayers. The present legislature is considering a means by which the weaker rural districts may be helped by state aid.

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THE FARM



Not every farmer can grow alfalfa but there are many who can grow it who do not. There are certain sections in Kansas where limestone is absent from the soil or where the cultivated portion of the soil lies too high for the lime rock beneath to have any effect upon it. Wherever alfalfa can not be grown in this state the chances are that the fault lies with the farmer rather than with the land. In some cases they have sold off hay from their land until it is so impoverished that alfalfa can not get a good start. If such land can be put into fine tilth and perhaps inoculated with soil from an old alfalfa field it may be possible to raise alfalfa, particularly if the land has been enriched. Where the land is too wet for alfalfa or red clover, alsike will return a profitable crop. With the many kinds of alfalfa that are now known there should be some kind that would grow in every nook and corner of Kansas, provided the land is properly prepared and the seed properly sown.

course had a still greater advantage in driving stationary machinery. A greater weight of supplies must be carried by steam engines, this, of course, adding nothing to their strength. Gasoline engines are usually capable of longer runs without replenishing supplies, and less time is therefore lost on this account. They have the advantage in being quickly started and in not consuming fuel when not at work. The matter of supplying fuel is simpler and the expensive process of supplying water is reduced to a minimum. Internal-combustion engines as a class convert into work a much greater proportion of the thermal units in fuel than do steam engines, but present types are restricted in the kinds of full which can be used to advantage. Steam engines use a wide variety of fuels with little difference in efficiency and are consequently less dependent on limited sources of supply."

Disking Alfalfa.

Will you kindly advise me through the columns of KANSAS FARMER if it is advisable to disk a two year old alfalfa field with the idea of increasing the yield of the alfalfa crop. My tenant protests, and states that disking serves to increase the growth of crabgrass and weeds. This alfalfa field is on bottom ground in this county and only has a fair stand. Kindly give instructions how and when alfalfa field should be disked if you so advise.—J. Hudson McKnight, Wichita, Kan.

Sorghum for Green Manure.

I would be pleased to know if there has been any experimenting done at the Agricultural College or among the subscribers of KANSAS FARMER in regard to the benefits to be derived from sorghum as a green manure if it be plowed under after a moderately rank growth has been established.—W. N. Oles, Chase county.

None of the sorghums have qualities that would make them highly valuable for green manure when compared with members of the legume family, like alfalfa, cow-peas, soy beans or clover. The sorghums do not decay readily and do not add very materially to the fertility of the soil, so they could hardly be recommended for green manure, though of course they would have a value in adding humus to the soil where needed. Our suggestion would be that it would pay vastly better to use alfalfa or some other legume for this purpose and thereby secure the double benefit of enriching the soil in nitrogen and adding humus from the green crop at the same time. If it is not practical to sow alfalfa with your oats or other spring crops, it would be perhaps wise to sow soy beans with the last cultivation of corn or sorghum and then turn under the bean crop. If you will do this you will find that the results will be vastly better than you could get from any manipulation of the sorghum.

Steam and Gas Tractors.

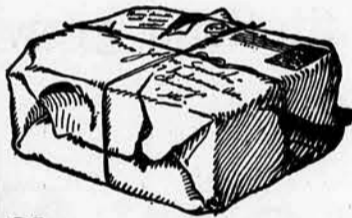
The economy of plowing, harrowing, disking and seeding by means of the tractor is generally recognized and, as a consequence, generally popular. Many farmers are not satisfied, however, as to whether the steam or the gas tractor is the better and this matter has been studied out carefully by L. W. Ellis of the Department of Agriculture, who draws the following conclusions:

"Both steam and gasoline tractors have their advantages for plowing and harrowing. The former are more advanced as a class and are built in larger units, and hence are popular where conditions demand great power as in breaking large acreages. The steam engines as a class have a larger reserve power over the nominal rating than gasoline engines and greater tractive efficiency per nominal horsepower. On the other hand, gasoline tractors, possibly on account of size, can usually transform into effective pull a larger percentage of the power actually developed than can steam tractors. No great difference in weight per actual brake horsepower exists, but a slight advantage in favor of gasoline tractors as to weight per actual draw-bar horsepower was indicated as a result of competitive tests at Winnipeg in July, 1909. Both, it may be said, were considerably below the horse in weight per unit of pulling power, and of

Disking alfalfa will depend a little on the quality of the soil. Bottom land in Sedgwick county is generally understood to mean river bottom land and this is more or less sandy. Perhaps the question can best be answered by giving the experience of the members of the Shawnee Alfalfa Club who severally own alfalfa fields ranging from the sandy river bottom to the tops of the highest river bluffs. Fifteen members of this association, at one meeting, reported that they had used the spike-tooth harrow or "alfalfa renovator" with decided success, and none reported against it. One farmer who owned alfalfa on the sandy river bottom used a common disk with excellent results while another who owned land in alfalfa on the top of a high river bluff reported that he used the common disk on his land with equal success, but that he cross disked the field. All agreed that the spike toothed harrow, as well as the common disk, will frequently split the crown of the alfalfa plant, but this only serves to give it new energy and to really start new plants. The membership of this club is composed largely of alfalfa raisers who live in Shawnee and four adjoining counties. They have studied the alfalfa plant in their monthly meetings for nearly four years and their universal verdict is in favor of disking. Instead of increasing the growth of crab grass or foxtail it is the one sure method of getting rid of them. Both of these grasses are annuals and may be cut out by the disk or spike tooth harrow and destroyed while the alfalfa stand is thickened up and benefited. One of the best alfalfa raisers in this country runs his spike tooth harrow over his alfalfa field after each cutting, but perhaps a very satisfactory way would be to disk in the early spring when the ground is in good condition and before the growth has started too much.

Concrete has many useful places on the farm but do not permit yourself to think that the flooring of a cow stable is one of them. A concrete floor is ideal in many respects but it has one fatal fault. No animal should be compelled to lie upon a concrete floor, especially in winter. Rough concrete built up to within two inches of the desired height and then covered with two inch planking makes an ideal floor for either horses or cattle.

Buy Your Watch



This Way Not This Way

You men on the farm should buy your watches of a retail jeweler—for this reason:

Good watches need regulation by the jeweler to the personality of the man who carries the watch. Why? Because the way you carry a watch affects it. If you stoop over a great deal, or ride much over rough roads in a farm wagon, or walk unevenly behind a plow it makes a difference in the way the watch runs. In other words, the general conditions under which you work and under which another man works are usually different and that difference affects every good watch. The watch you carry for months, if handed over to neighbor Smith, for instance, may not keep good time for him though it did for you all the time.

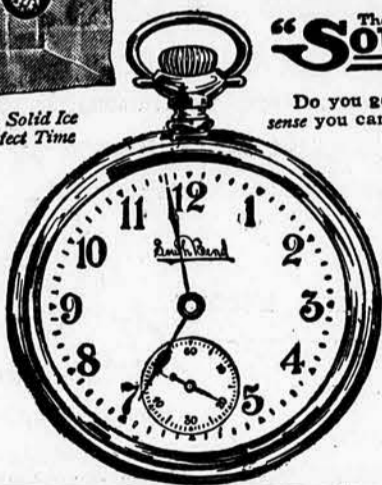
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The Concrete Metal-Lath Silo.
 During the past year over four hundred silos have been built in Kansas. The greater part of these have been of stave construction. The Agricultural College does not advocate any particular kind of silo, concrete, wood, or stone—all may be used and satisfactory results if the silo is properly constructed. Improperly constructed silos will be unsatisfactory whatever material is used. Owing to the general lack of knowledge regarding silo construction and especially as to the use of concrete as a material, the extension department of Agricultural College offered last year to furnish expert superintending in the construction of cement silos during the spring and early summer.

During the season 23 of the concrete metal-lath type of silos first built by the United States Department of Agriculture were constructed under the direction of members of the extension department. Help was also given in the erection of a number of other silos.

Since many more silos will undoubtedly be built during the coming year, the satisfaction which this type of construction has given and their popularity will be of general interest to our farmers. The reports as to the character of the silage which has been taken from them during the past year will be of special interest from the fact that many statements have been made that silage would not keep in a cement silo. This is undoubtedly true of improperly constructed cement silos and is equally true of improperly constructed wood silos. The extension department has kept in very close touch with the silos built under its direction, both by correspondence and by personal visits in many cases. Owners have reported without exception their complete satisfaction with them, in every particular. All reported the silage to be in perfect condition clear to the wall, with the exception of a few feet at the top. The writer and others from this department have visited a number of silos and found the silage keeping perfectly, with the exception of some silage around the outside for a few feet down. We have found this difficulty in practically every silo inspected of whatever type of construction. It has been caused mainly by lack of proper care at the time of filling and will occur in any silo where the silage is not thoroughly tramped during the process of filling and especially at the top, where the tramping should continue around the sides as the silage settles.

The cost of this type of silo has varied somewhat in different localities owing to the varying costs of materials. In some places it was procured for the hauling and in others it cost as high as \$1.50 per ton in addition to hauling. The following are the cost price of a few, in the general range:

by 30 Silos—(1) \$178.05; (2) \$188; (3) \$281.81; (4) \$250; (5) \$288.

by 30 Silos—One at \$208.80; one at an average of about \$200; one at \$184. One 18 by 34 silo was at a cost of \$296.52. The lowest of a 16 by 30 silo was the one at \$78.05 and the highest one at \$188. The latter was constructed with labor was extremely high and of it unsatisfactory. It should be in mind that these figures are the foundation, which must be added to the price given on staves. The roof is not included in the price given. Roofs have been put on silos of this type at a cost of \$25, where some type of asbestos felt roofing material has been used.

G. C. Wheeler, Institute Assistant, Animal Husbandry.

Quarantine Laws.
 What is the penalty for taking horses, cattle and hogs from Kansas to Oklahoma without a health certificate? Who is the legal examiner in Kansas?—J. W. Stewart, Harlan.

Quarantine regulations governing the transportation of live stock from Kansas into Oklahoma are made by the United States Department of Agriculture and provide that all cattle and horses for transport must be inspected for tuberculosis and horses for ticks, though we are unable to learn just what the penalty is for infringement of this law. It is a Government regulation the violation of which is probably severe enough

Rambler

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and the enforcement sure. The state veterinarian is the proper inspector but under the present laws of Kansas he must act under the direction of the state live stock sanitary commissioner. Full particulars may be had by addressing Hon. J. M. Mercer, Live Stock Sanitary Commissioner, Topeka, Kan.

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A cream separator is such a great institution—so great a money maker—that people are often "satisfied" with a very poor one, if they have never used a good one. Remember, it isn't the first cost of anything that really counts; the question you and we and every one must answer is what is going to be a paying investment, not only today but for years to come.



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Straw used for bedding becomes a valuable asset. If allowed to stand in the stack it is a liability.

The average price for milk cows has increased nearly 9 per cent within the past year.

An eastern paper states that the dairymen are all looking forward to the time when they can quit the business. Using a scrub bull is about the quickest way.

It requires just about so much feed to warm water for animals to drink. The water must be warmed either by the use of coal or wood in the stove or corn in the cow. Which is cheaper?

Winter butter is very often not so good as summer butter and the reason in nine cases out of ten, lies in the dairymen and his methods. Nature attends to the matter of flavoring dairy products pretty well in the summer time but man must help in winter.

Tribute to the Dairy Cow.

When we awake we behold the walls on which the plaster has been held by her hair; we fasten our clothes with buttons and we comb our hair with a comb made from her horns; we put on our feet a pair of shoes made from her skin and we enter the dining room and we sit down to a tempting breakfast, we find she has provided us with a piece of cheese, a cup of milk, a pitcher of cream for our coffee, a plate of hot cream biscuits, a dish of butter, a smoking beefsteak, and, above everything else are the bright, interesting, idolized children whose foster mother she is. We go to our office and fasten together important documents with glue made from her hoofs, and when we go to dinner we enjoy from her bountiful provision, soup made from her tail, elegant roast beef, pumpkin pie made with her milk out of pumpkins grown on land fertilized with her bones, and we eat it with teeth that through a chemical process has been made from her paunch. She is the only animal that works day and night. By day she gathers food, and by night she converts it into those articles of diet and usefulness. In this country she commenced her mission at Plymouth Rock, and tied behind the dusty emigrant wagon she has gone with man to the setting sun. As westward the star of empire took its course, she went in advance of civilization, and not only prepared the way, but made it possible for the early settler to stay. It was her sons that hauled the emigrant wagon and broke the sod in the early settlement of this country; she endured all the hardships of the pioneer, and during her march, as well as when settled, she picked up the straws that blew her way and furnish the milk to fill the breast of her babe that became a ruler.—W. W. Marple.

Future Dairy Cows.

An Illinois dairy farmer who has been studying the situation thinks there is a big business in sight for farmers who can buy and raise dairy calves. The demand is certainly growing and as we gain more knowledge of better methods the demand will still be greater. This farmer says:

"It is my opinion that if more farmers do not grow calves instead of vealing them we will soon face the greatest shortage of dairy cows that ever existed in this country. The increasing demand for milk and cream in the cities has greatly increased the dairy industry, especially in the last few years. Take for instance, just one article of food made from dairy prod-

ucts, namely, ice cream. A few years ago it was hardly ever served outside of the summer months. Today it is one of our most common articles of food and nearly every drug store serves large quantities. I dare say it takes ten times as many cows today to supply the ice cream trade as it did a few years ago.

"I do not think that every milk producer can afford to raise his own calves. He has to confine himself almost exclusively to production milk if he has a large trade. He has to leave the raising of his cows to some one who has cheaper land. In view of this fact I believe that the raising of dairy calves will be done largely in sections distant from cities. It will be made an industry in these sections as it is being made in southern Wisconsin. In some of those parts where the dairymen are organized they sell many thousands of dollars' worth of dairy stock annually the grade mostly going to the milk producers living near the cities. I believe that the above facts are a strong argument for more men to go into the business of raising dairy stock."

By-Products Enrich the Farm.

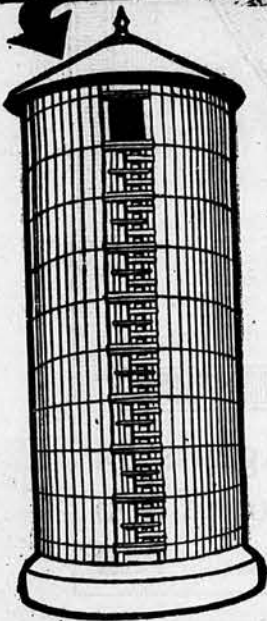
The two important by-products of dairy farming are the manure and the skim-milk. The fertility problem is one which in time the farmers will realize is important, and then more economical use will be made of the manure pile. Were the fertility value of the manure considered at the present time, dairying would appeal to the farmer as bringing greater returns. Let us hope that the neglectful customs of the past will soon cease, that the fertility value of the manure will be considered as an indirect profit from dairying, and this valuable by-product be applied to the soil to make it more productive and more valuable.

The other by-product of the dairy is skim-milk. Its value, too, is often underrated. As feed for a thrifty, young growing, well bred pig or calf, I estimate sweet pure skim-milk worth from one cent to two cents per quart, the higher value being obtained when it is fed to pure bred registered animals raised for breeding or show purposes. The one cent per quart, however, is very satisfactory, or even one-half cent, and could the farmer be caused to realize fully the value of skim-milk, I am certain more farmers would be able to figure a larger profit from dairying. The haphazard, shiftless, careless farmer can not be counted as a dairyman, for he never will keep cows good enough to be classed as dairy cows, nor will they ever produce a profit for him.

The dairy farmer in general is an intelligent farmer. He appreciates the beauties of dairy farming. He lives in a large, roomy, modern house. He has built barns and dairies and made other improvements on his farm. He has his farm fenced for hog raising. He owns a cream separator. His children are kept in school and educated. He takes farm papers and reads them. His farm is the pride of the community. He is the leader of his fellow farmers. He is in the high school or college of modern agriculture, while his neighbors may be in the A B C class trying a single cropping system and meeting with a failure nearly every year.

I wish to impress this one thought upon your minds, and that is that dairying is the highest type of farming. Successful dairying denotes intelligence, thought, study and careful work, and for a farmer to be classed as a successful dairyman is a commendation to one's ability, business judgment and common sense. When farmers come to an appreciation of the advantages of dairy farming, the grand opportunities for it in the west then may we truthfully say that a new and better era of farming has begun and the great southwest will be blessed with more happy, prosperous, contented and better educated people.—Roy C. Potts, Oklahoma.

Kansas Hinge-Door Silo



SAVES ITS COST EACH YEAR

It will enable you to keep three cows where you now keep one. It will reduce the cost of producing beef, milk, mutton and eggs. It will build up your soil and increase the value of your land. It will make one acre of corn worth two.

IS BUILT TO LAST.

Washington Fir, fully seasoned, is used throughout. Government tests have proven that it stands moisture and has a low degree of shrinkage and expansion.

POWERFUL FRAME AND LADDER.

A silo must be built to stand the storms that will come upon it. That is why we use a strong steel frame—the strongest frame we can build.

The ladder is made of malleable iron—will bear the weight of five men—steps 15 inches apart, with 7-inch clearance.

CONTINUOUS HINGE DOORS.

The HINGE DOOR is patented. It is the one great improvement in silo construction. It makes the KANSAS SILO the leader. The HINGE DOORS are always in place, easily swinging into and out of position and are not scattered about the farm as box covers or

"stepping stones" across muddy places. They will not bind or freeze and do away with the necessity for carrying them up and down the ladder.

FULL LENGTH STAVES.

No "spliced" staves in the KANSAS HINGE DOOR SILO. Full length staves only, regardless of height. "Spliced" joints or two-piece staves are apt to bulge or break. The Full-Length Stave Silo is far superior.

HIGH QUALITY BUT NOT HIGH PRICE.

We could not build the KANSAS HINGE-DOOR SILO better. The highest quality material—every modern convenience—yet the price is but little higher than prices asked for Yellow Pine Silos, which soon twist, warp and decay.

Write at once for prices, together with fully illustrated circulars, and proof that the Kansas is the cheapest Silo you can buy.

CONTINENTAL CREAMERY CO.
BOX 211, TOPEKA, KANSAS

MAPLEINE FLAVORING

Use it like lemon and vanilla. A delicious syrup is made by dissolving white sugar in water and adding Mapleine. Grocers sell Mapleine; if not, send 3¢ for 2oz. bottle and recipe book. Write to Dept. CRESCENT MFG. CO., Seattle, Wash.

Ask the Dairyman's Wife!

The wives of farmers and dairymen nowadays are practical women. They are interested in devising ways and means to swell the family bank account. They are constantly on the lookout for labor-saving and expense-reducing machines and methods.

They know a good thing when they see it. Ask any woman who is acquainted with the United States Cream Separator what she thinks of it.

The more experience she has had with other separators, the stronger she will endorse the U. S.

Ask her about the skimming ability of the U. S. She won't hesitate to tell you that it skims the cream more thoroughly from the milk than any other separator. What's more, she will prove it. This is best illustrated by the figures in the bank book. More cream means more butter and more money.

The United States Separator holds the world's record for closest skimming, in 50 consecutive tests, extending over a period of 30 days, with the milk of 10 different breeds of cows. It was awarded the only Grand Prize at Seattle, 1909.

Ask the dairyman's wife if the U. S. is easy running, and she will tell you that it runs easier than any other separator. If you're around at skimming time she will prove it to you.

She will tell you that the U. S. is the easiest separator to wash and keep perfectly clean. The Interlocking bowl of the United States Cream Separator is the only separator bowl where centrifugal force comes into practical use when washing. When the milk has been skimmed, the skimming sections are submerged in a pail of warm water and whirled quickly back and forth. This causes a strong current of water to pass through the channels, flushing all sediment from the bowl; then a thorough scalding and drying keeps the bowl in a spotlessly clean and sanitary condition, with less work than is possible with any other skimming device. Everything is accessible—no dark corners where dirt can collect and not be noticed.

When it is considered that a separator is used twice a day, every day in the year, this saving of work is a big item to every woman.

Write today for catalog No. 91—it clearly explains why the United States Separator is the closest skimming, easiest running separator made, why it is the easiest to wash, and why it will wear longer than common separators. Write now for this book. We will also give you the name of our dealer in your locality.

Vermont Farm Machine Co., Bellows Falls, Vt.



The "Old Man" and the Maid

KANSAS FARMER—"So you think you've got the best separator made. Can you tell me why?"

MAID—"Yes, indeed. In the first place it is the easiest running separator made. I know because I have used other makes. Then it is the easiest separator to wash and keep clean. Last but not least, it skims the cream more thoroughly from the milk than any other separator."

KANSAS FARMER—"My separator is just as good as yours."

MAID—"Impossible—mine's a United States."

KANSAS FARMER—"So is mine."

Practically everybody has accepted the general assertion that milk is the best ready vehicle for the transmission of tuberculosis but now come the reports of the Harvard Medical school to state that this is not true but that the family cats and dogs are to blame. What do you think of that?

Mr. B. D. White, who has had charge of manufacturing investigations in the dairy division of the U. S. Department of Agriculture for several years and who was one of Dean Ed. H. Oster's first lieutenants while he was chief of the dairy division, has resigned his position to take up work in a private business concern. In addition as well as in state affairs the public service frequently loses the services of its best men because private institutions can afford to pay more for their services.

The advance in the prices of dairy products has been frequently commented of in recent years, but this has been done by those who know but not of the facts. Prices for dairy products are higher than they were when the dairy farmer is blamed by the consuming public with charges of monopoly, "hold up," and exorbitant prices for his products with no thought of the other side of the question. The advance in prices of dairy products has not kept pace with the advances in cost of feeds and labor and this is a fact that the consumer does not remember. The dairy farmer now faces a serious problem in producing feedstuffs so economical that he can remain in business. This involves larger crops, more economical help. He must use machinery to produce his crops and silo to store them. His problem is not an easy one.

Kansas to Boost Oleo Tax. Kansas is preparing to secure some revenue from the manufacture and sale of oleomargarine. At the present time the government receives all the revenue and the state receives nothing, says the Jersey Bulletin. A bill has been introduced in the Legislature making it unlawful for any

firm or corporation to manufacture, sell or ship oleo or butterine, unless first obtaining license from the State Dairy Commissioner.

The bill was introduced on behalf of the Dairy Commissioner of Kansas, the varied industries of the state and the Dairy Farmers' Association of Kansas. The fees fixed by the bill are high and would probably bring in considerable revenue annually. Under the provisions of the bill the annual fee for a manufacturer would be \$1,000, for a wholesaler \$500, for a retailer \$50, for a hotel \$50 and for a boarding house \$10.

The fees collected under the provisions of the proposed law would create a fund to be known as the dairy commission fund, and would be used by that department to enforce the provisions of that law and others.

The Dairy Farmers' Association passed resolutions urging the enactment of such a law which read in part:

"Whereas the injury of the reputation of our products necessarily reduces the price of the same, we do resolve that a law be enacted making it necessary for retail and wholesale merchants and manufacturers, restaurants, hotels or others to offer oleomargarine, butterine or other butter substitutes on their true merit; and be it further resolved, that the expense of enforcing the law be paid from fees collected from the various persons, companies or corporations offering the butter counterfeit to the public."

"Josephine" to Travel. Missouri Chief Josephine, born on the college farm at Columbia, Missouri, and the world's champion cow for six, eight, ten and eleven months, will be carried on a special train over the Frisco, Wabash and Burlington Railroad lines in Missouri. University authorities will take this means of giving the citizens of Missouri an opportunity of seeing this famous cow.

Many a well-to-do farmer can boast that he has made a financial success in life without keeping books and

merely because of his success, his words carry weight. Yet he should know, if he does not, that this success was attained in spite of his methods and not because of them.

The market conditions show some curious facts in the cattle pens. Cheap beeves are selling higher than their quality warrants and there is a keen demand for them while good, well fattened steers are only a trifle higher and the demand is rather slow. As things now stand the prospects are that cheap steers, bulls, cows and heifers will be the money makers of the near future. This is all wrong but seems to be the fact. With present prices on corn it looks like the good money would be made during the coming season on the cheap stuff and yet this is a risk. Good cattle are more likely to hold their prices and be more readily saleable.

Theory and Practice of Farming.

Few farmers as yet realize the importance of saving the moisture from melting snows and winter rains that frost holds near the surface, until the warmth of spring permits them to percolate and moisten the subsoil and thus when the surface water has disappeared the soil moisture is permitted to again come to the surface and disappear into air, "into thin air." The March winds and the sun's heat soon evaporate the moisture and "we need rain" is heard from all whom we meet. If we have fall plowing but a little time would be consumed in harrowing over once with a wide sweeping harrow with four horses attached as soon as the surface would crumble and the disk should be used on all stubble ground before the surface begins to harden and crack. The moisture will then not reach the surface and so can not turn into vapor and be lost. Winter wheat when not sown with grasses and clovers will also be benefited by harrowing, and even grass lands when the plants are firmly established. Most farmers have heard or seen more or less of "dry farming," but they fail to comprehend the ideas embodied and their impor-

tance to the future needs of plants. Prosperous years of cropping, caused by frequent and abundant rains, warm sunshine and nature's healing and recuperating powers, are not conducive to much study and deep thinking concerning the growth of things, and the conversation of farmers seldom touches upon the science of agriculture, but is of the more trivial sort, and while the most of them take one or more agricultural papers, they seem to take it merely for the sake of being a subscriber, seldom reading it, never studying it or discussing the articles it contains with each other or their families. The years of adversity, especially those caused by drouth, while they are the source of much hardship, privation and often hunger, are of vast importance in advancing agriculture to a higher plane, by causing hard study and deeper thinking and delving into the sciences, of understanding the laws of nature, the relation of cause and effect.

I have heard several young farmers tell with a self satisfaction, implying they are smarter and better financiers as well as cultivators of the soil than those who suffered so much during the 90's, and I pity them in their ignorance, for I know that the methods they are following in these years of abundant moisture and good harvests with prices more than double of those years of shortage, would break them up in farming for themselves under like conditions. The dairy farmer needs to understand "how crops grow," "how crops feed," and the storing and conservation of moisture, as well as the grain or general farmer and more, he needs to know the laws governing the breeding, rearing and feeding of cows, the art of handling their products and the manufacture of them into edibles of finest flavor and highest quality. The butter dairyman must have a greater knowledge than merely a milk dairyman, for his work demands it.

Every farm should have a dairy department for supplying the family with the best quality of dairy products if none is to be marketed.—F. C. Johnson, Juniata, Neb.

A Cheap Way To Insure Healthy Hogs

You believe in insurance—don't you? In fact, you are paying out your good money right now to protect your house, barn and other buildings from loss by fire, because you wouldn't feel safe for even a day without such insurance.

Are your hogs insured? If not, why not? We don't mean fire insurance, but life insurance—“Merry War” Lye insurance—which will keep your hogs always fat and healthy and insures you getting them to market in prime condition to bring top prices.

How To Prevent And Cure Worms And Cholera

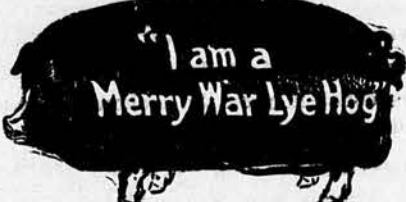
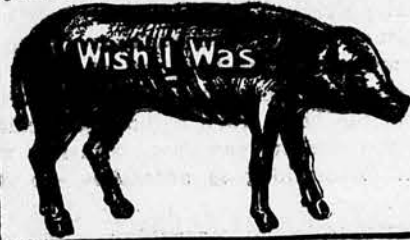
Here is a simple, sure, safe way to keep your drove in a perfectly healthy condition, render them immune to contagious diseases and increase the weight.

Tablespoonful “Merry War” Lye mixed with slop for ten hogs, or one-half can with barrel of swill for larger quantity. Stir well, feed night and morning.

Do this, and no matter how sick your hogs may be, in a few days you will see a marked improvement. “Merry War” Lye cleanses the system, tones the digestive organs, makes sick hogs well and insures your pork profits.

Take No Chances!

The time to act is NOW, before worms, cholera and other hog troubles get in their work. It will be too late when Mr. Hog slinks off into some corner, gives a feeble grunt, stiffens out his legs and passes away. That kind of a dead hog will never fatten your bank account. What you want is



prime hams and bacon—not soap fat! So take no chances, but insure your porkers against an untimely death by starting them on “Merry War” Lye. And do it today. Don't delay!

The Cost Is A Trifle

“Merry War” Lye is the least expensive as well as the best protection against hog losses ever discovered.

Its action is sure, and the cost for constantly keeping your drove in prime condition is so small that you will hardly notice it. A fair trial will convince you beyond all doubt that “Merry War” Lye will do everything that its thousands of Farmer Friends over the country claim for it.

At Your Dealer's

While most up-to-date dealers handle “Merry War” Lye, some dealers may offer you some other brand. If so, don't accept it, but explain to the dealer that while there are brands of Lye that are good for certain uses, yet there is only one kind “Merry War” Lye—that is safe and specially prepared for use in preventing and curing sick hogs.

So if your Dealer can't supply you, write us and we will give you the name of one who can; and will also send you a valuable book on “HOW TO GET THE BIGGEST PROFITS FROM HOG RAISING.” Send for this book today.

“Merry War” Lye comes in 10c cans, or 24 for \$2.00, at Grocers' or Drug-gists'. Accept no substitute.
E. Myers Lye Co., Dept. 12 St. Louis, Mo.

LIVE STOCK



Fat in Animals.

At the Western Stock Show, in Denver, it was a fact freely commented upon, that the winners in the fat steer classes on foot stood practically no chance in the carcass classes later, it seemingly being felt by the judge of the carcasses that those animals that were sufficiently fat to win in the ring were too fat to be freely marketable. And this suggested to me several questions.

Isn't there, after all, in these excessively fat animals, a lot of suet that the butcher can dispose of only by sending it out with some excessively lean piece of meat?

Does the housewife want a piece of meat surrounded by a two-inch layer of fat? Aren't we at times overdoing the fattening of show animals?

But, to pass on to a field where our feet are on a better trodden path. Aren't the breeding animals in our large shows excessively fat? Certainly we must answer in the affirmative in a great many cases. I have even seen draft stallions in the ring (and some of them won premiums) that were so fat that it is doubtful if they ever would afterward make successful breeders. We are certainly all aware that if we would make a heifer barren about all we have to do is to get her excessively fat. It must be a well known fact among stockmen that these over fat animals are very susceptible to disease, and that after the disease is contracted they die much more promptly than those in moderate condition. After all, must we not look upon over-fatness as an abnormal condition, and one not to be desired. Of course, I realize that the average show visitor looks for fat only and can see no good in animals not fat; but after all isn't about time we started in to educate even the visitors that the fat animal is not necessarily the best animal? In other words, as has been so aptly stated by an eminent authority, “Fitness and not fatness,” should be our aim.—I. E. Newsom, Colorado.

Your Experience Wanted.

I would like to have the experience of older stockmen in breeding two year old draft mares. Is it profitable or not? Will it stunt their growth? Will their colts be as strong and hardy when bred to an old and mature stallion or would it be better to wait longer? What kind of a cross would be obtained from a high grade Holstein cow and a full blood Galloway bull? Would this cross remove the horns and white spots from sides and quarters—L. B. Mettlen, Brownell, Kan.

Will our readers please answer, out of their experience, the questions about the mare? Communications along this line are welcome. In regard to the question about the cow, which seems to be intended for the editor, we would say that it all depends. Both the Holstein and Galloway breeds are very old and very potent. The result of the cross suggested would depend, very largely, upon the individual animals. If the cow were in more vigorous health and finer breeding condition than the bull we should expect the calf to partake of her characteristics more largely than those of the bull. On the other hand, if the conditions were reversed the bull would be more nearly reproduced in the calf.

We do not see that any good object would be accomplished by such a cross and if it were made the characteristics of both parents must be expected to appear in the calf, though no one could predict as to which would predominate. A spotted calf with horns and a long, curly Galloway coat would not be beyond the possibilities, though we should expect such a calf to be hornless.

It rarely pays to cross a beef and a special purpose dairy breed. The first generation is of neither breed and subsequent ones are mongrels.

Government Horse Breeding.

As before mentioned in these columns, the United States government has some difficulty in securing the horses necessary for remounts in the army although the number required each year is only about 2,500. On the face of it this does not seem to be a difficult problem as there are certainly many horses in the country and the government is rich enough to pay for them. The difficulty does not lie in the lack of horses nor the price of them but in their quality.

The mounted soldier or the artilleryman is really effective only as a horse is efficient. The cavalry as an arm of the service is made up of men and these, to be effective, must be only of high quality and trained in themselves but they must be able to secure these.

Certain types of horses are therefore needed for the cavalry, and the artillery and the difficulty lies in securing these. To overcome this difficulty it is now proposed that the government shall purchase the requisite number of stallions, say 100, and then enter into a breeding arrangement with the farmers of different sections of the country where mares of the required type may be bred to these stallions and the government have an option on the foal at a price agreed upon.

These breeding operations are to be in charge of cavalrymen as grown but under the direction of the Bureau of Animal Industry of the Department of Agriculture.

As the type of horses demanded for governmental use is a most useful type this plan may result in a great improvement of the horses of the country and make it possible to supply suitable cavalry and artillery horse large numbers in the event of future war.

The New Stallion Law.

The present legislature has been in for consideration and action a number of amendments to the present stallion registration law and all of them seem to be worthy. Among these amendments is one which makes the board of regents of the State Agricultural College the stallion registration board and, as this body adds new duties to a board already created and this without extra cost, it seems to meet with general approval. Another amendment consists in the insertion of the words “pure bred, thoroughbred, standard bred, cross bred, grade or mongrel” as to specify the proper breeding of any stallion.

The new law provides for an examination for soundness to be made by veterinarians appointed by the board but no veterinarian shall serve in a community in which he resides. The fee for registration is \$2 with an additional fee of 50 cents a year for renewal and 50 cents for transfer of ownership on the books of the board. The fee for examination for soundness is \$3 which is payable to some point that has been previously advertised by the board for only \$2. This examination for soundness must be made every three years until the stallion has reached the age of 12 years when he becomes exempt.

Of course these provisions will apply only to stallions which stand in public service and the regulations regard to non-resident veterinarians seems good.

Another reduction of expense to the stallion owner that will be made by this law is that the certificate of registration is not required to be published in newspaper advertising though it must appear in all bills, posters, etc.

As the U. S. Department of Agriculture has withdrawn its recognition of all registry associations the board will limit its recognition to accredited associations and, where possible, to one such association in each breed.

The bill under consideration is a great improvement over the present law and is strongly in the interest of both the farmer and the stallion owner.

Once Is Enough To Buy a Cream Separator—



If you have never owned a separator, let your first machine be your last. Don't buy carelessly or buy only on price and then find that you need and want a really good machine.

If you have an unsatisfactory, or worn out separator, let your next one be a lifetime investment. You will not be genuinely satisfied, you will not be making the dairy money you could, you will not be producing the finest dairy products with the least work, until you get a Great Western Cream Separator.

Don't waste money on other machines to find this out. Let others experiment—you be sure from the start. Decide now to investigate and test

The GREAT WESTERN

On Free Trial—5-Year Guarantee

Thousands have written us of their experience with other machines before they got a Great Western. Send for our book and read the letters.

Read our Free Trial Offer—any kind of arrangement you say. Read our guarantee—not for 1 or 2 years, but for 5 years, backed by \$1,000,000.00.

Cow owners who want all the cream, highest quality cream, least work, the biggest profits for the longest term of years, come to the Great Western Separator sooner or later.

It is the only separator with a skimming system that follows nature's laws—the milk slinks, the cream rises. The only separator that will skim cold milk clean, with the only close skimming, easy turning bowl that is kept perfectly clean without effort. Imported ball bearings throughout and more accurate adjustments than used in many watches make the Great Western easier for a boy or girl to turn than for a man to turn any other separator. Low tank and low gears, with high crank, mean greatest convenience, least vibration, velvety cream and longest wear without repairs.

FREE—Valuable Information Learn in a few minutes from our large dairyman's book what thousands have been trying to accomplish for generations. Turn to page 19 of our Art Catalog and get the cream of knowledge regarding milk separation. Study these facts a little, then study the Great Western Separator. The rest we leave to your judgment. You'll decide to try a Great Western anyway—all at our risk. If it doesn't beat every other, on every point we don't expect you to keep it. Write for book now. Ask for Separator Catalog No. C283

SMITH MANUFACTURING CO., 158 East Harrison St., Chicago, Ill.

Heider Eveners



A Great Invention. Made for 2, 3, 4, 5 or 6 horses.

The HEIDER 4-horse Plow Evener works four horses abreast on gang, sulky or disc plow, one horse in furrow, three on land. Works free, no side draft, all horses pull equal.

We make clevises, manure spreader, grain drill or any other implement with pole. GO TO YOUR DEALER—if he can't supply you—don't accept any other. Write us for catalog and we will tell you where to get them. We also make Wagon Doubletrees, Singletrees, Neck Yokes, etc. Insist on getting HEIDER'S if you want the best in EVENERS.

Ask Your Dealer.

HEIDER MFG. CO., 126 Main Street CARROLL, IOWA.

Care of Pigs.

Much complaint is heard of pigs not doing well in winter feeding—loss and unthrifty appearance.

The hog is the only farm animal that wears his summer clothes all winter. He does not grow a heavier coat of hair for winter protection like the horse or cow, and for this reason more care should be given to make him comfortable at all times.

There are three essentials for health, thrift and gain, to be considered in winter management to obtain best results; these are clean food, pure water, and dry comfortable sleeping places.

Clean Food—The food of the pig should be as clean as for any other farm animal—that is, it should not be mixed or contaminated with any substance that contains no food value. Dirt and filth taken into the stomach along with food impairs digestion and reduces the gain; it also effects the appetite and general health of the pig. Then, too, a considerable part of the food consumed is required to develop energy to separate and expell the indigestible matter.

It is a law of nature that the excrement of all animals is poisonous to themselves, and while pigs may profitably follow cattle, it is of vital importance that their food be not contaminated with their own excrement. This means that pigs should never be fed on the ground in a yard or pen where their own excrement abounds. Feeding on the meadows or pastures, moving about from place to place is a good way in summer, but in winter feeding from the cribs, to insure cleanliness, it is necessary to have a feeding floor and it should be cleaned after every feed.

A feeding floor is one of several improvements on the farm that pays big interest on its cost and not only that but pays back its cost as well.

The floor may be made of concrete or plank as preferred, but concrete is everlasting and more easily cleaned. Things should be considered—convenience in feeding and comfort of the pigs while eating their food. The best location is on the south side of a corn crib—never on the west or north. The west, north and east sides should be light boarded, six feet high to provide efficient wind break, but the south side should be open so the sun may shine upon the floor. Never build a feeding floor adjoining the hog-house or sleeping quarters; locate it a few rods away from such places so the pigs will have a short distance to walk for their food and there will be little but cobs to remove from the floor.

Pure Water—Over 40 per cent of fat pig is water and a reduction of the water supply below the natural requirements will reduce the gain just as surely as a reduction of food will. Well or spring water is better than water from ponds or streams. Standing or stagnant water about the barns or lots should not be tolerated. Pigs should have clean, pure water always at hand, day and night; they drink but little at a time, yet often, and if it is not always accessible they will not eat as much as is required for normal development.

How to have a constant supply of pure water in winter is a problem that each farmer will have to solve for himself.

Concrete Waterer—We have solved this problem by making a concrete waterer on the barrel and float plan, except that the pigs drink from concrete boxes about 12 inches square instead of from the barrel in the old way. The water passes from the barrel into the boxes through holes in a galvanized iron plate. The dirt cannot get into the barrel, but accumulates in the boxes from which it can easily be removed. A tank heater is kept in the barrel to warm the water. Pigs will not drink as much water, if very cold, as they require, and warming the water has induced them to drink more, besides it is cheaper to warm water with fuel than to warm it with food.

Pigs must not be allowed to sleep in manure piles, straw stacks, or in any place from which they will come teaming or sweating. The sleeping places must be neither to warm nor too cold, and so arranged that cold winds can not blow in upon the pigs, yet there must be good ventilation. Good judgment must be used in bedding the pigs. If on the ground, well protected from cold drafts, but little bedding is needed. If on an elevated



Pails and Pails of Milk—

full and foaming over, is what the up-to-date dairyman gets who gives his milch cows small daily doses of Dr. Hess Stock Food in their grain ration. No hard times on his farm—no talk about "farming don't pay"—just a full pocket-book and prosperity. Dr. Hess Stock Food has reason back of it. It is formulated on scientific principles, by a practical stockman—Dr. Hess (M. D., D. V. S.) and



fills a want long recognized by the American dairyman—a suitable digestive tonic for live stock.

DR HESS STOCK FOOD

acts directly on the digestive organs. It gives them "tone" and strength. It causes the largest possible percentage of hay and grain to digest and pass into the blood to be secreted as milk. For the same reason (increased digestion) it hastens fattening in the stall-fed steer, the market hog and the spring lamb. "The poorest ration, thoroughly digested, is better than the best ration poorly digested." This is "The Dr. Hess Idea" of feeding and its success fully warrants the faith which stockmen everywhere place in it. If you want to have fat, sleek and profitable farm stock, use Dr. Hess Stock Food. It relieves minor stock ailments.

100 lbs. \$5.00. 25 lb. pail \$1.40. Except in Canada and extreme West and South. Smaller quantities at a slight advance. Sold on a written guarantee. DR. HESS & CLARK, Ashland, Ohio

Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.

Free from the 1st to the 15th of each month—Dr. Hess (M.D., D.V.S.) will prescribe for your ailing animals. 96-page Veterinary Book free. Send 2c stamp and mention this paper.

DR. HESS POULTRY PAN-A-CE-A

is the foundation of present day poultry success. It increases appetite and assimilation—hence the egg yield. It hurries the growing chick. It makes market birds fat faster. It shortens the moulting period and cures roup, cholera, gapes, etc. A penny's worth feeds 30 fowls one day. Sold on a written guarantee.

1 1/2 lbs. 25c., mail or express, 40c.; 5 lbs. 60c.; 12 lbs. \$1.25; 25 lb. pail \$2.50.

Except in Canada and extreme West and South. Send 2c for Dr. Hess 48-page Poultry Book, free.

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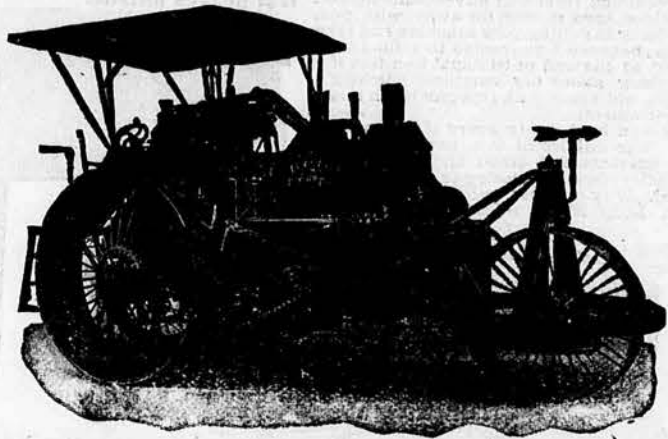
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Advertisement for RANGER BICYCLES. Includes text: 'RANGER BICYCLES. Have imported roller chains, sprockets and pedals; New Departure Coaster-Brakes and Hubs; Puncture Proof Tires; highest grade equipment and many advanced features possessed by no other wheels. Guaranteed 5 yrs. FACTORY PRICES are less than others ask for cheap wheels. Other reliable models from \$12 up. A few good second-hand machines \$3 to \$5. 10 DAYS' FREE TRIAL. We ship special prices and a marvelous new offer. A postal brings everything. Write us now. Coaster Brake Rear Wheels, lamps, parts, and sundries half usual prices. Rider Agents everywhere are coinng money selling our bicycles, tires and sundries. Write today. MEAD CYCLE CO., Dept. F 8, CHICAGO'

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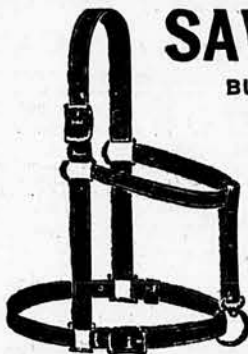
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Satisfaction or your money back. Get your neighbors to club together and buy a dozen. We save you money on everything in the harness line. Write for complete catalog of Harness and Saddlery. We send it free. Simply send us your name on a postal card and say "Catalog." It will surely save you money.

INSKEEP & SCHAUBEL, Manhattan, Kan.

floor, more bedding is required to keep cold from coming up from below; if on a concrete floor, just enough to keep the pigs from coming in contact with the concrete. The bedding should be removed once a week, the sleeping places thoroughly dusted with airslacked lime, and new bedding provided. Anything that can be done to increase the comfort of the pigs will add to the gain and profits in feeding.

Good care of pigs means good breeding, good feeding, constant watchfulness, more labor, closer attention to little details, and finally, more dollars in the pocketbook.—C. C. Pervier, Sheffield, Ill.

The worst season of the year is just before us. Winter is breaking up and the advent of spring is always heralded by extremely changeable weather. Extra care must be given the stock during the next few weeks but especially must the milk cow have attention. Care now means money later.

And Now You Can Buy The World's Champion 140-Egg Incubator Complete for Only \$7.55

WHY buy any other incubator at any price? Why not own a World's Champion Belle City? Yet my price is only \$7.55 and remember, I furnish you a big, full size 140-egg machine at that figure.

other machine hatched its full capacity—140 eggs size—140 chicks hatched. Why pay much more than my price for as large a capacity as the Belle City, or the same price for a much smaller machine, and yet get an unknown hatcher? I take great pride in the fact that I have started thousands and thousands of people in the money-making, poultry raising business, at small expense, for their complete outfit. What you want is a hatching outfit that is right in every detail—that's known to be perfect, yet simple in its operation—that will make a success from the very start, out of your very first hatch.

Freight Paid E. of Rockies

J. V. ROHAN, Pres.

Mrs. M. J. Clifton of Quinlan, Oklahoma, settled the world's championship by winning the Successful Farming Hatching Contest against all other machines, March 29, 1910, by hatching 140 chickens—the full capacity of her machine—a 140-egg Belle City Incubator. Many other machines were in the contest—other machines had high scores—but no

Complete Hatching Outfit—My \$7.55 Belle City Incubator and \$4.85 Brooder, Ordered Together Only \$11.50—Freight Prepaid East of Rockies

Let me ship you one of these complete outfits, all freight charges prepaid, to your station, on 90 days' free trial. The Belle City Incubator is an old, tried, tested, proven machine. I have been in the incubator business and my machines have been on the market for 28 years. I print thousands of testimonials and photographs of people who are using my machines in my printed matter. My plan is quick sales and a lot of them at a low price. A brief description of the Championship Belle City Incubator is as follows: 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. "Tycoos" thermometer—egg

tester—burner and safety lamp included. The Belle City 140-chick 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.

I will be glad to send my literature of this complete hatching outfit free, giving you all the information you may want. I advise you to get your outfit early. Have it on hand all ready to run when your eggs are ready.

I have sold thousands of machines direct from my advertisement. Everyone that reads farm papers knows that I am responsible. If you want to, you take no risk in ordering direct from this advertisement.

Thousands Order Direct From This Advertisement and Save Money. Why Not You?

By ordering my Championship Belle City Incubator and Brooder together, you get the complete outfit for \$11.50—freight charges prepaid—(E. of Rockies.) This saves you 90 cents on the regular price of the incubator and brooder and gets the outfit delivered to you at your station, all freight charges prepaid—be ready to run when your eggs are ready to set.

By ordering from this advertisement, you save time, save money, do away with possible delay in getting your machine and take no risk, because I guarantee to refund your money at the end of 90 days' free test if everything about my complete hatching outfit is not exactly as represented in this advertisement.

You can hold me to every claim made here. The editors of this paper protect your interests and stand back of me and my factory in guaranteeing to do as represented. Why not cut out this advertisement, keep it for reference, send me

your order, get your outfit at once, and be ready for the season.

I guarantee the Belle City Incubator to out hatch any machine made—when operated under like conditions—no matter what kind or what the price. Your money back if this test proves untrue.

140-Chick Brooder \$4.85



140-Egg Incubator \$7.55

I ship quick from Buffalo, Kansas City, St. Paul or Racine—And I Guarantee to ship all orders sent from this ad on day received.

The Largest Manufacturer in the World of 140-Egg Incubators—the Best Size Under All Conditions.

J. V. ROHAN, President

Belle City Incubator Co., Box 18 Racine, Wis.

WHITE PLYMOUTH ROCKS

(EXCLUSIVELY.)

For 13 years I have bred White Rocks, the best of all purpose fowls, and have some fine specimens of the breed. I sell eggs at a reasonable price, \$2.00 for 15, or \$5.00 per 45, and I prepay expressage to any point in the United States.

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Why Incubator Chicks Die

The book entitled, "The History of White Diarrhoea or Why Incubator Chicks Die," will be sent absolutely free by return mail to any one sending us the names of 5 to 8 of their friends that use incubators. This book can save you \$100 this summer. It describes white Diarrhoea, or bowel trouble, the cause, and tells of a cure. Book absolutely free for the names.

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POULTRY



Don't let disease get a start of you. Fight it in the early stages and you will find it much easier than to wait till it gets hold of all your flock.

Cold rains are prevalent in early spring and often cause sickness among a flock of fowls. To avoid the dampness, the floors should be heavily covered with straw or leaves.

The first eggs laid in the spring are often infertile, and it is inadvisable to set them. The cause is often attributed to the fact that the hens are too fat and inactive. After awhile the eggs will be all right.

Plenty of glass on the south side of the poultry house will tend to promote the healthfulness of the flock, for sunshine is death to any disease that may be lurking in any damp poultry house. Give the fowls plenty of sunshine, fresh air and exercise and they won't need any doctoring.

Every one engaged in raising poultry for profit should endeavor to take advantage of every source of profit. The value of poultry feathers is an important reason for dry-picking the birds. Dry-picked body feathers bring from 17 to 19 cents per pound, while scalded feathers are worth less than a cent a pound. The demand for feathers adds to the poultryman's profits.

One poultry raiser told another that she was very foolish to set pullets' eggs as they wouldn't hatch. The latter asked the writer about it. We answered that there was no truth in the statement, for pullets' eggs will hatch as well as hens' eggs, all other things being equal. But it is not advisable to restrict the settings to pullets' eggs exclusively, but use hens' eggs as well. The progeny from pullets is never so large or hardy as from mature hens, therefore the eggs from the latter are preferable for setting purposes.

Some people have a notion that the sex of the coming chick can be determined by the shape of the egg, the sharp pointed eggs producing cockerels and the roundish ones pullets. But there is nothing to it, as we have frequently stated. An expert says, that to the student of embryology this is at once apparent. For the first three days the chicken is sexual, from then to about the seventh day, it is distinctly hermaphrodite, and contains within itself the elements of both sexes. After this stage it diverges in one direction, one set of organs developing and the other diminishing, according to whether the germ is going to produce a male or a female; so that if the germ had a living consciousness, it would not know at the sixth day which sex it would ultimately be.

Chick feed can be bought from dealers in poultry supplies in almost any town, but the quality of the different feeds vary a great deal; especially is this so in the quality of the beef scraps that are used in it, some being perfectly worthless. A good chick feed can be bought at \$3 per hundred pounds, but a much better one can be made by purchasing the articles separately and mixing them oneself. The following is a good formula: 30 pounds cracked wheat, 10 pounds Kafir corn, 20 pounds cracked corn, 10 pounds pinhead oatmeal, 10 pounds alfalfa meal, 10 pounds beef scraps, 5 pounds cracked rice, 5 pounds millet seed. Grit and charcoal should be placed before the chicks in addition to this.

Sprouted Oats for Poultry.

A bulletin recently issued by the Maine Experiment Station deals with some of the poultry work carried out at that place during the last year, especially on feeding sprouted oats to poultry. Sprouted oats is what has been largely advertised as poultry feed at 15 cents per bushel, in order

to sell the book describing the method of producing them. But the bulletin says: "It should be clearly understood that the purpose for which green sprouted oats are fed is their tonic and stimulative influence on the digestive system. They are not fed for the food value of the oats themselves. If one wishes to feed oats they can be most economically fed not sprouted. The point of sprouting is to furnish fresh, succulent green food when such feed cannot be obtained outdoors.

"There is a unanimity of opinion among experienced poultrymen that poultry do best upon some form of green or succulent food during the winter months. The functions of such food is probably largely in the nature of a digestive stimulant rather than as an addition to the actual food constituents of the ration. Formerly, mangolds were used as a source of winter succulent food at this station. They did not, however, prove entirely satisfactory. The chief difficulty with the mangolds was found in getting them properly grown so that they would keep fresh and plump during the winter. If mangolds are not ripened off and harvested in the proper manner they will not keep through the winter, but will shrivel and become unfit to use as a succulent food. In the experience of the station it is much better not to feed any green or succulent food at all than to feed withered, shrivelled mangolds which were harvested before they were thoroughly ripe.

"On account of this difficulty with mangolds as a source of winter green food, the station began, in 1908, some experiments with green sprouted oats as a source of such food. Green sprouted oats have been very widely exploited in recent years as a green food for poultry. There are some so-called 'poultry systems' on the market which really consist of very little other than the use of this food. The first experiments with this material at the station were not satisfactory. It was found difficult to get oats to make sufficiently quick growth. Experience here has indicated that in order to make a satisfactory green food for oats must be grown very quickly. In order to get quick growth, it is necessary to have three things: first, warmth; second, plenty of moisture and, third, sunlight. After a number of experiments to get the right combination of these three factors the plans to be described was finally worked out, and has proved very satisfactory.

"There is in connection with the station poultry plant a hot-water heating system which has a 3-inch out-go pipe. This out-go pipe as it leaves the heater, passes along the rear wall a small room which was formerly used as a grain storage room. To provide a place in which to sprout the back part of this room was partitioned off as a closet, enclosing the 3-inch hot-water pipe. The partition wall which forms the front of the closet consists of glass doors, hinged from a regular storm window so as to swing open as an ordinary door does. These glass doors face towards the south side of the building which has a window directly in front of the doors. Throughout the day the closet gets plenty of light. The dimensions of this sprouting closet are as follows: Length, 9 feet 3 inches; depth, 2 feet 6 inches; height, 6 feet.

"The place of shelves in this closet is taken by large, square green flats made of 3/4 inch stuff. These flats have the following dimensions: Length, 2 feet 5 inches (inside); breadth, 2 feet 5 inches (inside); depth, 2 inches (inside).

"The length of the closet is just to accommodate three tiers of these flats, which slide on supports that they can be moved in or out, turned around to suit the convenience of the operator, and the needs of sprouting grain. These flats set

April 4, 1911.

inches apart (i. e., vertically). There can be accommodated four rows of flats, three in a row, in the closet at one time. A number of holes are bored in the bottom of each one of the flats in order to drain off the surface moisture which comes with the wetting of the oats.

"The advantage of the closet arrangement described is that it enables one to control the three necessary factors of heat, moisture and light, quite completely. In this closet it is easily possible to maintain a temperature which does not run at any time below 70 degrees. The closet being perfectly tight it is possible to saturate the air with moisture quite easily and virtually convert the whole space into a great moist chamber.

"With this arrangement one is able to grow oats from four to six inches high in one week's time. The only difficulty with which one has to contend is the matter of mold. There is always a tendency for the oats to mold in the sprouting process. The only way in which it has been found possible to control this mold is by thoroughly cleaning the flats after each time when they are used. After the flat has been emptied it is thoroughly scrubbed with a 50 per cent solution of disinfectant (that is, equal parts of commercial disinfectant and water). This scrubbing is very thoroughly done, and sufficient disinfectant is used to soak the flat thoroughly. With this precaution, and if the flats are further made to grow rapidly, the mold does not give any trouble whatever.

"The actual method of sprouting the oats is as follows: Clean and round oats are soaked in water overnight in a pail. The next morning the flats are filled to the depth of about two inches, and put into the sprouting closet. At the beginning freshly filled flats are placed near the top of the closet so as to get the maximum amount of heat, and in that way get the sprout started at once. During the first few days, until the sprouts have become from a half to three-quarters of an inch long, the oats are thoroughly stirred and raked over at least two or three times during the day. This stirring insures an even distribution of moisture throughout the mass of oats in the flat. After the sprouts become sufficiently long so that the oats form a matted mass it is not desirable to stir them, or to disturb them in any way. Stirring at that time will break off and insure the sprouts and the green portion above the mass will not grow so well. The matter of prime importance in growing the oats successfully has been found to be sufficient moisture. The tendency at first is to use too little moisture. The oats should be kept quite wet. The aim here is to keep condensed moisture standing on the glass doors which form the front of the closet at all times. In order to do this it is found necessary to wet the flats three times a day. This is done with an ordinary green house sprinkling can, with very little expenditure of time or labor. As the oats grow the flats are moved to different positions in the closet. The taller the oats are moved towards the floor, because the growing grain then needs less heat. This procedure leaves the desirable places in the closet for the rain just beginning to sprout where high temperature is needed.

"The oats are fed when they are from 4 to 6 inches in height. They are fed at the rate of a piece of the matted oats and attached green stalks about 6 to 8 inches square for each 100 birds per day. In feeding, these 6 to 8 inch square pieces are broken into smaller pieces and scattered over the pen, so as to ensure that all the birds shall have an opportunity to get some. Fed at this rate, this material has never caused any trouble among the birds."

Paint at 85c a Gallon.
A strictly reliable, and fully guaranteed Red Barn paint is what you buy, for 85c a gallon, freight prepaid, from the Sunflower Paint and Varnish Co., Fort Scott, Kan. This company is not in the paint trust, and its entire output direct to farmers at factory prices. Write the company for full particulars. It is worth your while, if you need paint in the future.

Go into Poultry and Make Money



Chicken and egg farming is a business of wonderful possibilities. Many of the best and strongest men in the country are engaging in it because of the opportunity it affords to make money. Does money making interest you? Let us see.

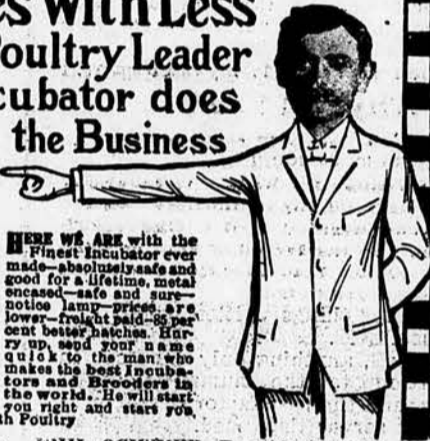
I Want 10,000 or More Men and Women to Write Me.

I want to send you my book and talk to you about Poultry as a business. I will undertake to show you that it is the liveliest calling that keen, active business men, women, boys and girls can engage in. You have heard about "The Queen Incubator Way." I am going to demonstrate to you that the Queen Incubator way makes poultry pay—makes it a real business. And I'll not stop at that, my friends. When I have shown you the way I will make you the most remarkable offer ever you had of starting up in the Queen Incubator way on the make good plan. It will cost you only a penny to send a postal for my book, my story and my plan. Will you spend the penny and send the postal? Address **WICKSTRUM, Queen Incubator Man, Box 28, Lincoln, Nebraska**

Bigger Hatches With Less Worry. The Poultry Leader Incubator does the Business



Write for Free Book and Special low Prices. Send your Name quick. The Incubator that Hatches quick to make money with Poultry.



HERE WE ARE with the Finest Incubator ever made—absolutely safe and good for a lifetime, metal enclosed—safe and sure—notice lamp—prices are lower—freight paid—85 per cent better hatches. Hurry up, send your name quick to the man who makes the best incubators and brooders in the world. He will start you right and start you making money with Poultry.

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and Almanac for 1911 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickens. You need it. Only 15c. C. C. SHOEMAKER, Box 899, Freeport, Ill.

140 EGG INCUBATOR and 140 CHICK BROODER
The incubator is Both For \$10
California Red-For \$10
wood, covered with asbestos and galvanized iron; has triple walls, copper tank; nursery, egg tester, thermometer, ready to use. 30 Days' Trial—money back if not O. K. Write for Free Catalog today.
Ironclad Incubator Co., Dept. 73, Racine, Wis.

125-Egg WISCONSIN Incubator & Brooder \$10 BOTH FOR \$10



If ordered together we send both machines for \$10.00—freight paid east of Rockies. Hot water, double walls, dead air space between. Top has three walls. Double glass doors, copper tanks and boilers; self-regulating. Nursery underneath egg-tray. Both Incubator and Brooder shipped complete, with thermometer, lamps, egg-testers—all ready to use when you receive them. All machines sold on a 30 days' trial, if not satisfactory at end of 30 days you can return them, and money will be refunded. Incubators finished in natural wood showing exactly the high grade lumber we use. If you will compare our machines with others offered anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money. It pays to investigate the "Wisconsin" before you buy. Read the letters below—they are actual proof from users, showing the success they are having with our machines. This is the most convincing evidence you could get. Send for the free catalog today or send in your order and save time. Orders shipped same day received. Read the letters below.



All machines guaranteed for 5 years.

Wisconsin Incubator Co., Racine, Wis. Crow Agency, Mont.
Gentlemen:—I thought I would drop you a line to let you know how I came out with your machine. It has just hatched the second time and anybody would have a hard time to get it from me for three times what it cost. From the first hatch I got 121 chicks from 123 fertile eggs and the second time I put a small tray in front of the egg tray and from 151 fertile eggs I got 144 fine chicks. I am more than pleased with your machine and I am going to get three more before spring. My neighbors have all kinds of machines here and I hold the record with my machine.
F. L. STANLEY
Wisconsin Incubator Co., Racine, Wis. Blanchester, Ohio
Gentlemen:—I am well pleased with the way your incubator works. I think the chick nursery underneath the egg tray is all right as you do not have to take the chicks out until they are all hatched and they come downstairs like the children in the morning. I set the incubator three times and got 245 chicks.
F. FERKEL
Wisconsin Incubator Co., Racine, Wis. Odessa, Mo.
Gentlemen:—It pleases us greatly to be able to say that your incubator is a jewel. We have seen several incubators in operation and none have equalled the Wisconsin. Through six hatches we never averaged less than 90 per cent. We also had excellent results with duck and turkey eggs. We were also pleased to find the material and construction exactly as represented.
H. S. REDDICK
Wisconsin Incubator Co., Racine, Wis. Grass Lake, Mich.
Dear Sir:—I do not think there is a better machine on earth than your incubator. I have taken off four hatches and I got a 100 per cent hatch the first three times and a 99 per cent hatch the fourth time. From 115 eggs I got 115 chicks, 105 eggs, 105 chicks and from 109 eggs I got 109 chicks. No incubator on earth can beat that. I will stand by this statement as I can prove it.
A. JESSUP, R. No. 8.

Thos. J. Collier, Mgr.
This illustration shows the double walls, dead air space construction of our machines.
No other manufacturer can use better material in the construction of his machines than we are using in our machines. Incubator made of California Redwood. Lamps galvanized iron. O. K. burners. Taylor thermometers.

MAKE THESE COMPARISONS BEFORE YOU BUY
They will help you to avoid making a mistake in deciding which machine to buy.
1st Be sure and compare the lumber. Our incubators are of selected California Redwood.
2nd The Wisconsin has double walls with dead air space, a decided advantage. Some have no dead air space.
3rd The egg chamber in the Wisconsin is fully 10 inches deep. Some, to cheapen cost of making, are 8 inches deep.
4th This makes the nursery less than 2 inches and too shallow for little chicks. In the Wisconsin the nursery is 3 inches deep.
5th In the Wisconsin there is plenty room between the egg tray and the door for the chicks to get in the nursery. In some incubators you have to open the door in order to put the chicks in the nursery.
6th The Wisconsin has large double glass doors through which the thermometer can be easily read. Some have a small single glass, making it necessary to open the door to read thermometer.
If you will make these comparisons—weigh them well, I know you will order my machines and be better pleased, for these are cold facts which actual comparisons will prove.

HANDY GARDEN TOOL

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FINE POULTRY AND EGGS FOR HATCHING.
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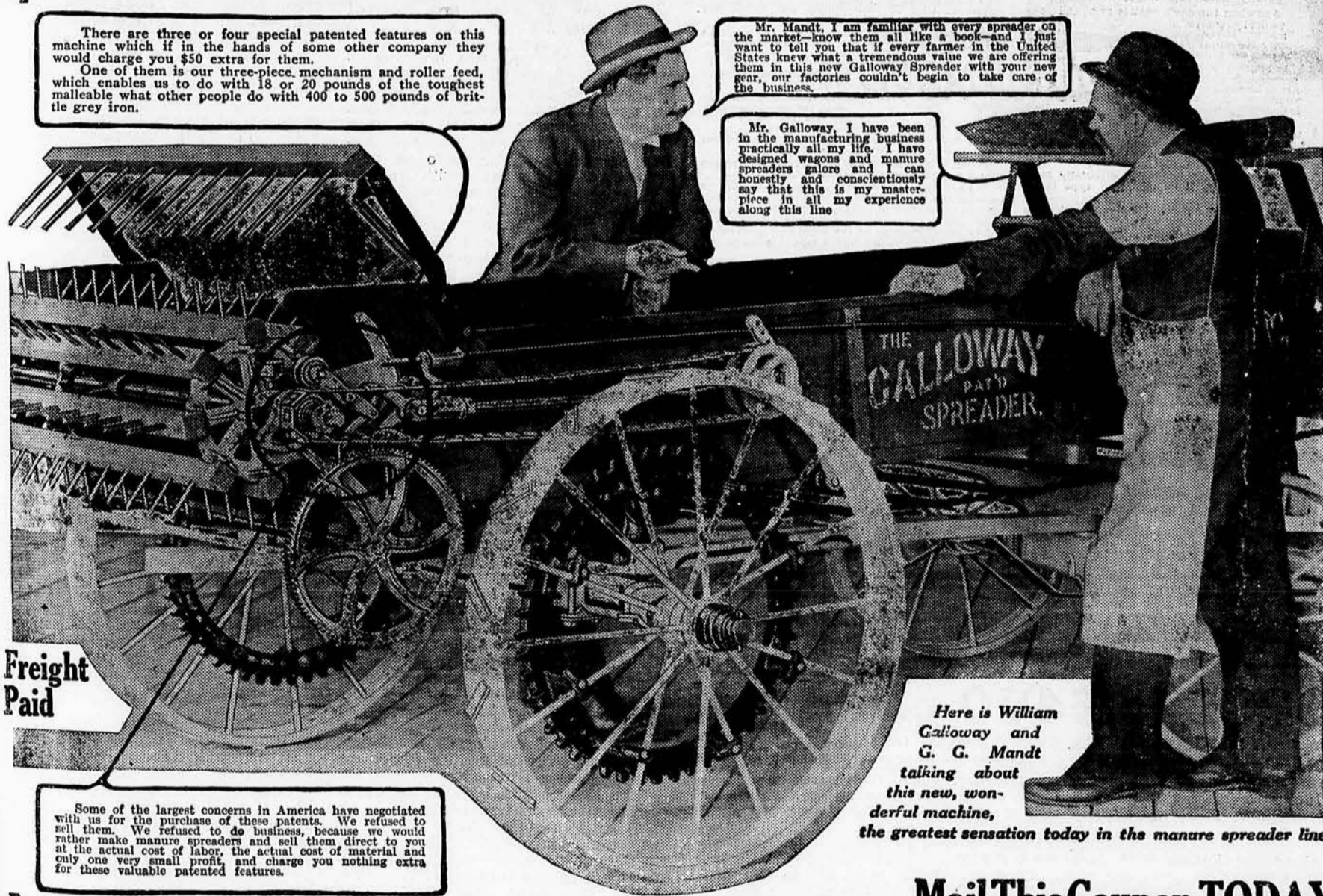
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There are three or four special patented features on this machine which if in the hands of some other company they would charge you \$50 extra for them. One of them is our three-piece mechanism and roller feed, which enables us to do with 18 or 20 pounds of the toughest malleable what other people do with 400 to 500 pounds of brittle grey iron.

Mr. Mandt, I am familiar with every spreader on the market—know them all like a book—and I just want to tell you that if every farmer in the United States knew what a tremendous value we are offering them in this new Galloway Spreader with your new gear, our factories couldn't begin to take care of the business.

Mr. Galloway, I have been in the manufacturing business practically all my life. I have designed wagons and manure spreaders galore and I can honestly and conscientiously say that this is my masterpiece in all my experience along this line.



Freight Paid

Here is William Galloway and G. G. Mandt talking about this new, wonderful machine, the greatest sensation today in the manure spreader line.

Some of the largest concerns in America have negotiated with us for the purchase of these patents. We refused to sell them. We refused to do business, because we would rather make manure spreaders and sell them direct to you at the actual cost of labor, the actual cost of material and only one very small profit, and charge you nothing extra for these valuable patented features.

Everybody Knows Galloway—Everybody Knows Mandt—Everybody Knows This is the Greatest Combination for Quality and Value Ever Accomplished in the Making of Manure Spreaders

MY FARMER FRIENDS were quick to see what this combination means. All know that Galloway keeps years ahead on spreader improvements—and all know of the great wagon-builder, G. G. Mandt. Mandt is now with Galloway, one of the firm. He has been here with me for a year. Now I don't need to tell you that Mandt knows how to build a wagon-gear right. And he says this new gear for my new spreader is his greatest piece of work. I know it is, and so will you when you get the facts.

Write For Introductory Offer

Get your name to me now quick, while I'm making my extra special price offer on this extra special spreader. I'm going to put my first lot of these out at a price that won't let you even hesitate.

This new 70-bushel spreader of mine is worth \$50.00 more than any other spreader built on account of its 11

important patented features. But we sell it at a price 20 per cent to 30 per cent less than others ask for spreaders not half so good.

We don't hold you up for a big price just because we have valuable patents, as others would if they had them. Just get my proposition and see. No matter what style of spreader you need or when you think you'd need one—send me the coupon or a postal now.

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My Galloway-Mandt spreader is the top-notch of all, but it's only one of the most improved and most complete line in the country. Take your choice of size, style and price. You can't go wrong if it's a Galloway. Let us send you the offer that is creating such a stir anyway—and my Big Spreader Book showing all the styles too. Mail the coupon or postal to me—now—personally. Wm. Galloway, President.

The Wm. Galloway Co. ³⁸⁹ Galloway Station Waterloo, Iowa, U.S. A.

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It's a quick, easy job for Uncle Sam to hand you my Free Book on manure spreaders, after I get your name and address. Just fill out coupon and send it in by next carrier, or write me a postal if more convenient. I want your name now while the Introductory Price is on. Right now is the best time.

Special Galloway-Mandt Manure Spreader Offer

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You may send me free, postpaid, your Manure Spreader Book and all particulars and special price offer on your new Galloway Spreader with Mandt's new gear.

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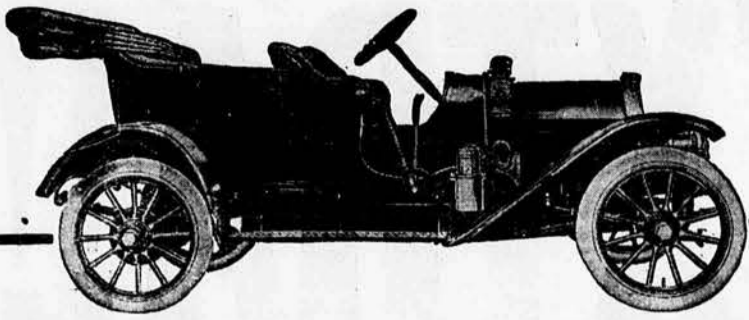
Dear Sir:—The Galloway Spreader is all that could be wished for and more. I am not much of a cartoonist or I might send you one of a neighbor of mine who has a "rust" spreader. He will take off his hat and swear when he breaks down, and that is all the time. He says I can spread as much manure as he can, and it costs him

twice the price of mine every two years for repairs. R. J. BAIN, Pishek, N. D. Gentlemen:—The Galloway Spreader, I have found, is a light-running and light-built machine. Although it is lightly built it is very strong. Some standard makes, I have noticed, are very heavy and appear quite complicated, while on the other hand

yours is just the opposite. Last winter I spread manure in twelve or eighteen inches of snow, while my neighbors spread by hand. E. W. SAMMELSON, Salem, S. D. Gentlemen:—I am well pleased with my manure spreader. It works fine and does it so easily. One of my neighbors has the

Clover Leaf spreader and it is too hard work for three horses, so he had to put four horses on it; then it pulls as hard for them as it does with mine for two horses, and does not do any better work than my Galloway No. 5. I assure you when I am in need of any machinery you will hear from me. S. E. TRENKS, Geddes, S. D.

The GRANGE



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And still another new and useful feature added to the Great Western 40. By a simple "twist of the wrist" this massive, luxurious pleasure car becomes a convenient, powerful truck car.

Simply remove four bolts, take off the tonneau, slip in the wagon-box and return the bolts. Very simple—very easy.

With this great car you will find many uses—save many dollars—many hours—much labor.

Hauling truck to market—supplies home, carting dirt, stones, stumps, cattle and poultry—becomes an easy, pleasant task.

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It enables you to accomplish twice as much as before, and your earning capacity is doubly increased.

This is the same car that has become famous through its marvelous feats in hill-climbs and endurance contests against cars of over double its price.

If there is a car on earth especially ideal for the farmer, it is this new type Great Western 40.

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You need not fear break-downs, or mysterious troubles. For few cars are so reliable—so mechanically simple—so nearly trouble-proof.

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You have all the power you need, when you need it. All the speed you want, when you want it. Sixty miles an hour if you choose.

With its cost of up-keep you'll be surprised. For it is no greater than that of the lightest cars. 31 miles per gallon of gasoline is common for the Great Western 40.

Its lightness, special springs, steady motor, ease of operation, absence of vibration, help make its cost of maintenance far below the average.

In beauty and comfort it has no serious rivals. Look at the car! Honestly, did you ever see its equal anywhere near its price!

Note the large, roomy seats, the extra leg room, the 11 1/2 in. wheel base, the 34 in. tires.

The dashing, racy, graceful lines of this car give it an aristocratic, dignified appearance.

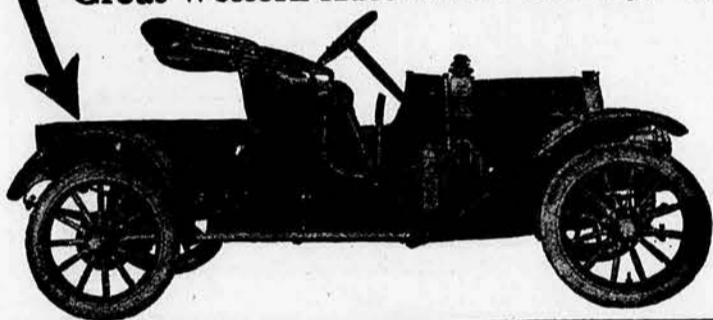
If you buy this Great Western 40 you will have many splendid things to look forward to.

We are able to sell this car—worth double its price—at \$1600 by breaking all traditions; basing price on cost of manufacture, plus selling cost, plus a fair profit.

We leave it to any of the hundreds of farmers who own the Great Western 40 that it is the car for your purpose.

Write us today for beautiful booklet, complete specifications, name of nearest dealer, and further reasons why the Great Western 40 is a paying investment for you.

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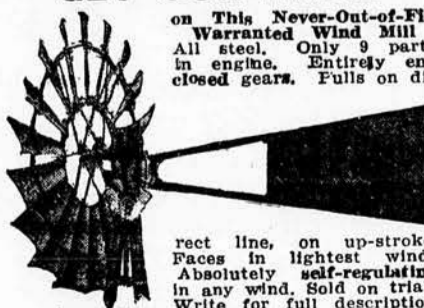
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Origin of the Grange.

The Order of the Patrons of Husbandry originated in the mind of O. H. Kelley, a man of New England birth, who went to Minnesota in his early manhood and became a farmer in that section of the country.

In 1864 he was appointed a clerk in the Department of Agriculture at Washington. Two years later, in January, 1866, Mr. Kelley was commissioned by Hon. Isaac Newton, Commissioner of Agriculture, to visit the southern states, lately in hostility to the government, for the purpose of obtaining statistical and other information in regard to the conditions of the south, and report the same to the Department at Washington.

It was while traveling in the south in obedience to these instructions that the thought of a secret society of agriculturists, for the protection and advancement of their interests, and as an element to restore kindly feelings among the people, first occurred to Mr. Kelley.

The idea of giving women full membership in the proposed order originated with Miss Carrie A. Hall, of Boston, Mass., a niece of Mr. Kelley, to whom he had imparted his views of the new association after his return from the south. In the full formation of the order, six other men were directly associated with Mr. Kelley, namely: William Saunders, of the Department of Agriculture, who next to Mr. Kelley, did most in originating the order, and Rev. A. B. Grosh of the same department; William M. Ireland, of the Postoffice Department; Rev. John Trimble and J. R. Thompson, of the Treasury Department; and F. M. McDowell, a pomologist, of Wayne, N. Y., all of whom, with one exception, were born upon a farm.

These seven men were the founders of the order, and for nearly two years they labored with great energy, and with a faith and zeal amounting almost to inspiration, until with the assistance of friends who became interested in the plan they completed a well devised scheme of organization, based upon a ritual of four degrees for men and four for women, which is unsurpassed in the English language for originality of thought, purity of sentiment and beauty of diction.

Having formed a constitution to govern the order to which this ritual was adapted, these men met on the 4th day of December, 1867, and constituted themselves the National Grange of the Patrons of Husbandry, with William Saunders as master, J. R. Thompson, lecturer, William M. Ireland, treasurer and O. H. Kelley, secretary. The remaining offices for obvious reasons were left vacant.

The little brown building in which the organization was effected was at that time the office of Mr. Saunders, and stood embowered with the trees in the gardens of the Agricultural Department on the corner of Four and a Half street and Missouri avenue. Later the late Colonel Aiken of South Carolina, and other interested members of the order made vigorous efforts to have the government preserve this historic building, but they were unsuccessful in their efforts.

The first subordinate grange was organized in Washington, D. C., the 8th day of January, 1868, as a school of instruction, with William M. Ireland as master.

The first dispensation for a Grange was granted at Harrisburg, Pa., the 4th day of April, 1868, but the first regular subordinate grange to which a charter was issued was organized at Fredonia, N. Y., the 16th day of April, 1868.

The first State Grange, that of Minnesota, was organized the 22d day of February, 1869. The new order made slow progress up to 1872, only 257 granges having been organized in the entire country. During the year 1872, 1,105 were organized, and the order had an existence in twenty-two states.

The first meeting of the National Grange, as a delegate body, was held at Georgetown, D. C., the 8th day of January, 1873, with six of the founders of the order and seventeen delegates present, representing eleven states; six of the delegates were masters of State Granges, and the re-

mainder were deputies in the order. In addition to these, four women were present, viz: Miss Carrie A. Hall, Mrs. O. H. Kelley, Mrs. D. W. Adams, and Mrs. J. C. Abbott. The total number of granges organized previous to this meeting was 1,362. Nearly 30,000 charters have been issued to the present time, and the organization is now increasing in membership and influence faster than at any time in its history.

Subjects for Grange Discussion.

The lecturer of the Pennsylvania State Grange makes some valuable suggestions to lecturers and suggests some important subjects for discussion. Many matters of great importance are deemed little when not understood. Others seem big because more important matters are not brought in contrast with them.

Farm side: How I fed my last load of steers, and how I will change my methods in the future. Successful hog feeding. The sheep business and how to improve it. Testing seed corn; the how and why of it. Preparing small grain for seed. Feeding the dairy cow. Care of farm machinery. How I keep tab on my dairy cows. Winter care for the idle farm horse. Resolved, that under our conditions it is more profitable to market our grain and roughage through the dairy cow than to sell it on the market. Resolved, that it is more profitable to market the grain and roughage of the farm through baby beeves and yearlings than by means of two or three year olds. What constitutes an ideal milk room for a modern dairy farm of ordinary size. The problem of worn-out pasture—how its feeding value may be restored.

Business side: Farm accounts. The markets and future indications. Freight rates and how to govern them. Farming as a business. The cost of producing an acre of corn, oats, wheat and clover. The cost of raising a calf for the dairy. The farm operation which made me the most money last year.

The social side: Our rural schools and how they might be improved. Help on the farm and in the home. The increase of tenancy and what it means. Large vs. small farms. Resolved, that children are what the inheritance and training of their parents make them. What is the world's greatest educational institution. Resolved, that the home has a greater influence over the child than the school. Increased cost of living and how regulated.

The legislative side: The tariff as it affects the farmer. The parcel post and what the Grange should do to secure it. Some needed road legislation. The new school code and how it affects our children. Popular government. The initiative and referendum and recall and what they mean and how would they effect legislation if enacted. What change should be made in our tax laws? Why should United States senators be elected by popular vote?

Much of the success of your work this year will depend largely upon the thoroughness with which you prepare your program. Do not slight it in any particular, but give it your best thought and most earnest effort.

We especially want you to keep in touch with what is being done in the legislature during the months and to keep the members posted as to what is being done in the interest of the farm and home.

We would suggest that some one be appointed to help you keep in touch with all legislation, both state and national, and that a few minutes be given to this work each meeting night. Let the committee be called a committee on current events and encourage them carefully to select such matters as will be of especial interest to the membership and give it in a condensed form.

The ancient Egyptian gave honor to the memory of the dead cat. Modern Kansas ought to do the same for the dog.

Sometime a man is like dough, a woman not only needs him but he is hard to get off her hands.

Raising Larger Litters.

(Continued from page 4.)

When the pigs suckle the udder becomes so inflamed and becomes so intense that in desperation she jumps up, kills and eats them.

The profits for a whole year can be thrown away in a few hours by a little neglect at farrowing time. An investigation in one of the chief hog raising sections showed that the farmers were losing from one-third to two-thirds of the pigs that were born alive. Last year a man with fourteen sows raised to weaning time fifteen pigs while his neighbor, who used less feed but spent every hour with his sows during farrowing time, raised an average of over eight pigs to a litter from a large herd of sows.

At first, after the pigs are born, feed the sow lightly, for if she is fed she will give more milk than the pigs could have it will give them the milk and many will die; often the whole litter is lost in this way.

Watch the sow and pigs and slowly increase her food as fast as the pigs can take more milk. At the end of two weeks after farrowing she should be given all the milk producing feeds she will eat. Pasture, skim milk, cake, shorts, wheat, gluten feed and the hay from alfalfa, clover, peas and peanuts are among the best milk producing feeds.

Corn and barley in moderate quantities are good, but must be fed with large quantities of the milk yielding feeds. An excess of either of these grains is certain to bring on thumps, one of the most fatal of the diseases of young pigs. Like all growing animals, the pigs must have hours of exercise every day.

The cheapest way to put gains on young pigs is through the sow. She has a strong digestion and can turn coarse grains and pasture into easily digested milk.

Pigs will begin to nibble at feed when they are about three weeks old. At this age they should be given a little milk in a trough separate from the mother. After they get to drink the milk freely, add a little cracked whole grain—barley, wheat, corn, milo, or corn. Do not give more than they will eat up clean one time, and clean the trough well before each feeding.

Pigs should not be weaned until they are at least eight weeks old, and the sow is not to have a second litter or if there is time enough in case of a second, it is better to let the pigs suckle until they are ten or twelve weeks old. Farmers often get in a hurry and wean pigs when six weeks old but unless there is an abundant supply of milk, and especially good milk is given, the pigs are likely to become stunted, sometimes so severely that they never recover.

When the time comes to wean the pig, cut down the sow's ration to wheat and alfalfa hay. She will dry up without injuring her udder. When she is giving a large supply of milk all the pigs are taken away at once, her udder is often ruined and becomes unable to suckle another litter.

When first weaned, feed the pigs three to five times a day. While with their mother they took their milk at least every two hours, and a sudden change is detrimental. When they get to growing vigorously, feed them down to two meals a day.

When first weaned, the pigs should be given either skim milk or tankage until they get over the change from mother's milk. Every hog raiser should plan if possible to have a good supply of skim milk for this time. If he cannot do this, tankage will take the place, making it about one-fifth the weight of grain fed.

Two litters a year mean two dividing periods for the hog raiser each instead of one. Properly handled, a mature sow will keep better breeding condition and will give her owner more years of profitable service if she has two litters a year than if she has only one. To do this she must be fed while pregnant with a supply of bone, blood and muscle-making feeds, in order that the development of the unborn pigs will not weaken her by taking these materials from her own body.

Some men are so "ornery" that they cheat at solitaire.



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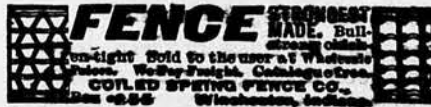
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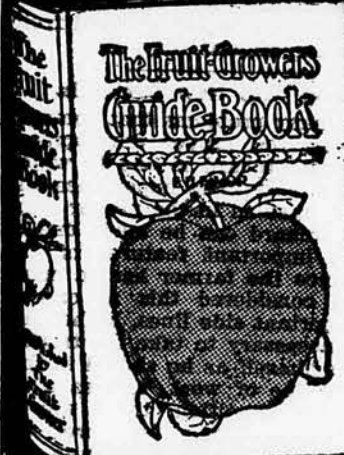
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Prof. E. H. Favor, the famous Fruit Expert, has prepared for "The Fruit Grower" a wonderful new work, "The Fruit Grower's Guide Book", that should add millions of dollars to the profits of Fruit Growers. It is the result of a life time's experience of thousands of fruit raisers, took two years to compile, and is just published at a cost of \$10,000. Yet this great Book—full of practical interest to the small owner, and of almost priceless value to professional fruit growers operating on a large scale—is given absolutely free with each \$1.00 subscription to "The Fruit Grower", the world's greatest horticultural paper. Prof. Favor has written this volume in a beautiful, fascinating, non-technical style,

which makes every phase of the subject so clear that a child can understand and profit by it. Even if you know nothing, whatever about fruit growing, this wonderful Book will lead you easily along, lesson by lesson, from the simplest elementary principles until you are a qualified expert. This Book is simply indispensable to every one who is interested in fruit growing. In all the history of Horticulture, from the earliest times to the present day, nothing like this wonderful work has ever appeared. What the Encyclopedia is to the Scholar, what the Compass is to the Sailor, this "Complete Book" is to the Fruit Grower. Some enthusiastic Fruit Growers, who have read the Guide, claim it is

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A single dairy cow can easily bring \$12 profit each month, with proper management. Right now the dairies of these cities are clamoring for more milk and butter and offering top notch prices to get them. St. Louis alone consumes 19,900,000 lbs. of butter and untold quantities of milk, each year.

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The cost of production in every line is *very low*. Hogs are fattened for 2½c to 3c per lb., and in quick time, on the rich clover, alfalfa, cowpeas, etc., that grow so well in the Ozarks. Sheep pay a profit of \$12 per head and take nothing but the wild grasses and noxious weeds. Cows graze practically *all year* and need little or no shelter. You are not compelled to devote most of your land during the summer to grow feed for your stock to eat during the winter.

Then, with the finest of clean, pure water, good drainage, a mild climate and splendid pasturage, the loss of stock from sickness is practically nothing. Troublesome diseases that are common in other sections seldom spring up in the Ozarks, because of these healthful conditions.

With a mild climate, you are not cooped up for half the year, living on what you made the other half—the plow can be used most every month.

Taken separately, none of these advantage may seem to count for much, but, summed up, they total the difference between *little* profit and *big* profit—between *over* work and right living.

The College of Agriculture of the University of Missouri, at Columbia, under Dean F. B. Mumford, maintains a special department, to analyze soils. This department will—free of charge—gladly analyze the soil of any place in the Ozarks that you may choose, and advise you as to just what crops it will grow best.

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A. HILTON, General Passenger Agent, Frisco Lines, 501 Frisco Building, St. Louis

HORTICULTURE

J. L. Pelham, who graduated from the Agricultural College in 1907 and who is now superintendent of the Underwood orchards at Hutchinson, has been lecturing to the college classes of late. Mr. Pelham is one of the most successful users of orchard heaters in Kansas and his company will buy an equipment sufficient to protect 300 acres of orchard this spring.

Spraying Orchards.

The writer has made a study of the apple situation as it exists in this locality, having handled apples in a wholesale way for the past 16 years. In this time I have bought apples from almost every apple producing section, the most of which I have visited personally. This has given me an opportunity to study conditions and care given the apple industry in the different localities.

I am firmly of the opinion that orchards in this territory can be made as profitable as in any section if the proper care and attention is given them. The most serious drawback now existing is the destructive insects, which have constantly grown worse from the fact that the matter has been neglected until almost every orchard in this territory is infected, and the only way it can be remedied is by concerted measures by every one owning orchards.

It is easy enough to destroy the insects, which has been demonstrated by scientific research of the government and interested industries, which information is at the hand of every one by the asking.

It has become so well recognized by handlers of apples that the first thing a buyer of commercial orchards will say when inquiring about orchards is, "Has the orchard been sprayed?" and if so, "How many times?" and if it is found they have not been sprayed, the chances are he will not care to even visit the orchards, as he is taught by experience that it only pays to buy sprayed fruit. C. E. Walker, Kansas City, Mo.

Helping with New Orchards.

Of the many problems that confront the farmer, the proper development of the farm orchard is one to which he attaches very little importance and yet, when handled in the proper manner, the orchard can be made one of the most important features of the farm. Since the farmer has in many instances considered this as one of the unimportant side lines, he has not found it necessary to take the trouble to inform himself as he should in this particular line of work, and as a result of this condition, there are at present comparatively few well developed farm orchards in Kansas.

In the early development of the state the pioneers from New England and central states brought with them many varieties of apples and other fruits with which they were familiar in that section of the country from which they emigrated. Unfortunately, many of these sorts, though excellent in the country where they originated, were entirely unsuited for the climatic conditions of Kansas. Many varieties of apples, such as Baldwin, Northern Spy, Greenings, Yellow Bell Flower, etc., have been brought into this state by the old settlers and it would seem that these individuals have placed a higher value on fruit trees than the present generation. At any rate, at the present time the average farmer knows comparatively little more about varieties best suited for his conditions than the settler of the state did fifty years ago; with the result that many prospective planters continue to ask for many of these old varieties that are obsolete so far as our conditions are concerned.

Time has shown that we can not successfully grow many of the choicest varieties of plums. Many of those sorts that are best in quality will not stand the winters or, in the event they escape this injury, they are so sub-

ject to the attacks of fungus diseases that it is rare that a crop is obtained. It is therefore unprofitable to try planting any but the hardest sorts, and those that are closely allied, generally speaking, to the wild sorts that are native to this state. Yet many farmers continue to buy such varieties as Greengage and some of the prunes and others of this type. Nearly every one who came from that section of the country where sweet cherries were successfully grown insist on trying some of this type; though the trees generally grow all right, they fail to bear more than a few scattering fruits, just about enough to supply the birds and preserve a good supply of insects from one year's end to the other.

Believing that quite a large per cent of the trees that are being planted at the present time are sorts that are unsuited to the locality, the Kansas Agricultural College is taking steps to get in touch, where possible, with prospective planters with a view of conferring with them along this line. If the prospective planter will submit to the extension department of the college his lists of varieties of the various fruits that he expects to plant, the department will take the necessary steps to inform him as to what is best suited for his condition. To enable him to make plain his exact situation a blank has been printed that we will be glad to send to any prospective planter. I will be glad to visit old orchards and advise as to care and treatment.—C. V. Holsinger, Manhattan, Kan.

The Cottonwood, and How to Season the Lumber.

The cottonwood attains the largest size of any forest tree within the state. It is a native tree and is found growing very generally in the eastern part of the state and along the water courses throughout the western part of the state. The large size and the clear straight trunk that the cottonwood develops make it a very desirable saw log. The value of the cottonwood for lumber production has been greatly underestimated. The one serious objection to cottonwood has always been that it warps badly. This objectionable feature can easily be overcome by properly handling the lumber. As soon as sawn it should be piled straight and evenly with an air space of two inches between each board and a strip of batten between each layer of boards. The battens should be placed not more than four feet apart and the battens of each layer should be placed directly over another so that the weight will be borne by a perpendicular line of bearings. This point is very important and should be rigidly observed. Another point that is of considerable importance is that lumber of different dimensions should be piled in separate piles. This allows uniform spacing between each pile and the spacing is important as an unobstructed circulation of air is necessary if the lumber is to dry uniformly.

When the pile of lumber is completed the top boards should be weighted down with slabs or other heavy material and a sloping board made of the slabs will turn much of the rain water that would otherwise retard the drying.

When seasoned the lumber is better than pine for many purposes. Cottonwood is a very perishable wood when used in exposure, but for interior uses it is an excellent lumber. For barn building it will fill every demand for lumber, except sills, string and cornice. For houses it can be used for joists, studding and sheathing.

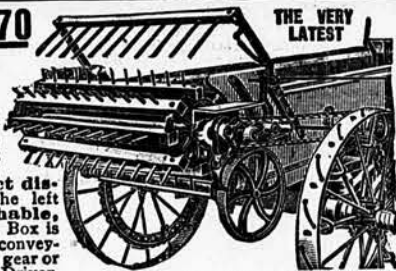
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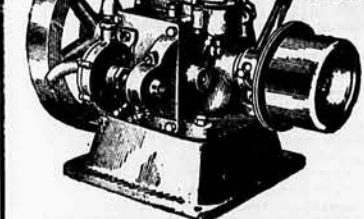
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It will not be very long before the old familiar sight of windrows of burning corn stalks will be seen again. Fortunately, the farmers who burn the corn stalks are very much fewer in numbers than formerly, and there should be none of them. Corn stalks that have stood out in the weather for months do not have a great deal of fertilizing material in them but they do have material of which humus is made. Most of our soils that have been cultivated a long time do not lack the elements of fertility so much as they lack humus. Humus has a double value in that it puts the soil in a good mechanical condition and at the same time serves to free the mineral matter from the soil of which the plant food is composed. It is not wise to plow under corn stalks just before planting a crop, as the old stalks do not have time to decay. Still, this is better than burning them up. Stalk fields should be plowed as early as possible and the ground may become compacted before seed time comes.

Dam the Draws and Plant Trees.

"Plant trees and dam the draws and play thunder," said an old settler, who chanced to drop into our office the other day. "Haven't I lived here thirty years?" he said. "I was here when you came in 1886. Lots of you fellows thought you could grow trees and corn. Didn't you fail?" Then he gave me that knowing look and continued: "I tell you this country is good for nothing except to raise cattle, coyotes and jack rabbits, and the sooner the people find it out the better. Your 'dam the draws' isn't worth a cent. Of course, there are Uncle Johnny Ross, John Williamson, Otto Cornelissen and a few other fellows who have succeeded in growing fine groves, but I'll bet every tree cost twice what it is worth. I say to you, Hopper, you are fooling your time away trying to get people to plant trees, or dam the draws, either, for that matter. Now, say, to be honest, how much did those two or three little groves of yours cost you? I've been here too long." At that he lit his pipe and away he went.

Well now I know that fellow. He is a pretty nice sort of a chap, and there are a lot of fellows just like him. You go to his house and it is a very good house though not a tree in sight. He has a wire corral, a few quarters of speculators' land fenced, less than a hundred head of cattle, so he can afford to cuss the country and loaf. Too many of that kind of folks.

The new comers nearly all tried to raise trees and nearly all failed because they tried it in their own way. They built their houses up on a hill, plowed a hedge row around them and planted it to trees. Possibly they gave each tree a full bucketful of water during the season. Of course they died. Why not? In many instances a hole was dug in the prairie and a tree planted. Might as well throw the money in the fire and save your time.

This buffalo grass will sap the ground of moisture more than any crop I can name. It is like the Osage hedge in the east; it will sap the ground for a rod and nothing will grow save grass. We must know something about planting trees. The ground must be in good tillable condition, the weeds must be kept out, where the water will not run off in a and the trees ought to be planted minute after a rain. The ground around them must be cultivated so it will drink in the water. New settlers who come here from a country where everything is in cultivation and who think they can plant a tree here the same as where they come from simply fail. They can not do it.

A low, level place where it is close to the underflow, say five to ten feet to water, if plowed and put into a good state of cultivation, will grow trees as well as any place in the United States. If all of such places were put in trees there would be plenty of groves in this country, but you can not do this in a pasture and let the stock run loose. It will pay, and pay big, if all such places were fenced and trees planted. In a few years the fences can be removed, and the stock will not hurt the trees.

But you say "What is the great value of trees?" Let it be said now for investigation, that no man ever lived in a country or ever even passed through a country where groves were plentiful, who did not find a good

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The man who invented prunes might have produced something good to eat with no greater effort. Heirlooms are handed down from father to son but sometimes they are too long in the legs.

About Sweet Clover.

I believe that every real agricultural paper that is published is worth vastly more to its readers than it costs. I do not, however, believe that everything that gets into its columns is gospel.

Not long since I saw sweet clover recommended as a honey plant, a weed exterminator and a farm crop. The first two are all right, but why a farm crop? I have it by accident and use it when it is in its best condition for soiling cows. At that time it is 90 per cent water, with but little nutriment in the fiber, and this soon changes to about the same per cent of wood with still less value in the stem.

If I were to persuade any one to sow sweet clover on land that would grow other crops and if I ever saw him afterwards with a gun in his hand I would hide.

The hand that writes these words began sowing red clover seed 68 years ago and has been used for that purpose nearly every year, if not every one, since that time. With this experience before me I believe red clover to be one of the best crops the average rough and tumble farmer can grow. As a forage plant it has no superior except alfalfa, and this is too uncertain a crop in this locality to be depended upon. Try alfalfa where you think it will grow. It is the best crop of all—J. P. Kerr, Ottawa, Kan.

The experience of Mr. Kerr is certainly most valuable and what he says is exactly true, but still there is a useful place for sweet clover in Kansas agriculture. On poor land where other crops will not grow the sweet clover has a most valuable place: It will grow on washed out or worn out land and enrich it. The plant itself has no great value except for bees but it has an enormous value as a collector of nitrogen for the enrichment of poor soils.

Of all the clover family the sweet clover seems to be the only one that develops the right kind of bacteria for the inoculation of alfalfa fields and if the last crop is plowed under it supplies a considerable amount of fertility, a large quantity of humus and puts the ground in excellent shape for alfalfa or other crops.

Although we know of one farmer who sowed a large field of sweet clover on his farm we should not recommend it for any purpose except to grow on and put into condition very poor land in preparation for other crops.

Birds and Agriculture.

The agriculturist should study the forces which affect the useful plants and animals which he raises. Important among these are such biological forces as insect life and bird life. Some facts concerning the relation of birds to crops of various kinds are prevalent among those who have not made any special study of economic ornithology, but many of them are based on insufficient data.

To know the truth concerning the relations of our various species of birds to the work of agriculturists, much data is needed, and this can be handled only by the trained scientist who is a specialist in the field and who can devote considerable time to bird study and has funds necessary for his investigations.

Through eating insects, birds do their best work for farmers. To keep up the high vitality of such active creatures as birds much food is necessary. Young, growing birds often eat more than their own weight of food in a day. Since insects constitute a large fraction of the food of most of our birds and these are chiefly injurious forms, such birds help to a great extent in lessening the numbers of insect pests that infest crops of all kinds. Some birds that are especially useful as insect destroyers are: Swallows, nighthawks, meadowlarks, woodpeckers, kingbirds or “bee martins,” wrens, cuckoos or “rain crows,” rose breasted grosbeaks, screech owls, sparrow hawks, chickadees, flycatchers, warblers, vireos, shrikes, kinglets, bluebirds, titmice. Robins in most localities, in all probability, pay for the cherries they eat, through destroying insects. Blackbirds, likewise, make up, to a large extent, at least, for their depredations on corn by eating grub worms and other harmful insects. The court of science has not yet condemned the crow, which does much good to man by destroying insects and possibly

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to compensate for its injuri-
habits.
is also do considerable for us in
way of destroying weed seeds.
that are especially useful in
way are: Sparrows, chiefly our
species, juncoes or "snow
goldfinches, horned larks,
ring doves, bobwhites, prairie
and meadowlarks. The mouse-
eaters among our birds are the
owls, shrikes, and crows.
There are only a few kinds of birds
is part of the country that are
injurious. Among these are two
Cooper's hawks, the English spar-
and in some localities the yel-
bellied sapsucker. The cowbird
ugh beneficial as far as its food
are concerned is injurious on
nt of its destroying other more
birds by laying its eggs in
nests. A competent ornitholo-
says that each cowbird is reared
expense of from two to five
birds, each more valuable than
owbird.
ce birds are so useful to the
he should protect them on his
and do what he can to encour-
their presence. No bird should
led unless it is very certain that
doing damage or that it belongs
injurious species. The unwise
m of shooting hawks, owls, and
large birds that come with in
should be stopped. Enemies of
should be kept away as far as
ble. Probably the worst one of
about most premises is the
cat. Birds should also be pro-
from bad weather. Shelter in
orm of vines, bushes, and hollow
can easily be maintained. Birds
be fed grain and meat, espec-
in the winter. Nests and nest-
places should not be interfered
Bathing and drinking places
attract many birds.—T. J. Hawk-

anson-Collins Sale Postponed.
Owing to severe weather and
most impassable roads Messrs.
Collins & Hanson were obliged
postpone their bred sow sale
advertised for Feb. 20. How-
ever much of the offering was of
breeding and the postpone-
ment will or at least should not
interfere materially with the
sale. The offering is in reality
one of the best of the season
and will be appreciated by the
farmers and breeders who see
them. The offering is composed
of large, heavy boned, smooth
fleshed; just the kind that goes
to the market early and are usu-
ally market toppers. Besides
the 50 Recorder sows there will
be sold about 30 grade sows
and 7 very choice
Angus bulls. Write at
once for catalog of this sale.

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wants to send for five trial subscriptions
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book contains 320 pages, every other
page being left blank for the house-
wife to fill in with choice recipes of
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more than any cook book you
ever had. Address
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Sweet Clover.
There is considerable discussion
of the value of sweet clover. Gen-
erally it is considered a troublesome
weed and yet its list of friends is
growing rapidly. Where alfalfa or
other legumes will grow it is worthless in
comparison but on washed out land,
dry banks or sand hills where
nothing else will grow sweet clover
not only thrives but will convert
waste land into a rich tract for
crops. The bacteria which
grow upon its roots are the only
kinds which will inoculate
the soil for alfalfa except that which
is upon alfalfa itself.
If you have any alkali spots, thin
soil, sandy places or over-
watered land where the soil is washed
away sow sweet clover and let it
grow. It is a money maker.



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sure harrow made and spring-pressure
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The Loader that lasts a lifetime; that has abso-
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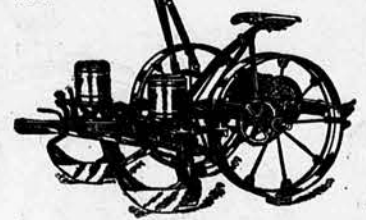
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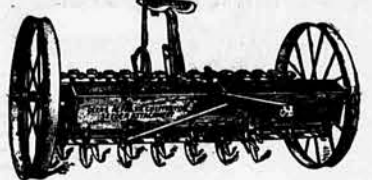
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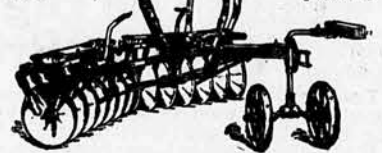
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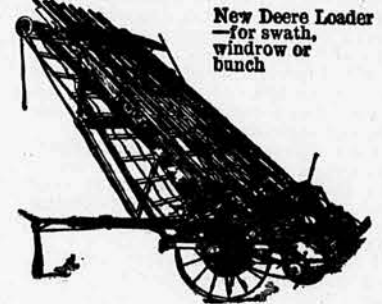


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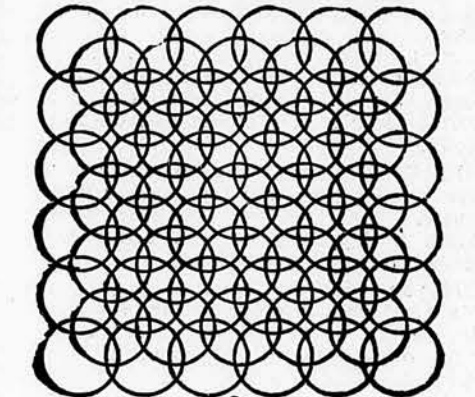
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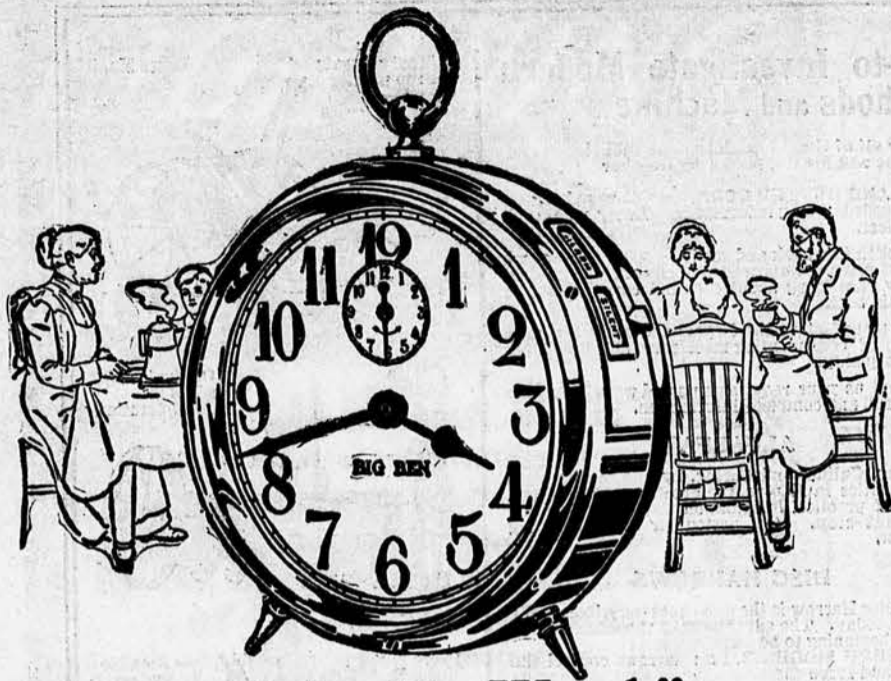
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You'll call me an alarm clock, but people who have used me call me "The Big Watch" for I keep watch-time. My bell really isn't an "alarm" either, for it doesn't startle you. I've a mellow, deep-toned, cheerful voice. It arouses you promptly but gradually with a "Good morning, it's breakfast-time" sort of sound. I don't "go off" like a flock of frightened quail. I never scared anybody out of bed in my life. I ring at intervals for fifteen minutes or steadily, as you choose. I must be watch-accurate as a time-keeper or they won't let me leave the factory. They make me run six solid days and nights without varying two minutes. If I do vary—back I go to the adjusters. I look like a watch, act like a watch, and in many respects am built like a watch. The heart of your watch is the

escapement—the part that ticks and on which all its timekeeping quality depends. Look at your watch. Its escapement is governed by the balance wheel and the hairspring in exactly the same way as my escapement is governed. That's why I'm a timekeeper. Most alarm clocks tick slowly and heavily. I tick lightly, evenly and fast—like a watch. An inner casing of steel makes me strong and keeps out the dust. That's why I stay a timekeeper for years. Go to your jeweler's and take a look at me. Note my triple-plated, non-rustable nickel case—"thin-model" style like the newest watches. Hear me ring the "National Call to Breakfast." You'll say I'm worth every cent of \$2.50. If you want to be "first in the field" have me—Big Ben—wake you in the morning.

BIG BEN

Care of WESTERN CLOCK CO., La Salle, Ill.
If your jeweler doesn't sell me I'll come express prepaid on receipt of \$2.50

HOME CIRCLE



Notnin' to Say.
Notnin' to say, my daughter! Notnin' at all to say—
Gyrls that's in love, I've noticed, ginerly has their way!
Yer mother did, afore you, when her folks objected to me—
Yit here I am, and here you air; and yer mother—where is she?

You looks lots like your mother: Furty much same in size; And about the same compected; and favor about the eyes; Like her, too, about livin' here,—because she couldn't stay It'll most seem like you was dead—like her! —but I hain't got nothin' to say!

She left ye her little Bible—writ yer name 'cross the page— And left her ear-bobs fer you, ef ever you come of age. I've allus kep' 'em and gyuarded 'em, but ef yer goin' away— Notnin' to say, my daughter! Notnin' at all to say!

You don't rikollect her, I reckon? No; you wasn't a year old tnen? And now yer—how old air yer? Why, child, not twenty! When? And yer nex' birthday's in April? and you want to git married that day? . . . I wisht yer mother was livin'!—but —I hain't got nothin' to say!

Twenty year! and as good a gyrl as parent ever found! There's a straw ketched onto yer dress there—I'll bresh it off—turn around (Her mother was jes' twenty when us two run away!) Notnin' to say, my daughter! Notnin' at all to say!

—James Whitcomb Riley.

It is said that a little paraffin added to hot starch will make the clothes glossy and white.

When pressing open the seams in sleeves, if a sleeve board is not at hand try using a bottle. The bottle of course must be smooth.

When cooking old potatoes add a tablespoonful or two of sweet milk to the water in which they are cooking. This will prevent their turning dark as they frequently do at this season of the year.

About the proper proportion for thickening cream soups is a tablespoonful of flour to each quart of milk.

When cooking a beef roast, a few minutes before removing the meat from the oven add a cupful of sour cream to the pan and baste the roast with it. After removing the roast make the gravy as usual and the cream will give it an added richness and flavor which is most delightful.

In baking a soufflé care should be taken not to have the oven too hot. If it is the soufflé will crust over and not puff up as it otherwise would and it will fall as soon as it comes from the oven. They are most satisfactory when baked in a slow oven.

Cheese sandwiches—Two pounds of American cream cheese, one small bottle of stuffed olives. Grate the cheese and chop the olives fine. Mix these, adding sufficient cream to make a soft paste and spread between two thin slices of either white or rye bread.

Sir Isaac Newton's Courtship.

Sir Isaac, we are told, was once persuaded by his friends to entertain some thoughts of marriage, and a suitable young lady was selected by them.

Though considerably engaged with celestial bodies at the time, he liked the terrestrial luminary very well, but in the honest way of courtship he informed the girl that he had many odd habits.

Complaisant and good-natured, as most young ladies are under the circumstances, the fair one promised to be indulgent; and so pleased was Sir Isaac with her kind-heartedness that he resorted to his favorite pipe immediately. Enjoying it whiff after whiff, he entered into conversation with his sweet partner, held her hand in his, squeezing it occasionally as a lover ought. At length he sank into one of his abstracted reveries, and whether he was thinking of the apple and its fall, of squaring the circle, or what else, never has been determined, but his pipe becoming dull he, in the

absence of his mind, unwittingly raised the yielding damsel's hand towards it and used her little finger as a tobacco-stopper. Her screams aroused him, and looking innocently in her face, the philosopher exclaimed, "Ah, my dear madam, I beg your pardon! I see it won't do! I see, I see, that I am doomed to remain a bachelor."—An Old Favorite.

Useful School Fads.

PROF. G. R. DAVIES, STATE NORMAL SCHOOL, VALLEY CITY, N. D.

"The first business of a child is to become a healthy animal." Luther Burbank, whom every one knows for his wonderful work in the rearing of children. He says, "Every child should have mud pies, grasshoppers, water-bugs, tadpoles, frogs, mud-turtles, elderberries, wild strawberries, acorns, chestnuts, trees to climb, brooks to wade in, water lilies, wood-chucks, bats, bees, butterflies, various animals to pet, hay fields, pine cones, rocks to roll, sand, snakes, huckleberries, and hornets; and any child who has been deprived of these has been deprived of the best part of his education."

That is laying it on pretty thick, but you can tell what Burbank means. He means that a child should be out in the fresh air and sunshine as much as possible, learning from things by handling them, and above all, whether he learns or not, exercising his muscles.

Don't compel a child to do much fine minute work, and discourage him if he wants to. If he is going to write a big coarse pencil to make big letters is the thing to start with. A six year old child ought not to read type in which the capitals are under a quarter of an inch high. This is because there must be considerable nerve development before there is a capacity for fine work.

Eyes were made for seeing at a distance mostly. They have to be broken in very gradually to the heavy strain so often demanded of them by our ways of working now-a-days. Let the child use his eyes as much as possible on large things, and out in the open. Eye strain, and the effort of attention to fine work like needle work and too much reading and writing are sources of the nerve disorders now so common. The nerves that control big bodily muscles are in a way the foundation of the finer nerves. Let the child get a good foundation for his nervous system by plenty of running, romping, climbing, etc.

The schools are developing the science of managing the play of children, and even are bringing some of the play element, and much of physical activity, into the school room. This is as it should be. Much time has been wasted in discussing points of science with children who ought to be moving about and handling things in order to learn. So don't set your teacher down as being cranky if she is trying to introduce into her school some of the new ideas. Help her out with her playground, her school garden, her manual training, and other so-called fads. Children who have plenty of directed activity in their early years will learn all the faster in their later years.

And let the child work; not hard and arduously, but so as to establish the habit of industry and to familiarize him with things and tools. It is one of the advantages of farm life that the child can get such an abundance and variety of industrial training.

The following table arranged by Dr. Clement Dukes, is a sort of general average of what amount of work and sleep is desirable for a child of given age:

Age.	Hours of work per week.	Hours of sleep per night.
5	6	11
6	9	11
7	12	11
8	15	11
9	20	11
10	25	11
12	30	11
14	35	11
16	45	11
18	50	11

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Started Him

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Eli Smith's only expense under our free tuition plan was for postage and music. That cost him less than Two Cents a day, and he was under no further obligation whatever.

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Over ten thousand weekly lessons are now being sent to homes all over the world to pupils in all walks of life, from seven years of age to seventy.

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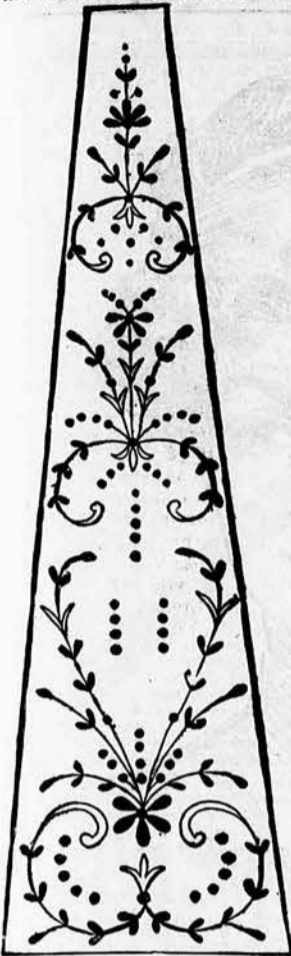
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Put a dime of ten cents worth of postage stamps in an envelope with the name of some good friend or neighbor to whom you would like Kansas Farmer sent ten weeks as a present from you. We will send a neat card to your friend telling him you are sending him the paper. Could you do him a better turn?

503. Design for a Skirt Panel. Embroidery gowns and waists are very fashionable this season. The design here shown is a conventional pattern, and is suitable for solid or eye-



et embroidery. Perforated pattern with stamping preparation 35 cents; transfer pattern 10 cents. A shirt-waist set to match it can be secured in 501. Silk in any shade 5 cents per skein.

702. A Simple House Dress in Semi-Princess Style.

A deep tuck over the shoulder in front and back, give the necessary fullness for this design. The waist gathers in easily at front and back and is joined to four skirt gores, that with the panel front complete the body portions of this desirable model. The sleeves are finished at the elbow with a neat cuff that is mounted on a straight band cuff which in itself forms a desirable sleeve finish. The back of the skirt portion has an in-



serted plait. This design may be developed in gingham, lawn, dimity or men. Cloth in light weights will also be suitable. As a housedress or a

simple afternoon gown the model will be very appropriate. The pattern is cut in 6 sizes, 32, 34, 36, 38, 40, 42 inches bust measure, and requires 7 1/2 yards of 44 inch material for the 36 inch size. A pattern of this illustration mailed to any address upon receipt of 10 cents.

"John Doe & Sons."

When you take a drive through the business section of any town and chance to be enough interested to read the sign boards over the entrance to the business houses, among them all you no doubt read: "John Doe & Son" or "John Doe & Sons," several times, or perhaps, "The John Doe Mercantile Co." And if you just stop to think, these sign boards mean a great deal; the John Doe & Son or Sons, means that some wide awake business man has taken his son or sons (or perhaps son-in-law) into business with him as a full partner.

But a trip through the country and a careful observation of the names on the mail boxes or farm sign boards rarely finds "John Doe & Sons" or "The John Doe Farm Co." stenciled on either mail box or sign board. And the question arises, why not "John Doe & Sons" on the farm as well as in the city and town? Partnership is not enough favored by farmers. But to answer the question "why?" is to offer many reasons. First, partnership on the farm is not such an easy, satisfactorily arranged business affair as partnership in a town or city. The farmer's business enterprise is his home, unless he is an extensive land owner. With the city business man this is not true. If the farmer owns but an eighty or one hundred and sixty acres and has more than one or two sons, there soon becomes more hands to work than there is land and stock to keep them occupied, hence the partnership deal cannot continue unless nearby land can be rented. And at this stage of development, most nearby farms that may be leased are improved farms and the owner prefers that the house and buildings be occupied. And after a trial of bachelorship to comply with the landowner's request, and be near to his work, the boy soon feels himself an isolated partner, and begins to think seriously of severing his partnership with his father, and establishing a business of his own, and later on, perhaps, taking a life partner to facilitate his business enterprise.

The time to begin your partnership with your boys is in the beginning of their lives, get acquainted with them when they are small and let them get acquainted with you. Of course all boys raised on the farms will not take farming for an occupation, for not a few boys raised in the cities take to farming instead of the professions as a life's business. Because a few of the best farm boys go to the cities to help make them (the cities) good, and a few of the inactive boys go to escape hard labor, should be no cause for alarm. Do your part by your son, further than that you are powerless.

Most farm boys prefer to be their father's partner instead of his servant. They want to feel that they have a right to own some personal property, and to use rightly anything there is on the farm, that they are old enough to use. And when any difficulty arises between father and son, the boy would like an opportunity at least to express his opinion of the matter. It is a grave mistake for a farmer to be always cranky and disagreeable, and to select as his own work every farm chore that is easy and consign the difficult work to the boys, and to make the hard work more disagreeable by offering no word of praise or appreciation. The farm boy is like the farm horse; he knows when he is well treated and when his presence is desired. And if you wish your boys to be good, honest, faithful, industrious workers, give them every opportunity to be such by allowing them to transact business, use the farm machines, select and buy the farm implements, and go to market. Let it be said that your boys can do anything in the business line that you can; it will be all the better for you and your boys; it will add to their storehouse of knowledge, and make their future years less burdened with having to learn how to do business; and lessen your cares of the farm business. In the farm business, a father should talk and plan with his boys like the

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members of any firm. And in planning with the boys, let them use their own young knowledge, and don't try to make them use your brains. Generally a boy that uses his father's brains exclusively, and has no knowledge of his own, makes a "tool" for other men when he grows to manhood.

When a farmer forms a partnership with his boys, whether the boy be one or twenty-one years old, he should make an honest deal or contract and live up to it. Honesty in partnership between father and son is as important as with any other man or boy. Such contracts as "Johnnie's pig and papa's hog" or "papa's pig and Johnnie's hog" are not very satisfactory.

Not all farm boys are discouraged by their father's indifferent treatment, or unprogressive farming; many boys profit by their father's mistakes. But the future rural outlook would be much brighter if there were more honest partnerships between fathers and sons on the farm.—F. L. Fields.

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EMPIRE BUILDERS

By FRANCIS LYNDE



ALICIA ADAIR.

CHAPTER TWENTY.

THE CONSPIRATORS.

"HOW far do we go, and what do we do when we get there?" asked Frisbie of his chief, when the two buckboards, heaving and lurching over the rock-strewn talus at the foot of the canyon cliff, had passed beyond sight and sound of the headquarters camp at the mouth of Horse Creek.

"I'm not guessing any more," said Ford crustily. He was finding that his temper deteriorated as the square of his distance from Alicia increased. "The president said he wanted to drive over this short-cut, and he's doing it." "Humph!" growled Frisbie. "If he wanted to ride into your bruises, why didn't he come in the cart with him? And where do I come in?" "You are implicated with me; that was his word."

Another mile passed in discomforting plungings. The trail had become all but impassable for the staggering horses; yet the leading buckboard held on doggedly. There were places where both drivers had to get out and lead; bad bits where all save the president descended to walk. But through the worst as well as the best, Mr. Colbrith clung to his seat like a man determined to ride. It was well past noon when the two vehicles reached the western portal of the canyon, and the dotings of the Copah mine workings came in sight on the hillsides to the southward. Ford's driver had fallen a little behind in the final half-mile, and when the gap was closed up, the president was waiting.

"Well, Mr. Ford," he began, somewhat breathless but triumphant, "are you fully satisfied?" "I have learned nothing that I did not know before we began to build the extension," was the non-committal rejoinder.

"Oh, you haven't? You reported that canyon impracticable for a railroad, and yet I have just driven through it without once dismounting from this buckboard. Moreover, we shall find in Copah to-morrow a re-survey of the line showing its practicability, Mr. Ford—a report not made by your engineers."

Ford and Frisbie exchanged swift glances of intelligence. The presence of the strange engineering party in the canyon was sufficiently explained. At first sight the president's expedient seemed childishly puerile to Ford. Then suddenly a flash of revelation he saw beyond the puerilities—beyond the stubborn old man who, with all his narrow self-will and obstinacy was merely playing the game for others.

"We can discuss these matters later, if you wish," he said placably. "I think you will find our ground well taken. Do you want to drive back as we came? Or will you let me find you an easier road to the mouth of Horse Creek?"

But Mr. Colbrith was not to be balked or turned aside.

"Mr. Ford, I wish to be fair and impartial. I desired to satisfy myself, personally, that this route we have driven over is practicable, and it was also my desire that the investigation should be conducted in your presence. You will admit now that you made a mistake—a very costly mistake for the company—in abandoning this short cut."

"I admit nothing of the kind. The difficulties remain as they were, quite unchanged by our pleasure trip from the end-of-track, Mr. Colbrith. Assuming that the re-survey will report that the north bank of the river is practicable, while the south bank is not, I have only to say that the cost of the two bridges would offset the easier grading conditions, while the danger to future traffic would remain the same. But that is neither here nor there. You must either give us credit for knowing our business, or you must discredit us entirely."

Frisbie was grinding his heel into the hard soil of the mesa. The argument was growing rather acrid; and Penfield and the two drivers were interested listeners. It was high time for a diversion to be made, and the assistant made it.

"We have used five hours getting down here, and we'll need as many going back," he put in. "Unless there is something more to be done on the spot, I think we'd better take the road over the hills. It's with you, Mr. Colbrith."

The president signified his assent by climbing into his buckboard, and the return journey was begun with the two engineers in the lead for pathfinding purposes. Once safely out of earshot, Frisbie voiced his disgust.

"A wild goose chase, pure and simple! Stuart, that old man is in his second childhood."

"Not at all," said Ford. "He is merely following out North's suggestions. Dick, my name is Dennis."

"Nonsense! Things are no worse than they have been all along."

"My time with the Pacific Southwestern is shorter by just the number of hours it has taken us to drive down here, Mr. Colbrith has convinced himself that I was wrong in abandoning the canyon. To-morrow he will convince himself that I was doubly wrong in approving the detour. I shall hand in my resignation to-night."

"So be it," said Frisbie shortly. "That means good-by to the extension. I'm predicting that it will never get to Green Butte—never get beyond Copah. And your name will go out to the railroad world as that of a man who bit off a number of large things that he couldn't chew."

"Confound you!" said Ford; and after that, Frisbie could get no more than single-syllabled replies to his monologue of Job's comfortings.

The returning route was a detour, winding, through the greater part of it, among and over the swelling heights north of the Pannikin. On each hill-top the vast sweep of the iter-moun-

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Orchards Under Irrigation In Nebraska

By E. F. STEPHENS

In the discussion of the growing of fruit in commercial quantities in Nebraska, we have so far been accustomed to thinking of eastern Nebraska. Irrigation is developing a region suited to the production of fruit in commercial quantities.

Regarding the behavior of orchards under irrigation in western Nebraska, there have been quite a number of orchards planted and brought into bearing in Lincoln county under irrigation. The waters of the Platte river are utilized for irrigation in Nebraska from the west side of Scott's Bluff county down to and through Dawson county. In Dawson county farmers regard themselves as so nearly within the rain belt that they do not make the same effort to utilize the waters of the Platte river for local ditches as in the western portion of the state, and yet ditches have been constructed and kept in running condition way through to the western side of Dawson county.

In Lincoln county, on debatable ground, in the rain belt and irrigated districts, it is agreed that orchards under irrigation with a sure supply of moisture during the months of August and September, have an advantage over lands not irrigated and depending solely on the rainfall. While it is entirely practicable to cultivate and plant orchards in central and western Nebraska and to raise a family supply, with or without irrigation, yet for the commercial orchardist the ability to draw on some sure supply of water during the months of August and September is a great help in developing apples to their full normal size and best condition and quality. Commercial orchards have been planted clear up to within a mile of the west line of the state. Apples of excellent quality and abundant in quantity have been grown in an orchard in Scott's Bluff county, near Mitchell, twenty miles from the Wyoming line. At numerous other points up and down the river orchards have been planted and have been brought into bearing and have given promising results.

Another orchard has now been planted some twelve years, the trees have been fairly well pruned from season to season, they have received fairly good, and some years most excellent, cultivation and have had the benefit, when they needed it, of thorough watering. Some seasons, I believe, these orchards have not received any other watering than the normal rainfall, the owner simply depending on excellent cultivation, but when bearing a crop of fruit and when the condition of the soil was such as to require it, irrigation has been available. I believe the orchard this season was carried by cultivation until about the 25th of August, and then in late August and early September was watered twice. This, because there was a large crop of apples in the orchard and an ample supply of moisture helps to develop the fruit to larger size and excellent quality.

The cherry, plum and peach orchards commenced bearing very young and have given a good account of themselves. The plum orchard has been very profitable, and very rarely fails to market a commercial crop. The cherry trees began bearing when

three and four years planted and have never failed to give a larger or smaller crop. The peach trees have given fruit to sell some six or seven seasons; two years ago there was quite a large commercial crop of peaches for sale, and there were eighty bushels of peaches this season.

Single trees in the apple orchard gave a bushel and three pecks the fifth season after planting. The main apple orchard is bearing perhaps its fifth or sixth crop of sufficient quantity to be rated as a commercial orchard. The crop of summer and fall apples marketed at prices around \$1 and \$1.50 a bushel, the winter apples sold for \$3 and \$4 a barrel and the crop was 12,000 bushels. The Ben Davis yielded five to twenty bushels to the tree. The Winesap, Missouri Pippin and Jenet trees were also well laden.

The success of this orchard is due, first to being planted on a fairly suitable plat of ground. Its location is from the edge of the Platte valley up on the side of low foothills. The irrigating ditch at this point is perhaps forty-five feet above the river. The orchard extends from the ditch bank down and into the valley. The most productive portion of the orchard is on the higher levels, up near the ditch, because it better escapes the damage from spring frosts and yet this season, there is a fair crop of fruit all over the orchard. This orchard was planted in the main with apple trees that were already four and five years old, and was the first of some 50,000 trees planted by the Crete Nurseries on a branch orchard or share plan. The theory followed by the nurseries at that time was this, that if they planted the orchard with the older trees, the orchard would commence bearing at a younger age. It should be remarked, however, that the trees had been prepared for this class of work by having been annually cut back and had been twice root pruned, the effect of which was to hold these trees four or five years of age down to a one-year head, strong trunk and vigorous root system.

During the early years of its existence, the orchard received very thorough, careful, clean cultivation and has been pruned annually. We notice in the crops of fruit grown that the best Grimes Golden apples weighed one-half pound each. The fruit of all varieties sold to excellent advantage because the orchard was kept perfectly clean and free from scab and nearly free from insect enemies. In picking, packing and marketing, the waste of fruit thrown out is reported to be only one bushel in fifty. The owner has used a power sprayer, spraying his orchard three times annually and this indicates clearly that the intelligent care incident to cultivation and spraying as needed, will grow fruit of the best quality in central and western Nebraska.—E. F. Stephens, Crete, Neb.

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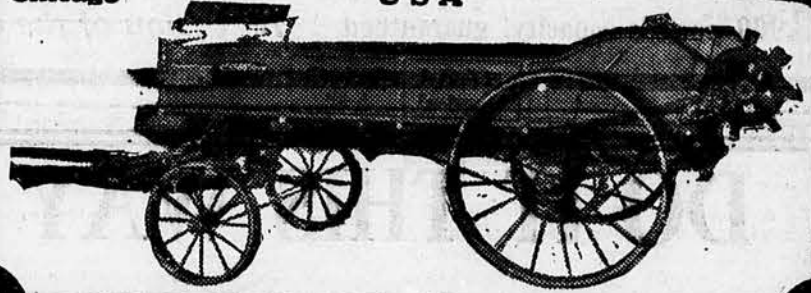
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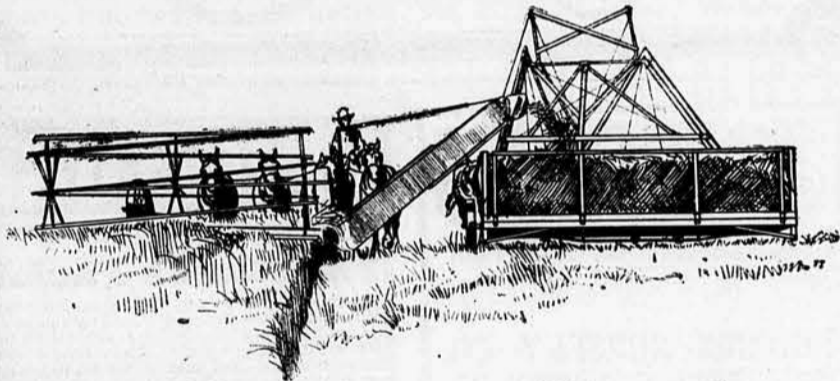
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Why Kansas Orchards Fail.
It has been said many times that fruit trees are short lived in Kansas. What is said many times is believed by some and, if repeated often enough, by many.

If it is true that orchard trees do not live long in this state there must be a reason. This reason, in the minds of many, is found in the climate. Now, there can be no doubt that our climate is trying on some varieties, but is not the real reason to be found in our lack of care of the orchards?

The taking off of crops of fruit and the annual growth of the trees each make a heavy draft upon the fertility of the soil and too many of us give nothing in return. The trees are starved and when this is true they are weakened and have less power of resistance to the climatic changes.

Probably the chief reason for the short lives of our orchard trees in this state begins with the starvation of the trees.

Now "Orchard Schools."

Notwithstanding the fact that Kansas has for many years been producing some magnificent crops of apples and some fine fruit, there is very little general interest in orcharding. This is largely due to the feeling that this business requires too much scientific management. The farmers, who have been in the habit of growing corn and using riding plows, riding harrows and riding cultivators, and then letting their hogs husk the corn, shy a little bit when it comes to pruning orchard trees, spraying them, etc. The Kansas Agricultural College believes, not in commercial orcharding for every man, but in a "farm orchard for every farm." For the past two years the college has employed a successful orchardist in the extension department who has been attending farmers' institutes and talking to farmers on the simple problems of orchard management. Mr. C. V. Holsinger, formerly of Rosedale, Kan., offers

Greatest Drouth Resister on earth. Yield last season \$5 bushels per acre. No rain from May 15 till September 1. Price \$2.00 per bushel. In lots of five bushels or more, \$1.50 per bushel.

Robert I. Young
R. F. D. NO. 9.
St. Joseph, Mo.

LADIES "FIXIT" mends all kinds of cloth, leather and rubber goods without sewing. Package 10c. **WIDE & CO., 507 N. Centre Ave., Chicago.**

to go to any place in the state and hold a three-day school in orchard management. In this school he will give instruction in budding, grafting, pruning, trimming and spraying, and will give lectures each day on general problems of orchard management. In each of these schools also there will be a special lecture given on "Insects Injurious to Orchards."

The plans for all of the movable schools from the Agricultural College are much the same: Class of from twenty to forty, each paying a fee of 50 cents to cover incidental expenses of the school; regular instruction from 9 to 12 a. m., and from 1 to 4 p. m., with demonstrations each day in a nearby orchard. The college charges nothing for Mr. Holsinger's services other than his expenses, which can be met from the small fees paid to the local committee by the members. These schools ought to be held in March and April and dates will be given now promptly upon application. Mr. Holsinger also offers to visit orchards anywhere in the state to inspect them and advise in regard to management. Already a good many requests have been filed and these visits will be made in March. All correspondence relative to these movable schools should be addressed to superintendent of extension department, Agricultural College, Manhattan, Kan.

FRANK IAMS'

PEACHES AND CREAM" IMPORTED STALLIONS AND MARES ARE SWELL SHOW YARD ATTRACTIONS" FULLY ACCLIMATED. THEY ARE THE "CLASSIEST" BUNCH OF BIG "BLACK AND GRAY BOYS"—WITH EXTRA BIG BONE AND MORE 2,000 TO 2,500-POUND STALLIONS THAN ANY IMPORTER IN UNITED STATES.—THAT'S WHY IAMS, THE "KING BEE" HORSE MAN—SOLD DOUBLE THE HORSES IN JANUARY, 1911, AS IN ANY YEAR IN 29 YEARS. THEY ARE "EYEOPENERS"—BUSINESS PROPOSITIONS—THAT MAKE THE WHEELS WORK" UNDER A "BUYER'S HAT"—"DOLLY DIMPLES"—IAMS HAS 50 PRIZE WINNERS IN HIS BARN FROM PARIS-BRUSSELS AND EUROPEAN "HORSE SHOWS"—IAMS "HYPNOTIZES" BUYERS WITH "TOPNOTCHERS" AT "BARGAIN COUNTER PRICES"—MAKES HORSEMEN AND WOMEN

"Sit Up and Smile Sweetly"

AND SING "IAMS SONG"—"IKEY BOY" BUY "BLACK AND GRAY BOYS" OF IAMS—THE "SQUARE DEAL" HORSEMAN.—"WALTU ME AROUND AGAIN, IKEY BOY"—AND BUY A STALLION AND MARE TODAY OF IAMS AND SAVE \$300.00. IAMS IS A "BIG FLY IN THE OINTMENT"—IN THE HORSE WORLD—HE MAKES BUYERS WEAR A "\$1,000.00 SMILE" AND BUY A "TOP NOTCHER" AT LET "LIVE PRICES." OWING TO BAD CROPS—BIG RAINS—CLOSE MONEY—IAMS' CASH AND 2 YEARS' SUCCESSFUL EXPERIENCE—HE BOUGHT AND IS SELLING LARGER AND BETTER HORSES THAN EVER.—"MAMMA"—IAMS IS A MONEY SAVER—"A HOT ADVERTISER"—BUT "HE HAS THE GOODS"—HELPS THE HORSES AT HIS HOME BARN ONLY. BUYERS GET "ALL MIDDLEMEN'S PROFITS."

IAMS' HAS 20---PERCHERONS AND BELGIANS---120

TWO TO SIX YEARS OLD, WEIGHING 1,700 TO 2,500 POUNDS; 50 PER CENT BLACKS, 70 PER CENT TON STALLIONS. ALL REGISTERED AND BRANDED. HE SELLS "TOPPERS" AT \$1,000.00 AND \$1,400.00 (FEW HIGHER). MARES—\$700.00 TO \$1,000.00 SO GOOD THEY NEED NOT BE PEDDLED" OR PUT ON THE "AUCTION BLOCK" TO BE SOLD. IAMS' SELLING CLOTHES" FIT ALL BUYERS. NO MAN WITH MONEY OR BANKABLE NOTES GETS AWAY FROM IAMS. HE BUYS, OWNS AND SELLS MORE STALLIONS THAN ANY MAN IN THE UNITED STATES. IAMS SAVED \$30,000.00 TO STALLION BUYERS IN 1910. HE IS NOT IN THE STALLION TRUST. IAMS PLACES \$1,500.00 INSURANCE.

\$1,000---SAVED AT IAMS'---\$1,000

IKEY, WHAT A "GRAFT THESE "STALLION SALESMEN" ARE WORKING ON THE FARMER, SELLING FOURTH-RATE STALLIONS AT \$2,000.00 AND \$5,000.00. MR. BUYER, SEE IAMS' STALLIONS YOURSELF. TAKE TO STALLION SALESMAN'S WORD. "IAMS HAS THE GOODS YOU READ ABOUT." HIS ESTABLISHMENT IS WORTH GOING 200 MILES TO SEE. IAMS' COMPETITORS "HOLLER," HE IS KNOCKING "HIGH PRICES" OUT OF THE XMAS TREE. IAMS SAYS WOOD, "BUTTS IN," SELLS MORE STALLIONS EACH YEAR. HE MAKES EVERY STATEMENT GOOD. IKEY BOY BUY A STALLION OF IAMS. HIS \$1,200.00 STALLIONS ARE MUCH BETTER THAN OUR NEIGHBORS PAID THOSE OHIO MEN \$4,000.00 OR THEN I CAN WEAR DIAMONDS. IAMS SPEAKS THE LANGUAGE. BUY DIRECT FROM BREEDERS, PAYS NO BUYERS, SALESMEN OR INTERPRETERS; HAS NO TWO TO TEN MEN AS PARTNERS TO SHARE PROFITS WITH. IAMS GUARANTEES TO SELL YOU A BETTER STALLION AT \$1,000.00 TO \$1,500.00 THAN ARE SOLD TO STOCK COMPANIES AT \$2,000.00 TO \$5,000.00 BY SLICK SALESMEN, OR PAY YOU \$500.00 FOR YOUR TROUBLE. YOU TO BE THE JUDGE. IAMS PAYS THE HORSE'S FREIGHT AND BUYERS FARE; GIVES 60 PER CENT BREEDING GUARANTEE. IAMS' GUARANTEE IS BACKED BY ONE-HALF MILLION DOLLARS.

WRITE FOR MILLION DOLLAR HORSE CATALOG.
References: St. Paul State Bank and Citizen's National Bank, St. Paul, Neb.; First National Bank and Omaha National Bank, Omaha, Neb.; and Packers' National Bank, South Omaha, Neb.

ST. PAUL, NEBRASKA

LAKWOOD FARM

The Greatest Breeding Establishment in the World

Our Percheron winnings at the recent Chicago International, which is needed to have been the greatest Percheron Show ever held in the world, has never been equalled before.

At this great show, we won:

- CHAMPION STALLION, showing four of his get (CALYPSO)
- CHAMPION AMERICAN BRED STALLION
- RESERVE CHAMPION AMERICAN BRED STALLION
- CHAMPION MARE
- CHAMPION AMERICAN BRED MARE

Also TWENTY-FIVE other prizes. All of these CHAMPIONS were sired the world's famous CALYPSO.

LAKWOOD FARM IS HEADQUARTERS FOR THE BEST, and our prices are reasonable. Send for illustrated catalog.

G. McMILLAN & SONS, Props. Rock Rapids, Iowa

LAMER

THE IMPORTER

50 head of Imported Percheron and Belgian Stallions and Mares for sale at "Let Live Prices." Write for catalog. Prices right.

W. LAMER, SALINA, KANSAS

PERCHERON IMPORTING CO. AT THE FOUR BEST SHOWS IN THE WEST WE WON:

times champion stallion any age.
times champion group of five stallions. 29 times first in stallion classes.
Champion Percheron stallion at Inter-State Fairs.
Champion Shire Kansas and Missouri State and Missouri State Fair.
Champion Belgian Kansas, Missouri and American Royal.
All our horses are imported. We sell as low as anyone on earth, quality considered. Our guarantee and insurance are the best.
PERCHERON IMPORTING CO., South St. Joseph, Mo.



Percherons Belgians and Shires

My new barn is now ready and filled with a large assortment of imported and Home Bred Percheron, Belgian and Coach Stallions; also mares and colts. I will sell you a registered stallion for \$800. Come to Paola and buy a stallion or mare at their actual value.
JOSEPH M. NOLAN, Paola, Kansas.
mention the Kansas Farmer.

Percheron Stallions

I have as fine a bunch of stallions as you will find. I have the ton size, and 1,700 to 1,800 pound two year olds, with worlds of bone and great action. My prices are right and my horses are right.

Yours for home grown Percherons,
J. W. BARNHART, Butler, Mo.

DUNHAMS' PERCHERONS



For forty-six years renowned as the best of the breed. Six large importations since February 1, 1910 (the last arrived October 12th), insure fine selection, as each animal was individually selected for size, bone quality and excellence. If you want choice stallions or mares, write for catalogue, illustrated from life.

W. S., J. B. & B. DUNHAM WAYNE, ILL.



W. H. RICHARDS, Importer PERCHERON AND BELGIAN HORSES.

A car load of extra good 2-year-old and 3-year-old stallions recently arrived. Come and see these magnificent horses before you buy a stallion. I will make you some eye-opener prices just now. Barns only four blocks from A., T. & S. F. Depot.
EMPORIA, KAN. EASY TO GET THERE.

HOMWOOD STOCK FARM

IMPORTERS AND BREEDERS OF

Percheron Belgian Shire Stallions and Mares

NOTICE TO PROSPECTIVE BUYERS:
For the benefit and convenience of our Western trade, we have established a permanent branch barn at Abilene. Prospective buyers are cordially invited to inspect our stock here, and if you don't find just what you are looking for, we will be pleased to accompany you to the home barn at Homewood, Ill., where we can show you 100 head of big, drafty Stallions and Mares with plenty of bone and quality. Every horse guaranteed sound and a satisfactory breeder. Prospective buyers should see this stock before buying elsewhere. Third importation to arrive in ten days. Write us your wants, or better still, come and see us. Abilene is on the Rock Island, Santa Fe and U. P. railroads. Mention Kansas Farmer when writing.
Barns 2 Blocks North U. P. Depot.

S. METZ & SONS ABILENE, KANSAS

Imported Percheron and Belgian Stallions

A number of fine stallions from the famous Holbert Importing Co., of Greeley, Ia., are now for sale at Krause Feed Barn, New Hampshire Street, Lawrence, Kan. All of them young stallions in the pink of condition, ready for service. Horses Right. Prices Right. Communicate with George Robertson, Lawrence House, Lawrence, Kan., or better, come and see them.

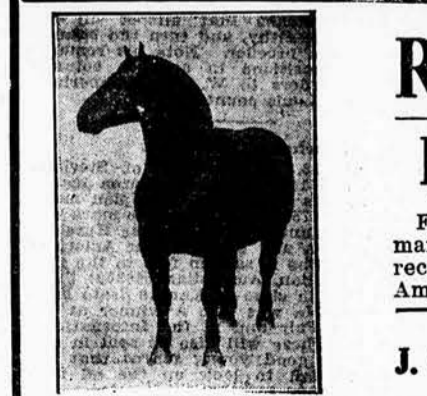
Geo. Robertson, Manager, Lawrence, Kans.



Percherons and Belgians

Our barns are full of the best Stallions and Mares we could buy in the old country; from 1 to 6 years old with plenty of size and quality. We pay no auctioneers or commissioners, but sell direct at prices that will interest you. A 60 per cent guarantee with every horse. Can show between trains.

Skoog, Reed & De Cow Holdrege, Nebraska



ROBISON'S PERCHERONS

For sale now, 100 head of stallions, mares and colts, of all ages. All stock recorded in Percheron Society of America.

ADDRESS BOX C, J. C. ROBISON, Towanda, Kan.

PERCHERON HORSE SALE

AT STERLING, KANSAS, MARCH 18, 1911

10 Registered Percheron Mares 10

Including Huchepie (75767) 60388, champion mare American Royal 1910 and champion mare Kansas State, Hutchinson, 1910. Three years old, weight 2,130 lbs. This mare is due to foal on February 28, bred to the imported stallion, Australian (66301) 57196. The first prize 5 year old aged stallion at Kansas State Fair, Hutchinson, 1910, weight 2,340. Many good horse judges have said that Huchepie (75767) 60388 would have won champion at the International at Chicago had she been shown, but owing to her being heavy in foal I did not want to take the risk of shipping so far. Gertrude, weight 1,950 lbs., a black 4 year old, is very near her equal—this pair is considered one of as good if not the best teams of mares in the United States. I will also sell one black 4 year old mare, weight 1,825; one brown 4 year old mare, weight 1,850 lbs.; one bay 4 year old mare, weight 1,825 lbs.; one gray three year old mare, weight 1,550 lbs.; one gray three year old mare, weight 1,525 lbs.; one bay 11 months old mare, weight 1,020 lbs.; one black 10 months old mare, weight 925 lbs.; one gray yearling French draft mare, weight 1,500 lbs. A number of these mares are bred to the champion stallion at Kansas State Fair. All the others are registered in Percheron Society of America (the Studbook). Send for catalog and come to my sale. If you want high class show mares this is the place. Sale right in town. My horses are free from all incumbrances and will be sold for the high dollar.

F. D. WEBB, Sterling, Kansas.

AUCTIONEERS—POTTER & CROTTS; STERLING, KAN.

O. P. Hendershot's Fourteenth Percheron Sale

At Lincoln, Neb., Wed., Mar. 15

50 IMPORTED AND HOME-BRED STALLIONS AND MARES. 5 MAMMOTH KENTUCKY BLACK JACKS.



Six imported stallions weighing more than six tons. Six imported mares weighing 11,000 lbs. Home-bred stallions and mares weighing over a ton each. Nothing but clean young stock from 2 to 5 years old and all the big boned type that will mature large. I will sell my two imported stallions "Gateau" and "Galbanum," four and five years old, weighing 2,250 lbs. each. I believe they are as good as you will find in America both for breeding and quality.

I guarantee this will be the best bunch of Percherons sold this season (number of animals considered).

Write for catalogue giving full description of each animal.
O. P. HENDERSHOT
 HEBRON, NEBRASKA.
 AUCTIONEERS—Cols. Woods, Branson, Page, Currier, and Hayherst.

Limestone Valley Farm

—Headquarters for high class jacks and jennets. No public sale 1911, but have a barn full of good jacks and a pasture full of good jennets at private sale. Every animal a good one, fully guaranteed and well worth the price.

COME AND SEE US.
L. M. MONSEES & SONS.
 Smithton, Mo., Pettis Co.

Two Choice Percheron Stallions at a bargain. Weight 1750 to 2100.

John D. Ziller, Hiawatha, Kans.

FIELD NOTES.

Nothing Succeeds Like Success.

It is a good many years since W. F. Chamberlain first completed and placed on the market a combined food for young chicks, and called it "Chamberlain's Perfect Chick Feed." Attention has been called to this excellent feed in these columns for several years. To use "Chamberlain's Perfect Chick Feed" means that almost all the chicks will be healthy, and turn the balance in favor of the breeder. Note his remarkable egg propositions in another column, and address orders to W. F. Chamberlain, Kirkwood, St. Louis county, Mo.

Percheron Mare Sale.

On March 18, F. D. Webb of Sterling, Kan., will sell 10 head of Percheron mares. Included in this sale is the champion mare, Huchepie No. (75767) 60388. This mare was champion at Kansas State Fair at Hutchinson, Kan., 1910, and champion at American Royal, 1910. She is safe in foal to the first prize aged stallion, Australian (66301) 57196 that was first in class at Kansas State Fair, Hutchinson. He was also a winner at the Illinois State Fair and at the International at Chicago. There will also be sold in this sale a lot of good young mares that are bred. Don't fail to look up the ad next week and arrange to attend this sale.



75 TO 100 PERCHERONS SHIRES BELGIANS

In our barns; largest, smoothest and best bred horses Europe can produce; horses with blood lines tracing back for 30 generations; horses that will get a smooth, even bunch of colts, no matter what class of mares you breed to them.

SEND FOR OUR CATALOG

It Will Help You Decide

Prices reasonable. Horses warranted. Satisfaction assured. Make us a visit.

WATSON, WOODS BROS. & KELLY COMPANY
 Dept. Lincoln, Neb.



Pedigree Register Associations.
 Every breeder and every farmer who raises pure bred stock is interested in knowing the proper name and address of the recognized association which records the pedigrees of his particular breed. While these associations are, as a rule, very stable and do not make many changes in their officials, yet such changes do occur, and in order that our readers may be posted with the latest information, we print the corrected list. You will want to preserve this list for future reference.

CATTLE REGISTERS.

- American Aberdeen-Angus Breeders' Association—Charles Gray, Pedigree Record Building, Union Stock Yards, Chicago, Secretary.
- American Branch Association of the North Holland Herd Book—N. F. Sluiter, Brooklyn, N. Y., Secretary.
- American Devon Cattle Club—L. P. Sisson, Newark, O., Secretary.
- American Galaway Breeders' Association—R. W. Brown, Pedigree Record Building, Union Stock Yards, Chicago, Secretary.
- American Guernsey Cattle Club—W. H. Caldwell, Peterboro, N. H., Secretary.
- American Hereford Cattle Breeders' Association—C. R. Thomas, Kansas City, Mo., Secretary.
- American Jersey Cattle Club—J. J. Hemingway, New York, Secretary.
- American Normandy Herd Book Association—E. G. Kramer, New York, Secretary.
- American Polled Hereford Breeders' Association—Warren Gammon, Secretary, Des Moines, Ia.
- American Shorthorn Herd Book Association—E. G. Kramer, New York, Secretary.
- American Shorthorn Breeders' Association—John W. Groves, Pedigree Record Bldg., Union Stock Yards, Chicago, Secretary.
- American Sussex Breeders' Association—Overton Lea, Nashville, Tenn., Secretary.
- Ayrshire Breeders' Association—C. M. Winslow, Brandon, Vt., Secretary.
- Breeders' Association of French-Canadian Cattle of the United States—W. J. McMurphy, Binghamton, N. Y., Secretary.
- Brown Swiss Cattle Breeders' Association—Charles D. Nixon, Oswego, N. Y., Secretary.
- Dutch Belted Cattle Association of America—G. G. Gibbs, Marksboro, N. J., Secretary.
- Holstein-Friesian Association of America—F. L. Houghton, Brattleboro, Vt., Secretary.
- Maine State Jersey Cattle Association—J. Henry Moore, Winthrop, Me., Secretary.
- National Filled Hereford Breeders' Association—A. E. White, Chicago, Secretary, 5629 Madison avenue.
- Polled Durham Breeders' Association—J. H. Martz, Greenville, O., Secretary.
- Red Polled Cattle Club of America (Incorporated)—Harley A. Marth, Gotham, Wis., Secretary.

HORSE REGISTERS.

- American Association of Importers and Breeders of Belgian Draft Horses—J. D. Conner, Jr., Wabash, Ind., Secretary.
- American Breeders' and Importers' Percheron Registry—John A. Forney, Plainfield, O., Secretary.
- American Breeders' Association of Jacks and Jennets—J. W. Jones, Columbia, Tenn., Secretary.
- American Clydesdale Association—R. B. Ogilvie, Union Stock Yards, Chicago, Secretary.
- American Hackney Horse Society—Gurney C. Gue, New York, Secretary.
- American Saddle Horse Breeders' Association—L. B. Nall, Louisville, Ky., Secretary.
- American Shetland Pony Club—Julia M. Wade, Lafayette, Ind., Secretary.
- American Shire Horse Breeders' Association—Charles Burgess, Wenona, Ill., Secretary.
- American Stud Book (Thoroughbreds)—W. H. Rowe, New York, Registrar.
- American Trotting Register Co.—Frank E. Best, Chicago, Registrar.
- American Suffolk Horse Association—Alexander Galbraith, De Kalb, Ill., Secretary.
- Cleveland Bay Society of America—R. P. Sterleker, Oconomowoc, Wis., Secretary.
- French Coach Horse Society of America—Duncan E. Willett, Oak Park, Ill., Secretary.
- French Coach Registry Company—Chas. C. Glenn, Columbus, O., Secretary.
- German, Hanoverian and Oldenburg Coach Horse Breeders' Association—J. Crouch, Lafayette, Ind., Secretary.
- Morgan Horse Register—Joseph Battel, Middlebury, Vt., Editor.
- National French Draft Horse Association—C. E. Stubbs, Fairfield, Ia., Secretary.
- Percheron Society of America—Wayne Dinsmore, Union Stock Yards, Chicago, Secretary.
- Percheron Registry Company—Charles C. Glenn, Columbus, O., Secretary.
- Welsh Pony and Cob Society—John Alexander, Aurora, Ill., Secretary.

SHEEP REGISTERS.

- American Angora Goat Breeders' Association—John W. Fulton, Helena, Mont., Secretary.
- American Black-Faced Highland Sheep

Association—F. R. Sanders, Bristol, N. H., Secretary.

- American Cotswold Association—Frank W. Harding, Waukesha, Wis., Secretary.
- American and Delaine Merino Record Association—S. M. Cleaver, Delaware, O., Secretary.
- American Leicester Breeders' Association—A. J. Temple, Cameron, Ill., Secretary.
- American Milch Goat Record Association—W. A. Shafer, Hamilton, O., Secretary.
- American Oxford Down Association—W. A. Shafer, Hamilton, O., Secretary.
- American Rambouillet Sheep Breeders' Association—Dwight Lincoln, Milford Center, O., Secretary.
- American Shropshire Registry Association—L. E. Troeger, Lafayette, Ind., Secretary.
- American Southdown Breeders' Association—Frank S. Springer, Springfield, Ill., Secretary.
- American Suffolk Flock Registry Association—James Bowman, Guelph, Ont., Secretary.
- American Tunis Sheep Breeders' Association—Charles Rountree, Crawfordville, Ind., Secretary.
- Black-Top Spanish Merino Sheep Breeders' Publishing Association—R. P. Berry, Clokey, Pa., Secretary.
- Continental Dorset Club—Joseph E. Wing, Mechanicsburg, O., Secretary.
- Dickinson Record Co.—Beulah McDowell, Canton, O., Acting Secretary.
- Dorset Horn Breeders' Association of America—M. A. Cooper, Washington, Pa., Secretary.
- Franco-American Merino Sheep Breeders' Association—John P. Ray, East Bloomfield, N. Y., Secretary.
- Hampshire Down Breeders' Association of America—C. A. Tyler, Nottawa, Mich., Secretary.
- Improved Black-Top Delaine Merino Sheep Breeders' Association—O. M. Robertson, Eaton Rapids, Mich., Secretary.
- International of Homeyer Rambouillet Club—E. M. Moore, Orchard Lake, Mich., Secretary.
- Michigan Merino Sheep Breeders' Association—E. N. Ball, Hamburg, Mich., Secretary.
- National Lincoln Sheep Breeders' Association—Bert Smith, Charlotte, Mich., Secretary.
- National Merino Sheep Register Association—R. O. Logan, Montgomery, Mich., Secretary.
- National Shropshire Record Association—S. J. Weber, Middleville, Mich.
- Persian Sheep Breeders' Association—C. E. Bailey, San Jose, Cal., Secretary.
- Standard American Merino Sheep Breeders' Association—John P. Ray, Hemlock, N. Y., Secretary.
- United States Merino Sheep Registry Association—J. A. B. Walker, Mount Airy, Pa., Secretary.
- Vermont, New York and Ohio Merino Sheep Breeders' Association—Wesley Bishop, Delaware, O., Secretary.

SWINE REGISTERS.

- American Berkshire Association—Frank S. Springer, Springfield, Ill., Secretary.
- American Chester White Record Association—Ernst Freigang, Dayton, O., Secretary.
- American Duroc-Jersey Swine Breeders' Association—T. B. Pearson, Thornton, Ind., Secretary.
- American Essex Association—F. M. Stout, McLean, Ill., Secretary.
- American Poland China Record Co.—W. M. McFadden, Pedigree Record Building, Union Stock Yards, Chicago, Secretary.
- American Tamworth Swine Record Association—E. N. Ball, Ann Arbor, Mich., Secretary.
- American Hampshire (Thin Rind) Swine Record Association—E. C. Stone, Armstrong, Ill., Secretary.
- American Yorkshire Club—H. G. Krum, White Bear Lake, Minn., Secretary.
- Cheshire Swine Breeders' Association—E. S. Hill, Freeville, N. Y., Secretary.
- Improved Small Yorkshire Club of America—F. B. Stewart, Espeyville, Pa., Secretary.
- National Chester White Record Association—Thomas Sharpless, West Chester, Pa., Secretary.
- National Duroc Jersey Swine Breeders' Association—J. R. Pfander, Peoria, Ill., Secretary.
- National Mulefoot Hog Record Association—W. H. Morris, Indianapolis, Ind., Secretary.
- National Poland China Record Association—A. M. Brown, Winchester, Ind., Secretary.
- O. I. C. Swine Breeders' Association—C. Hies, Cleveland, O., Secretary.
- Southwestern Poland China Record Association—H. P. Wilson, Gadsden, Tenn., Secretary.
- Standard Chester White Record Association—W. H. Morris, Indianapolis, Ind., Secretary.
- Standard Poland China Record Co.—George F. Woodworth, Maryville, Mo., Secretary.
- United States Small Yorkshire Association—D. T. Bascom, California, Mich.
- Victoria Swine Breeders' Association—E. Davis, Dyer, Ind., Secretary.

Lamer's Percheron Sale

I will sell at Public Auction on

THURSDAY, MARCH 16, 1911

AT SALINA, KANSAS

47 Head *Imported and Home Grown* PERCHERON MARES AND STALLIONS 47 Head

Consisting of twelve Stallions (2 to 5 years old), thirty Mares (2 to 5 years old) and five Colts.

The "imported" stallions were all imported by me and are thoroughly acclimated and ready for service—with as much weight, style, action and conformation as you would ever be able to find in one barn.

My mares are the kind that would do credit to any man's breeding farm and will start the foundation of a family of horses of which you would be proud, twenty years hence.

WRITE FOR CATALOGUE.

C. W. Lamer, Salina, Kas.

DUROC JERSEY SALE

TUESDAY, MARCH 21 AT 11 O'CLOCK SHARP ON MY FARM 6 1/2 MILES SOUTHEAST OF MERIDEN, 14 MILES NORTHEAST OF TOPEKA AND 6 MILES NORTHEAST OF GRANTVILLE.

The offering is richly bred and carries the popular blood lines of the Duroc family and consists of 35 bred sows and gilts, 15 open gilts and 30 boars. The sows are bred mostly to D's Crimson Wonder, son of Crimson Wonder 3d, the Nebraska champion in 1908 and first in his class in Nebraska, Iowa and Illinois in 1910. The boars and open gilts were sired by D's Grimson Wonder and D's Col., a son of B. & C's Col., champion of Iowa and Illinois. The entire offering is certainly well bred, smooth, mellow and a useful lot of swine. If you are looking for something real good, you will not be disappointed if you come to my sale. Catalogs ready. 14 head of grade Shorthorn milk cows sold before lunch. AUCTIONEERS—COL. J. D. SNYDER, COL. F. A. TRIPP, COL. WM. DETLER.

E. S. DAVIS, MERIDEN, KAN.

O. W. Devine, Fieldman, representing Kansas Farmer.

FIELD NOTES.

G. G. Mandt With William Galloway Co
Mr. G. G. Mandt of the famous wagon making family of Mandts in Wisconsin has just produced what he calls his masterpiece. It is the product of 12 months of arduous labor, and it becomes the occasion of announcement of his connection with the William Galloway Company. Nothing satisfies William Galloway but the best, and when a year ago he determined to have the best complete manure spreader, he looked around for the best wagon maker he could find in the country. He knew where he could get him, too. It was G. G. Mandt of the Moline Plow Company, formerly of Stoughton, Wis. Mr. Mandt grew up in the wagon making business. His father built the first Mandt wagon and G. G. Mandt worked in his father's little shop when they were making but two or three wagons a month and a little bit of furniture. He saw the fame of the Mandt wagon grow until it was world wide and he helped to make it so. He was for seven years with the T. G. Mandt Company, and when they disposed of their interest to the Moline Plow Company, he went into that company's experimental department. Mr. Mandt is a thorough mechanic; he delights in making difficult mechanical problems easy. He knows wood and iron and steel and can make them do what he wants. He is an expert designer and intensely practical, and he knows from long years of experience just what is necessary in a wagon to make it the best. Now, when G. G. Mandt says as he did to Mr. Galloway, "That is the best wagon I ever made," it means that it is the lightest in draft; it is strongest; it is most durable and in every way complete. These are the gears that go under the Galloway new Manure Spreader No. 5. It is the finest complete manure spreader on the American market, because it combines the latest thought of the foremost experts in their respective lines. If it could have been made better, G. G. Mandt would have been the man to do it. Mr. Galloway is calling attention to this new spreader in one of his characteristic announcements on page 17.

Davis' Duroc Jersey Sale.

Attention is called to the sale announcement of Duroc Jerseys on March 21 by E. S. Davis of Meriden, Kan. Mr. Davis has a very useful and smooth lot of Durocs. The sows and gilts bred are rich in the blood of Ohio Chief, Col. Orion, Crimson Wonder, Kant Bo Beat and Goldfinch. These sows are most all of them bred to D's Crimson Wonder, a son of Crimson Wonder 3d, the champion of Nebraska in 1908 and first in his class in Nebraska, Iowa and Illinois in 1910. D's Crimson Wonder is a mighty good hog and were he in show condition he would compare very favorably with his illustrious sire. A few of the sows and gilts are bred to a Kant Bo Beat boar. In the offering there are 13 young boars, every one of which is a crack-erjack. They were sired by D's Crimson Wonder and D's Col., a son of B. & C's Col., champion of Iowa and Illinois. The entire offering is a mighty useful lot of hogs and are as mellow as a ripe peach. Do not fail to attend this sale if you are looking for a good brood sow or a boar. Send for catalog and send your bids in case you cannot attend the sale to O. W. Devine, representing Kansas Farmer.

"Raising More Corn"

Is the title of a 40-page booklet which we are just in receipt of, and after a careful reading we do not hesitate to recommend that all readers of Kansas Farmer who raise corn should get this booklet and read it. Its object is to help increase the yield of corn in Kansas and thus increase the demand for the highly perfected line of corn planting machinery put out by Deere & Mansur Co. of Moline, Ill. It is surprising to see how thoroughly the subject of seed selection, grading, testing, cultivating, etc., is treated in this booklet, and it's yours for the asking. Deere & Mansur Co. are among the largest manufacturers of farm implements in the world and it is no surprise that they should be among the first to realize that every acre of corn land in the United States is in cultivation and the only way to increase the demand for corn planting machinery is to increase the

yield per acre. Write for book 13A, Deere & Mansur Co., Moline, Ill.

Rystead Makes Good Sale.

Mr. A. R. Rystead's first Poland China bred sow sale, held at the farm near Mankato, Kan., February 22, was quite a success notwithstanding that the crowd was small and composed almost entirely of farmers. The entire offering of 38 head, of which only seven were tried sows, averaged \$31. E. J. Larocque of Cawker City was the heaviest buyer. Mendenhall Bros. of Esbon and J. W. Walker of Mankato were also good buyers. The top price paid was \$52. Mr. Rystead expresses himself as being well pleased with this, his first sale, and promises his neighbors as well as breeders an offering at his fall sale that will make them sit up and take notice. Mr. Rystead has been a good buyer at several of the best sales held in the state and southern Nebraska. So far he has bought 14 head at prices ranging from \$50 up to \$90. Watch this young breeder.

Duroc Bred Sow Sale March 23.

On March 23, Charles Stith and R. D. Martin of Eureka, Kan., will sell a draft of their famous Duroc bred sows. This promises to be one of the noted Duroc sales of the season. Please see ad in next week's issue of Kansas Farmer and write early for a catalog.

Jersey Bull Calf for Sale.

Dr. W. M. Shirley, formerly of Hiawatha, Kan., and well known as a breeder of Jerseys, is now living in Denver, Colo. When Dr. Shirley closed out his cattle he kept a couple of his best cows and took them with him to his new location. One of these cows, Bonnie Mac, a 500-pound cow, dropped a lovely bull calf February 7. Dr. Shirley has no good place to keep the calf and offers to sell it very cheap. Thirteen dams on its mother's side have butter records of 22 pounds in seven days and nine dams on sire's side have records of 21 pounds and better. The calf is a choice one and can be bought reasonably. Address Dr. W. M. Shirley, 1734 Welton St., Denver, Colo.

Hamaker Makes Good Sale.

G. S. Hamaker held his annual sale of big type Poland China bred sows Friday, February 24. The sale was held at the farm, one mile west of Pawnee City, Neb., and was well attended by farmers and a goodly number of breeders from Nebraska and Kansas. Col. L. W. Leonard made a nice opening talk, saying among other things that the gilts to be sold were the best that had ever been offered in Pawnee county. C. P. Jones of Cortland, Neb., topped the sale at \$112, buying the Big Hadley sow Lena, No. 3 in catalog. The 38 head sold averaged \$46.75. A list of leading sales follows:
No. 1. J. R. Pfanöer, Clarinda, Ia. \$107
2. C. P. Jones, Cortland, Neb. 112
3. D. Butler, Pawnee City. 49
4. Wm. Martin, Pawnee City. 41
5. O. Fitzsimmons, Pawnee City. 35
6. Jake Brown, Pawnee City. 31
7. Wm. Starr, Pawnee City. 31
8. T. J. Melsner, Sabetha, Kan. 70
9. Jake Brown. 45
10. John Pyle, Pawnee City. 41
11. Dee Butler, Pawnee City. 49
12. A. J. Cope, Pawnee City. 37
13. W. E. Webb, Bendena, Kan. 52
14. Frank Kasha, Washington, Kan. 48
15. John Herold, Lewiston, Neb. 41

PURE BRED POULTRY

BUFF ORPINGTONS.

BUFF ORPINGTONS—PEN HEADED son of Madison Square first cockerel; 15 per 15. N. F. Alsbaugh, Lincolnville, Mo.

EGGS—ALL VARIETIES ORPINGTON Leghorns, Minorcas, Wyandottes, Reds, ducks, geese, turkeys. Wm. Keel, Co. Hampton, Iowa.

WHITE ORPINGTONS, KELLERSTRA strain; eggs from birds scoring 92; to by Emery \$3 per 15; cockerel scoring \$2. \$5. W. E. Deemer, Carthage, Mo.

S. C. BUFF ORPINGTONS—OWEN Farms strain; free from all disqualifications; cockerels make 10 lbs. in 9 weeks; don't waste time and feed on scrub; we furnish you money makers as fine as any one has for very reasonable prices; press charges paid. Write me now. C. Owen, Lawrence, Kan.

PLYMOUTH ROCKS.

SNOW WHITE ROCKS—BEST scores 95 1/2 each; \$1.50 for 15; utility \$3.50 for 100. Indian Runner ducks \$1 for 15; \$5 for 100. Clarence Martin, Clarksville, Iowa.

LANGSHANS.

BLACK LANGSHAN CHICKS—PRICED reasonable; eggs, \$1 for 15; \$3 for 50; \$8.50 for 100. Indian Runner ducks \$1 for 15; \$5 for 100. Clarence Martin, Clarksville, Iowa.

TURKEYS.

BOURBON RED AND MAMMOT White Holland turkey eggs Mrs. H. Tipton, Versailles, Mo.

CHICKS 12 1/2c EACH, EGGS, 100, 40c S. C. W. J. Leghorns. A. M. Herman, Toona, Kan.

SUNNY DELL FARM—BOURBON turkeys, extra fine in color; eggs \$2.50 per 15; \$8.50 for 100. S. C. R. I. Reds, special mating; \$1 per 15; \$2.50 per 50. S. C. Leghorns, extra fine, bred to lay; 8 years experience; \$1 per 15, \$4 per 100. I. Wooddall, Fall River, Kan.

- 18. Elmer McCaughney, Pawnee City.
- 19. John C. Helderman, Burchard, Neb.
- 20. Aug. Sanffer, Pawnee City.
- 21. John Pyle, Pawnee City.
- 22. John McNair, Pawnee City.
- 23. John Herold
- 24. W. D. Stoneberger, Pawnee City.
- 25. A. R. Rystead, Mankato, Kan.
- 26. John Herold
- 27. C. A. Brown, Pawnee City.
- 28. Aug. Shaffer
- 29. W. D. Stoneberger
- 30. C. A. Brown
- 31. O. Fitzsimmons
- 32. Aug. Shaffer
- 33. O. Fitzsimmons
- 34. A. R. Rystead
- 35. M. L. Ayers, Shenandoah, Iowa.
- 36. O. S. Colther, Pawnee City.
- 37. Perry Hudson, Smith Center, Kan.
- 38. Pete Thomas, Pawnee City.

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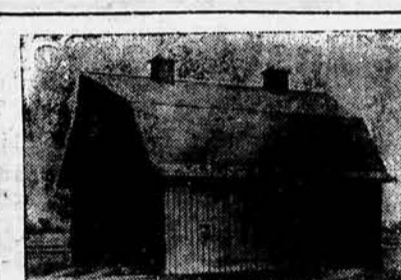
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