

KANSAS FARMER

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REINFORCED CONCRETE FOR BUILDINGS.

Great changes in the materials used in the construction of buildings have been foreseen as a result of the increasing scarcity of wood. The necessity for such change has been made plain by every great fire. In the Boston and Chicago fires it became apparent that granite and iron were incapable of withstanding the fierce and long-continued heat of such conflagrations. In the Baltimore fire this same fact was accentuated, while limestone was burned to lime and bricks were melted into shapeless heaps. The San Francisco earthquake and fire brought these facts most painfully to view.

A few years before the Baltimore fire, there had been introduced a form of construction known as reinforced concrete. Portland cement, sand, broken stone, and water in proper proportions form a concrete which becomes as hard as stone and is practically unaffected by fire. By placing steel bars or steel rods in this concrete it is given great tensile strength and the concrete protects the steel from the effects of heat. Foundations, walls, columns, beams, floors, ceilings, and roofs are now constructed of this fireproof combination. Glass is made fireproof by embedding woven steel wire in it. Window frames and sashes, and door-frames and doors are made of metal. In the Baltimore fire, buildings constructed in this modern way stood like monuments among the ruins of granite and brick structures. At San Francisco such buildings withstood first the earthquake and then the fire. It is stated that in building the new San Francisco the reinforced concrete construction will prevail.

A fine example of reinforced concrete is seen in the new warehouse just completed at Kansas City by the Terminal Warehouse Company. The brief description given by Mr. J. P. Prescott, the president of the company, is as follows:

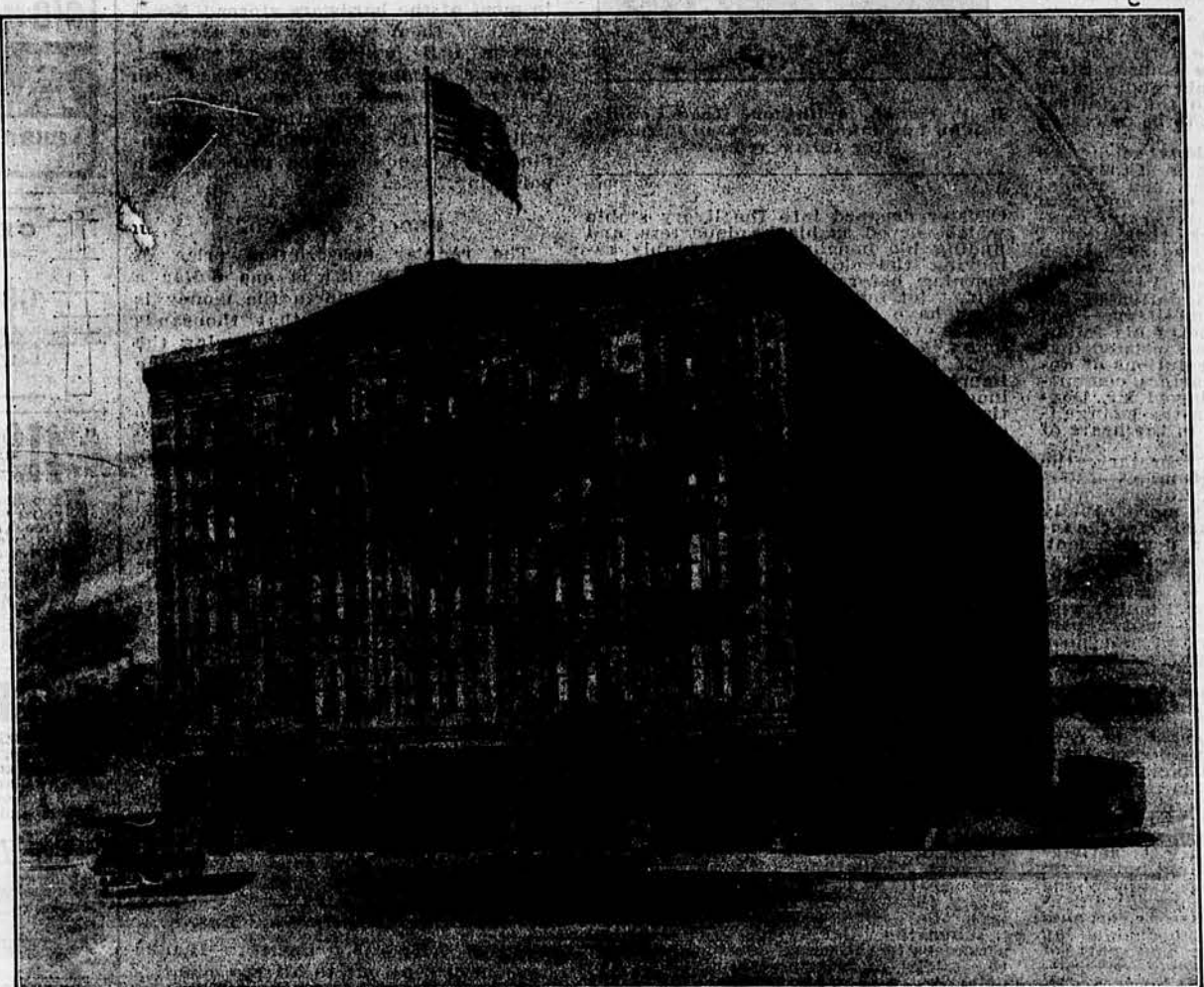
"Reinforced concrete throughout. Not a stick of wood in the construction. Each floor an entire separate fire risk. Fireproof partitions. Automatic fireproof doors and windows. Iron door-frames. Metal sash. Double wire-glazed windows. Automatic-sprinkler system throughout. Building can not be affected by fire. 100 by 130 five stories and basement."

Speaking of the cost of such construction, a Topeka architect, Mr. T. H. Leshner, finds it to be about thirteen per cent greater than the ordinary brick, stone, and timber construction. Mr. Prescott says that the cost of the

terminal warehouse complete, as above described, including a year's salary for the officers of the company during construction, was slightly under ten cents per cubic foot of the material used. Every part of the foundation, walls, columns, partitions, beams, joists, floors, roof, and water-tank was molded in place, making the structure one

ly qualified. For some time he was editor of the "Field and Farm" department of the Topeka Capital and later was made telegraph editor of the Kansas City Daily Journal, which position he held for twelve years and until his death.

Mr. Creager was one of the many graduates of the Kansas Agricultural



The Terminal Warehouse, Kansas City. Not a piece of wood nor any other combustible material in it. Molded in place the building with all floors and partitions is a monolith.

stone which would turn over more easily than it would crush and which would not burn in the midst of the greatest fire ever known in any city.

The day of temporary structures is rapidly passing. We are now able to build against fire, water, and earthquake, and reinforced concrete comes very nearly deying the ravages of time, since it grows stronger with age. The time is probably not far distant when our houses and barns, our out-buildings and fences as well as our sidewalks and feeding floors will be made of concrete and steel.

PHIL S. CREAGER.

The news of the sudden death of Phil S. Creager on the morning of May 11 came as an appalling shock to thousands of friends in Kansas.

Death followed an operation for appendicitis performed last Sunday. As to his condition, he was able and hopes of his recovery entertained until the morning of the day on which he died. Mr. Creager was a Kansas boy whose home was a Kansas farm. He graduated the Kansas State Agricultural College at Manhattan in 1889 with honors. After his graduation he took up newspaper work for which he was es-

pecially qualified. For some time he was editor of the "Field and Farm" department of the Topeka Capital and later was made telegraph editor of the Kansas City Daily Journal, which position he held for twelve years and until his death.

Always courteous and considerate of others, he endeared himself to his associates. By his cheery manner and exemplary life he not only made many friends, but held them. To know Phil Creager was to love him.

He leaves behind him his wife, to whom he was married in 1899, and two children aged respectively 6 and 2 years. A host of personal friends will join with his mother, sister, and two brothers in their grief and in their fond remembrance of one who has gone before.

Mr. Creager was a member of the Board of Directors of the Kansas Farmer Company and his death leaves a vacancy that will be difficult to fill.

THE WORLD A MARKET.

The world's international commerce will aggregate fully 25 billions of dollars in the year ending June 30, 1906. In 1900 it aggregated, in round terms, 20 billions; in 1890, 17½ billions; in 1880, 14½ billions; in 1870, 10½ bil-

lions; in 1860, 7½ billions, and in 1850, 4 billions. By the term "world's international commerce" is meant the imports plus the exports of all countries of the world from which statistical trade reports were available at the dates named.

A comparison of the world's commerce at the present moment with that of a year ago shows that the average monthly exports of Argentina have increased from 21½ millions to practically 26 millions; those of Austria-Hungary from 27 millions to 37 millions per month; those of Belgium from 30½ millions to 34½ millions, those of Canada from 16½ millions to 20½ millions, those of France from 64½ millions to 72½ millions, those of Germany from 103½ millions to 110½ millions, those of China from 11½ millions to practically 14 millions, those of Cuba from 7½ millions to 9½ millions, those of Mexico from 6½ millions to practically 10 millions, those of European Russia from 41 millions to 43½ millions, those of the United Kingdom from 127 millions to 143½ millions, and those of the United States from 125 millions to 147 millions per month.

The monthly average of Argentina's imports have increased from 15 million dollars to 16½ millions; Austria-Hungary's from 35½ to 43½ millions; Belgium's from 41½ to 51½; Canada's from 19½ to over 22; China's from 17½ to 20; Cuba's from 6½ to nearly 8; that of France from 78 to 85½; Germany from 126½ to 133½; Italy from 28½ to over 32; Netherlands from 76 to 80½; United Kingdom from 226½ to 241½; and the United States from 93½ to 101½ millions.

GREAT MEETING OF THE KANSAS STATE TEMPERANCE UNION.

In a three days' meeting, at Topeka, last week, the Kansas State Temperance Union held the greatest convention in its history of a quarter of a century. Its day sessions were given to able addresses and discussions by earnest workers of this State. The first evening session in the Topeka Auditorium was addressed by Rev. Father Cleary, of Minneapolis, a Catholic priest who has had a leading part in enforcing Sunday closing in Minneapolis, and has contributed mightily to the work and success of the National Anti-Saloon League. Father Cleary's address was an eloquent and powerful argument which carried the vast audience with the white-haired priest and brought frequent and hearty applause. The second evening session was addressed by Rev. Lewis Albert

Banks, pastor of the first Methodist Church at Denver. So effective was this that it brought liberal contributions in cash and several hundred dollars in signed pledges for the work of the State Temperance Union. A feature of the last evening session was the delivery of the prize address of the intercollegiate temperance league. This was by A. L. Ryan, a senior student at Baker University, who in competition with representatives of the other colleges of the State won the prize of \$50 offered by the State Temperance Union. It was a forceful, clear, logical argument well delivered and well received. The last evening address was by Rev. R. A. Elwood, of Leavenworth, who in his powerful and dramatic way surprised the management as well as the audience. He strongly recalls the great John B. Gough of whom it is reported that a German said: "I go to hear dot Mister Gough what speaks mit his coat dalls."

The proceedings showed that the general awakening to the importance of civic righteousness is rife in Kansas. It is evident that no longer can it be assumed that politicians' fair promises are all that is needed to satisfy the churches and temperance people, but that there will have to be corresponding performance to retain their support. The names of Hadley, Folk, and Roosevelt seemed to stand for the convention's ideals.

The present attitude of the Union may be inferred from the following brief address read at the second evening meeting by the president, E. B. Cowgill:

"This evening is not an opportune time for a review of the details of the last year's work of the Kansas State Temperance Union. This audience is anxious to hasten on to the principal address of the day, soon to be delivered by Dr. Banks.

"But it is due to the old wheel-horses of the temperance work in Kansas, to the faithful who at the last annual meeting elected a secretary, and who now find another occupying the position and doing the work, that a brief statement be made here and now. Much against the desires of every member of your executive committee, Rev. W. L. Dexter tendered his resignation of the secretary's office at mid-term, and against the remonstrance of his fellow officers and the committee, insisted that it be accepted. With resolutions of appreciation, your headquarters committee's kindest wishes followed Mr. Dexter into his new work in the evangelization of a mining town in the heart of the Rocky Mountains.

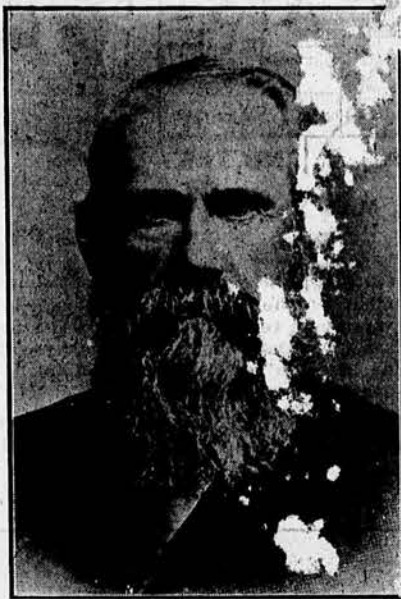
"In securing a new secretary, the committee was most fortunate. Under the quiet energy of Rev. Robert Norris, the work has developed more rapidly than ever before. The promise for the future is for still greater development, especially along the line of cooperation with local movements for law enforcement. The time is undoubtedly coming when the Union will find it wise to take a part in politics—not a partisan part, but the part of the good friend and helper of right movements and right candidates in any party, and as the strenuous opponent of wrong movements and wrong candidates by whatever name known.

Law-abiding citizens are to be congratulated on the awakening in this and other States to the importance of civic righteousness. This awakening has not partaken so much of the nature of a turning from evil ways by the evil doer as of a renewed appreciation of the importance of political activity on the part of well-meaning, but—must I say it—indolent citizens. I apprehend that when the great Teacher admonished his followers to be "wise as serpents and harmless as doves," he did not lay all the emphasis on the last part of

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the admonition. "Eternal vigilance is the price of liberty" now as in the days of the revolution, and liberty from lawlessness is as important as liberty from any other tyranny. They tell of a politician, who had influence in the early days of Topeka, that he had both a cracked voice and a machine in his head that was capable of grinding a political wisdom suited to the occasion. The question of getting into a position to a distant auditor was under consideration, and some one suggested to write him. "Uncle" Chester Thomas' maxim machine and his son's voice instantly advised, "Better write a hundred miles than write a letter." "Wise as serpents." An election was in progress. About nine o'clock "Uncle"



B. P. Hanan, Arlington, Reno County, Who has taken the Kansas Farmer for thirty years.

Chester dropped into the livery stable which served as his headquarters, and finding his henchmen comfortably removing the chill of the November morning before the livery-stable fire, said, "Get out of this you lazy louts. They have been voting as they blank please over in the Second ward for two hours." Diligent in politics.

"If I were given the privilege of impressing one and only one thought indelibly upon the mind of every Christian in Kansas, that thought should be of the importance of prompt, vigorous, unflinching, and continuous attention to the interests of right in the caucus, in the primary, in the convention, and at the polls. It will become us to complain that public officials fail to do their duty if we fail to do our duty in making our support necessary to nomination and election. Do not tell me that the politicians always have their plans laid in advance, so that the good citizen is privileged only to vote for or against, but has no part in determining who shall be candidates. Take part in determining the first moves in the game.

"Is the result worth the effort? Is there much at stake? The power to tax, and the power to expend the public revenue are in the hands of those selected through the machinery of politics. The power to make and enforce law and the power of nullification alike repose in official hands. We have seen enough of graft, enough of official disregard of official duty, enough of violation of solemn official obligation to suggest spoliation through taxation and graft and the insecurity of anarchy through the non-enforcement of law.

When the voter dreads to contest the schemers in the caucus or to go against the tricks of the unscrupulous in the primary; when he prefers the comfortable shelter of his home to the blazing sun that must be endured to promote the interests of good government during the summer manœuvres; when he gives himself to the cheer of social enjoyment in the society of his family and that of his neighbor rather than to endure the chill November wind, he should remember that law, though the expressed result of ages of study on the relations of mankind, must be enforced to be effective. Reverence for law comes through its enforcement. The enforcement of law in a free country comes through the citizens' demand expressed in a political way.

"The law protects our property from the hand of the thief and the robber. The law protects our persons from the violent. On the lonely road the villain may not molest me because the law is around me. On the crowded street my rights are defined and protected by the law. When I lie down to sleep, my family, my person, and my property are guarded by the ever-present law. The little child in its helplessness, the aged in his feebleness, the sick, and the afflicted, the just and the erring—all are alike protected by the shield and buckler of the law.

"Let not one jot nor one tittle of the law fail. Let no man who has sworn before high heaven to uphold the law and has violated his oath be again placed in position to thus lay perjury on his soul, and bring contempt upon the Constitution and the law."

METHODS OF KILLING MOLES.

Editor Kansas Farmer:—Would you kindly inform me how I can get rid of the blind moles, or prevent them from taking the corn that has been listed. The blind moles, or those that make runways under the ground, are a great pest on bottom land, as they will follow the rows of corn and de-

stroy it. I would like to know of some way to get rid of the pest. Would like an answer to this at once.

C. D. Stewart.

Clay County.

The mole is sometimes a troublesome pest. Prof. D. E. Lantz, who is probably the best authority on the destruction of such rodents, says:

"With shelled corn, soaked in a solution of strychnine and syrup, some of the moles were killed, but no data as to the relative numbers could be obtained.

"With sweet corn in the milk or roasting-ear stage, cut from the cob and similarly treated, a large measure of success was attained and nearly all the moles destroyed.

"The kernels of unroasted peanuts, in which strychnine crystals were placed, were found to be reasonably successful bait, and are recommended when green corn is not available.

"Bits of meat or dead insects properly poisoned will prove successful, but with the meat there is great danger of poisoning dogs, since the moles' burrows lie so close to the surface of the ground.

"The sense of smell seems to be strongly developed in moles. My experiments have verified the statement that if ordinary moth-balls are dropped into their runways and these covered, the moles will not again use them until the moth-balls have entirely disappeared. This does not, however, prevent their working in nearby places.

"Traps for catching moles are sold in most of the hardware stores. Nearly all of them work by the use of a spring coil which, when released, drives a number of sharp tines into the ground and through the mole. Some experience in setting these traps will lead to the best results; but trapping is a much slower process than poisoning."

BLOCKS OF TWO.

The regular subscription price of THE KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year, and one new subscription for one year, and one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, The Kansas Farmer Company, Topeka, Kans.

The Kansas State Dairy Association is very desirous of securing a list of the names of its former and present members. Through an accident the roll of members was destroyed about two years ago, and it is now requested that all persons who have ever been members of this association will write a postal card to Secretary I. D. Graham, Topeka, Kans., and give their present address.

Institute Reports Now Due.

EDITOR KANSAS FARMER:—Blanks have been sent out to all the counties of Kansas for information relating to farmers' institutes. This is a reminder that the blanks should be filled out and returned to me very soon. About the last of June a special farmers' institute number of the "Industrialist" will be issued, and in this I want to print a directory of all institutes, poultry or horticultural societies now organized. If any institute officer reads this, I want him to ask every other officer if he has the blank and if so why he does not send it in. I want to be able to announce at that time the fall schedule for institutes, giving each circuit. The first series will begin October 15 and end November 10. No institute will be held during the election week. The second series will begin November 19 and end December 20.

J. H. MILLER,
State Institute Secretary.

The Dan Patch Catalogue.

Of the finest examples of the art that has come to THE KANSAS FARMER table for many moons the farm catalogue, issued by the International Stock Food Co. of Minneapolis, Minn. In addition to the pictures of beautiful lakes, trout streams, lamental plantations, and elaborate buildings, the book contains portraits of the greatest collection of record-making horses ever owned by one man. Dan Patch 1:55½, Crescens 2:¼, Directum 2:05½, Arion 2:07½, Wilkes 2:06½, and Buttonwood 7. The list is a royal one and reads like a list of kings. The book is an expensive souvenir of the greatest breeding farm on earth and the equally well-known International Stock Food and it will have a place of honor in our library.



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Agriculture

The Value and Use of Barnyard Manure.

The value of barnyard manure may vary somewhat according to the kind of animals from which the manure is made, the quality, composition, and quantity of feeds fed, and the method of preserving or handling the manure previous to spreading it upon the fields. Manure from animals which are being fed with highly nutritious feeds will be richer in the plant-food elements than manure made from animals which are being fed on less nutritious feeds or which are being fed merely a maintenance ration.

I have computed the relative value of manure made by different animals as published in Robert's "Fertility of the Land," as follows:

	Per ton.
Horse manure.....	\$2.45
Cow manure.....	2.20
Sheep manure.....	4.20
Pig manure.....	3.20
Air-dry hen manure.....	8.50

The value of mixed barnyard manure varies greatly according to the different analyses made of the different samples of manure at different experiment stations. As an average for many samples, barnyard manure partly rotted contains in a thousand pounds of manure 720 pounds of water, 58 pounds of ash, 5 pounds of nitrogen, 2.6 pounds of phosphoric acid, and 6.3 pounds of potash. As chemical fertilizers are sold on the market, the essential plant-food elements may be valued as follows: Nitrogen 15 cents, phosphoric acid 7 cents, potash 4.5 cents per pound, respectively. At this rate a ton of barnyard manure having the composition given above will have a value of \$2.42. Professor Snyder, of the Minnesota Experiment Station, in discussing this subject has estimated the value of eight tons of farm manure, when applied to land deficient in fertility, at \$25. He makes this estimate in this way: The increase in yield of corn the first year after manuring will be twenty to twenty-five bushels per acre, or an increase of \$7 in the value of the crop. The second year after manuring, the land will produce, according to his figures, six bushels more wheat per acre, valued at \$4.50. The third year, provided clover is seeded, the land will yield at least a ton more hay per acre, valued at \$5. Wheat following clover should give an increased yield of eight bushels per acre, worth \$6. The fifth year the estimated effect of the combined manure and clover treatment should increase the yield of oats twelve to fifteen bushels per acre, worth \$2.50, making a total increase of \$25 in the value of crops for five years.

No extensive experiments in the use of barnyard manure have been carried on at the Kansas Experiment Station. The benefits derived from applying manure to corn land are so well understood, that it has apparently not been considered necessary to prove it by experiment. Incidentally, however, along with our trial of varieties of corn in 1903, the same varieties were grown in different fields, one field having been manured during the previous winter while the other, similar in character of soil, received no manure. The manured land yielded, on the average, over eighteen bushels more corn per acre than the unmanured land. Some experiments were carried on in the early 90's at this station in manuring land for wheat. In 1889-90 land which had received twenty tons of manure per acre produced on the average five bushels more wheat per acre than the unmanured land; in 1891 the results were less favorable to the manuring. In a trial with fertilizers for wheat, carried on at this station in 1899, twenty-five tons of well-rotted manure gave better results than were secured from any kind of chemical fertilizer. The results of manuring wheat are not always beneficial, but there is no question that for other crops, such as corn, Kafir-corn, sorghum, and grasses, the application of manure results in a very profitable increase in the yield of the crop, and at the same time helps to maintain the fertility of the soil.

There is no other land which can be manured so economically as grass land, and there are no crops which respond more quickly and fully to the application of manure than do grasses, either meadow or pasture. It has been found, also, that alfalfa responds well to surface-dressing of barnyard manure, and manure may be hauled on grass land or on alfalfa almost any time during the fall or winter, the season of the

year when the farmer has the most spare time.—A. M. TenEyck, in the Industrialist.

How to Fight Chinch-Bugs.

FROM PRESS BULLETIN OKLAHOMA EXPERIMENT STATION.

There are four practical and useful things that a farmer may do to protect himself against the chinch-bug.

1. Destroy, during the winter or early spring, the winter quarters of the bugs, together with the bugs themselves, by deep plowing. Chinch-bugs fly in the fall to bunch-grass (their natural food before crops were introduced) to pass the winter. Not finding the grass, they will hibernate in any shelter that may be at hand. During April they fly back to the crops to mate and deposit their eggs. Generally the wheat is in prime condition for them at this time, and it is the crop that suffers most when the eggs hatch and the young bugs begin to feed. Of course the greatest damage is done later, when the broods become very numerous, and begin to migrate to new fields. The crop moved upon at that time is the one to save. During the last few days (April 24), the air has been full of flying chinch-bugs, moving from the winter quarters to the wheat-fields.

2. Plant a "trap crop" to protect the main crop, and when the bugs move upon the trap, plow the whole under, bugs and all. This method has given good results. The trap crop may be millet, Kafir, or sorghum, and should be on the side of the field nearest to the wheat.

3. Plow a space of ten feet around the corn-field when the bugs begin to leave the wheat, harrow and drag with brush to make as much dust as possible. This can be done only in dry weather. Small, immature bugs will not be able to cross the ten feet of dust, and the mature ones will seldom resort to flying.

4. Later in the season, when the insects move upon the corn, a few rows cut and piled in armful-sized piles will attract the chinch-bugs, and if it is warm and the corn heats, thousands of bugs will die under these piles from a chinch-bug disease. The piles of green corn offer the ideal weather conditions, hot and damp, the disease being naturally present, soon "takes," and the result is the death of all bugs affected.

Do not attempt to destroy the chinch-bug by spraying. It has been tried at the Experiment Station, and by numerous farmers, with the same unsuccessful results. A few more tests will be made with sprays, and the results given if successful. But until then the farmer has adequate means at hand to materially lessen the damages by this pest, by using the above methods.

To repeat: By all means plant a trap crop and plow it under when the bugs move upon it in great numbers. Plow a dust strip and lay piles of green cut corn or sorghum in the path of the migrating bugs. Then finally, begin next winter to save your wheat crop, by cleaning up all places where chinch-bugs could hide away and pass the winter months.

The Striped Ground-Squirrel.

As inquiries occasionally come to this department concerning habits and depredations of the striped ground-squirrel, or "gopher," it may be well to answer some of them through the columns of THE KANSAS FARMER.

The little animal is more or less common throughout the prairie regions of the Mississippi Valley, particularly in the tier of States including the Dakotas, Nebraska, Kansas, and Oklahoma. It is not by any means an unqualified nuisance, even from the practical farmer's standpoint, for more than half of its food consists of insects, and the bulk of the other half is made up of the seeds and roots of various wild plants. Then, too, its sprightly chatter, its unblinking stare of curiosity, and its grotesque attitudes are necessary details in the picture of a prairie pasture in May and June.

The burrows are not usually over ten or fifteen feet in length, and do not descend more than a foot or two beneath the surface. In one or more enlarged chambers, food is stored and the young are reared. The latter average in number from eight to ten. In this region they are born late in May or early in June, and a few weeks later they may be seen playing about the entrances of the burrows. By the latter part of October, or even earlier, old and young have become so fat and lazy as to lose all interest in sunshine and prairies. They retire to their bur-

rows and sleep away the hazy days of autumn, the condition of stupor becoming more profound as winter comes on. In this condition they remain until the ground warms up in April.

It is the ground-squirrels' bad habit of digging up and eating seed-corn, melon-seeds, and the like, that brings him into disrepute with the farmer and gardener. Fortunately, his depredations are usually confined to a strip of the cultivated field bordering on prairie pasture or other sod, though sometimes short burrows are dug and temporary quarters established anywhere in the field. The little animal forages so industriously that the devastation wrought by a single individual often leads the farmer to think that a whole colony is there working overtime. They not only dig down and secure the sprouted kernels of corn after the shoot has appeared above ground, but will follow up a row for rods and unerringly locate the seed even before it has germinated. A part of the corn is carried away and stored in the burrows.

When it becomes necessary to make war on the striped gopher, guns, traps, or poison may be employed successfully. A few hours' campaign with a shotgun or a 22-calibre rifle will often stop depredations. The small boy on a farm can sometimes settle the question with a few steel-traps. The greatest size, No. 0, should be used. Set them at the mouth of the burrows, sinking them into the ground until level with the surface or covering them over with a little grass. They need not be baited. If a barrel of water can be hauled to the spot, the animal can easily be drowned out and killed. Less than a pailful is usually required to bring out the occupant of the burrow.

Strychnine is the most effective poison, but poison of no kind should be employed if poultry or other domestic animals are likely to stray that way. Even if the field is at a distance from the farmyard, many birds will find the poisoned grain, and thus our loss will be greater than our gain. If the poison be placed in the mouth of the burrow, it will probably do the most good on one hand and the least harm on the other. Dissolve about one-sixteenth of an ounce of strychnine in a quart of hot water and soak the grain—corn or wheat—in this for about twenty-four hours. If all the poisoned grain is not to be used at once, it may be spread out in a pan and dried. In this condition it will keep indefinitely, and may be stored away in a tight jar for future use. See that it is properly labeled. The poisoned syrup prepared at the Agricultural College for pocket-gophers is equally effective when used to destroy ground-squirrels. Full directions for use are printed on the label attached to each can of the syrup.

Carbon bisulfide can be quickly, cheaply, and successfully employed to rid a locality of the striped gopher. Pour a tablespoonful on a wad of cotton or rags, thrust it quickly into the mouth of the burrow, and close the latter with packed dirt. The gas from the bisulfide will do the rest. It is heavier than air and will flow along the burrow to its inner end, suffocating the occupant. If the burrow has more than one opening, see that all are closed.

THEO. H. SCHEFFER,
Assistant Zoologist Kansas State Agricultural College.

Good Culture Necessary for Corn.

EDITOR KANSAS FARMER:—I have just read C. T. Hartley's article on "Corn-Breeding and Culture." I think his argument very good as to selecting seed-corn, but I believe the Professor omitted the most important part, that of properly preparing the ground that is to be planted to corn.

We farmers, in Edwards County, list all of our corn, and I find it is best to list the ground or plow it late in the fall, or any time during the winter. It not only makes the soil more fertile, but also retains and creates more moisture. Do not plant too early. The first of March is soon enough. I find that the double-disk cultivator is the best and cheapest machine to use. I believe in good seed-corn, but proper farming is more important.

EDWARDS COUNTY.

FRED WINDHURST.

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Stock Interests

PURE-BRED STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.

May 17, 1906—Great sale of all beef breeds of cattle at Wichita, Kans. D. R. Mills, Des Moines, Iowa, Manager.

May 18, 1906—Combination sale of Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.

May 17, 1906—Combination sale of Aberdeen-Angus, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.

May 29-June 1, 1906—Sale of all beef breeds, Kansas City sale pavilion, D. R. Mills, Mgr., Springfield, Ill.

June 7, 1906—F. M. Marshall, Blackwater, Mo.

June 12-14, 1906—Sale of all beef breeds at Sioux Falls, S. D., D. R. Mills, Mgr., Des Moines, Iowa.

June 19-20-21, 1906—Dispersion of Tebo Lawn Shorthorns, E. B. Mitchell, manager, Clinton, Mo., at Kansas City.

June 25-28, 1906—Sale of all beef breeds at Des Moines, Iowa, D. R. Mills, Mgr., Des Moines, Iowa.

October 2-3-4-5, 1906—Glascow Live Stock Association sale of pure-bred stock, Glascow, Kans.

October 10, 1906—H. L. Faulkner, Jamesport, Mo.

October 17, 1906—W. J. Honeyman, Madison, Kans.

October 17, 1906—Poland-Chinas, W. A. Pruitt, Asherville, Kans.

October 18, 1906—Poland-Chinas, W. A. Davidson, Simpson, Kans.

October 20, 1906—W. R. Dowling, Norcatur, Kans.

October 23-24, 1906—E. A. Eagle & Sons, Agricola, Kans.

October 24, 1906—Poland-Chinas, Frank A. Dawley, Waldo, Kans.

October 25, 1906—D. W. Dingman, Clay Center, Kans., Poland-Chinas.

November 1, 1906—Frank Zimmerman, Centerville, Kans.

November 6, 7, 8, 1906—Sale of all beef breeds, Kansas City Sale Pavilion, R. A. Ford, Lawson, Mo., Manager.

November 8, 1906—T. P. Sheehy, Hume, Mo.

November 13, 1906—Howard Reed, Frankfort, Kans.

November 16, 1906—G. M. Hebbard, Peck, Kans.

November 20-23, 1906—Blue Ribbon sale of all beef breeds, D. R. Mills, Mgr., Des Moines, Iowa.

November 27, 1906—L. C. Caldwell, Moran, Kans.

December 4, 1906—Poland-Chinas, Lemon Ford, Minneapolis, Kans.

December 11-12, 1906—James A. Funkhouser and Charles W. Armour, sale pavilion, Kansas City.

Improved Stock Breeders' Association of the West, Dec. 13-14, 15, 1906, at Arkansas City, Kans., I. E. Knox, Nardin, O. T., manager.

Dec. 5, 6, 7, 1906, at Anthony, Kans., Chas. M. Johnston, Caldwell, Kans., manager; Dec. 13, 19, 1906, at Wichita, Kans., J. C. Larrimer, Derby, Kans., manager; Feb. 13, 14, 15, 1907, at Caldwell, Kans., Chas. M. Johnston, Caldwell, Kans., manager.

Corrections Made to the Discussions About Bot-Flies.

ELBERT S. TUCKER, MUSEUM ASSISTANT IN ENTOMOLOGY, UNIVERSITY OF KANSAS, LAWRENCE.

The discussion on "Warbles," which appeared in THE KANSAS FARMER of March 16, seems to have called forth the opinions of other correspondents in regard to the habits and other particulars of what they supposed were bot-flies. In the issue of March 29, the remarks of a correspondent in Kingman County were given under the heading, "Observations," and then on April 12 under the title, "Warbles in Cowley County," a subscriber's views were printed together with the editor's reply, including a reference quoted from Professor Kellogg's book, "American Insects." While the correspondents mainly agree in matters of opinion, they disagree with the statements of authorities on the subject. To insist on one's own opinion as the correct view of a subject without proper knowledge of it is a risky procedure, but when proven facts of science are disputed, the results of skillful investigations are set at naught. All of the correspondents are evidently mistaken to some extent in respect to what they consider as bot-flies. This state of confusion is further shown in another letter from which the following remarks are constructed. The letter was referred to me by the editor with an appeal to settle the discussions:

"There has been much said in your paper about the bot-fly on horses, and the grub on cattle, but, after all, few persons seem to understand. We all know the parent bot-fly is the buzzing, hummed, bee-like fly that deposits its eggs on a horse's forelegs where the horse is apt to lick them off. The nits readily let loose of the hair, and cleave to the moistened tongue. They are, in this way, carried into the mouth, and then enter the stomach, which is the natural place for them to develop into bots. They stay there until about the middle of the next summer, when they pass from the horse, and soon develop into another pest of flies. The horse does not rel. in free from bots very long, for just as many horses die from bots in July and August as any other time of year. Why do horses have them? Do they harm or benefit the horse? Such questions have been argued from time to time, and we are baffled almost as much as our forefathers were. We can not explain nature's object in spite of all our theories. As long as the horse exists, the bot and fly will continue to live. To lessen or prevent them to a certain extent keep all nits, as far as possible, off the horse by washing. A wet rag or sponge rubbed over the hair where eggs are laid will readily take them off. Now the grub in cattle is just as natural. Our old bossy had them in Illi-

nois when I was a boy. The writer in a recent issue of the paper is a little off in theory. I know nothing of science, but by observation and conjecture form most of my assertions. There must be male and female flies. The writer is correct in his description of the big fly. The large black fly is the male, and will follow a team of horses. When he alights on a horse, he will glut himself so he can hardly fly, and, as he leaves, a drop of blood will ooze from the wound. The little thread he drops is simply the remains of his former meal. The second fly, which is not so highly colored nor so large, but more nimble, is the female. She comes down on a cow's back like a hawk on his prey, and the instant she strikes the cow's back an egg or nit is deposited there, and then she stings (bites) deep and hard. A thin-haired animal usually suffers the most. A fine Jersey cow was brought to my place to breed. The owner wanted to know what to do to get rid of the grubs, and what they were like. The boys squeezed out of the cow's skin almost a handful of them. Destroying the grub in one way or another will lessen the number of flies. It is claimed that the newly invented cattle-dip will kill grubs when the animal is dipped or washed in it. These grubs leave the animal in the spring, go into the ground, and afterwards come out as a big bottle fly. We will always have the cattle grub and bot, but their number might be reduced. I do not believe they are a necessity, but they certainly are a pest. They could be destroyed if all cattle were cleaned at this time of year.

"I am an old farmer and cowman, but, being no scholar, can not tell more than a few common things. "Edwards County, Kansas, April 13, 1906."

Although most of the above statements are true to facts, particularly in regard to the horse bot, yet the account of the cattle bot contains some mistaken impressions which should be corrected. All flies that bite animals are something else than bot-flies. Bot-flies can not bite. This is one distinction. Their mouthparts are so rudimentary, that some doubt is raised whether they take any kind of food. The biting flies belong to other families whose members are different in appearance and habits from those of the bot-fly family. The females of the bot-fly family merely lay eggs to propagate the species—their larvae or grubs which issue from the eggs cause all the injury by living as parasites on or within mammals, until the time comes for them to transform into flies. The males seldom come near live stock. The "large black fly" as mentioned is probably the black horse-fly. It belongs to a family called Tabanidae, which includes the larger blood-sucking flies. In this family, as with the mosquitoes, only the females can bite. The males are retiring in disposition. None of this family lay eggs on animals, but in wet or muddy places where the larvae live. The adults are extremely swift in flight. Horses and cattle seem to have an instinctive dread of their presence, often trying in vain to avoid their attacks by running.

Other kinds of blood-thirsty flies less liable to be mistaken for bot-flies are the horn-fly and stable-fly. These are small black flies which generally hang in clusters on the bodies of cattle while gorging themselves, the horn-flies being so named because of their habit in resting on the horns at times when not feeding. With such familiar pests as these, there ought to be no question concerning their identity, still I have been told that many cattle-owners call them bot-flies. They breed in manure, and are closely related to the common horse-fly, which they resemble very much, in fact, they belong to the same family, called Mucidae, which also includes the screw-worm fly and various blow-flies. The latter kinds, however, can not bite, but lay their eggs, or "blow," in sores and wounds which thereby become infested with maggots. Whether these maggots are ever mistaken for bot-grubs is another question.

Very likely the difficulty with all the arguments expressed by the correspondents is that horse-flies, if not other kinds, have been confused with bot-flies. Common names are sometimes very confusing in meaning, especially when applied to insects. In many cases, the same name is given to various forms. For instance, the names "breeze-flies" and "gad-flies" are used to designate bot-flies as well as horse-flies. Our dictionaries make these names interchangeable. Consequently, both groups of these insects are apt to be confounded with each other in

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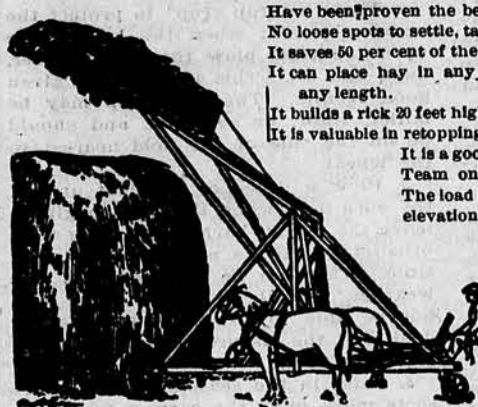
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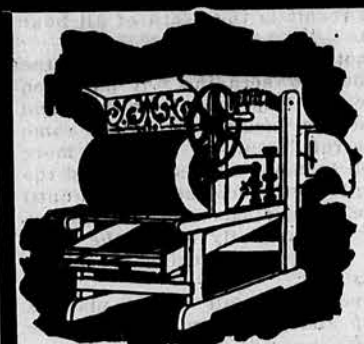
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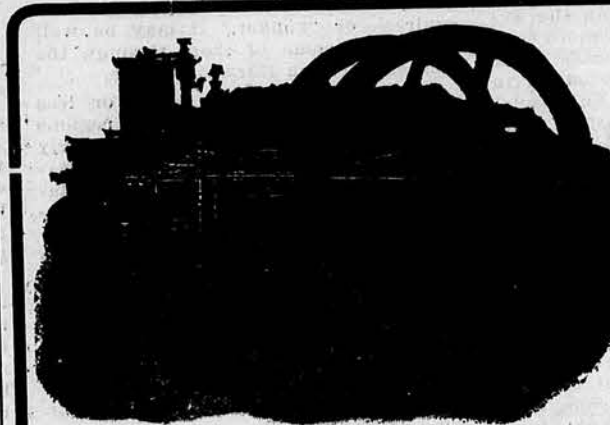
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popular belief. Nevertheless, these flies can be readily distinguished on sight if their appearance and habits are carefully noted.

As an aid that may enable the farmer to recognize one kind from another in these two families, a brief summary of the more common species is given herewith, together with some illustrations that should make the distinctions better understood than if a lengthy account were written.

FAMILY OESTRIDAE, THE BOT-FLIES.

The ordinary kinds are densely hairy, mostly grayish or yellowish in color; somewhat resembling pubescent bees; head flattened with small eyes. The females carry the abdomen bent underneath in the shape of a hook. Their nits or eggs hatch into bots or grubs, which are parasitic foes of live stock.

Often the flies are called breeze-flies and gad-flies, but these names more properly refer to horse-flies.

Infesting the Horse, Ass, and Mule.—The Horse-Bot-fly (*Gastrophilus equi*) (See Fig. 1); the Red-tailed Bot-fly



Fig. 1.—Horse Bot-fly (*Gastrophilus equi*). (From Comstock's Manual.)

(*Gastrophilus hemorrhoidalis*); the "Chin" or Nasal Bot-fly (*Gastrophilus nasalis*). Bots of the above flies live in the stomach.

Infesting Cattle.—Ox Bot-fly, Warble-fly, or Heel-fly (*Hypoderma lineata*). (See Fig. 2, with account quoted farther on.)

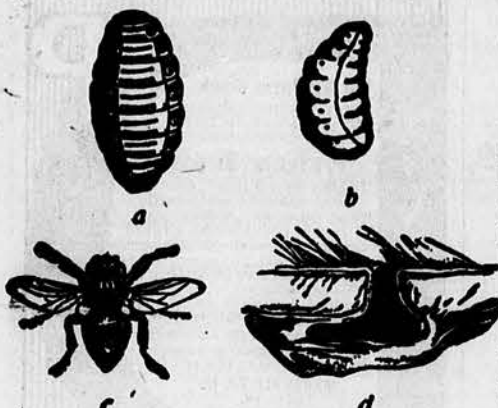


Fig. 2.—Ox-warble. a, larva; b, pupa; c, fly; d, section of warble. (From Weed's "Insects and Insecticides.")

Infesting Sheep.—The Sheep Bot-fly, Head-maggot, or Grub-in-the-head (*Oestrus ovis*). Flies oviposit in the nose where the bots locate in the upper cavities, causing "staggers."

FAMILY TABANIDAE, THE HORSE-FLIES.

None of these flies are distinctly hairy. The head is large, composed almost entirely of the eyes. Only the females bite, sucking blood from horses, cattle, and other quadrupeds, and frequently attack man, but they do not lay eggs on animals.

Besides the names horse-flies, breeze-flies, and gad-flies, they are also called cow-flies, ear-flies, wood-flies, and green-heads.

The Black Horse-fly, Gad-fly, or Breeze-fly (*Tabanus atratus*). (See Fig. 3); the Gray-striped Green-head



Fig. 3.—Black Horse-fly, Gad-fly, or Breeze-fly (*Tabanus atratus*). (From Comstock's Manual.)

(*Tabanus lineola*); several other kinds of *Tabanus* are called Green-heads; the Pollinose Horse-fly (*Silvius pollinosus*); this and another *Silvius* are very abundant in Western Kansas; the Striped Ear-fly (*Chrysops vittatus*). (See Fig. 4.)

NOTES.

The horse-bot-fly occurs until late in fall, for I once captured a specimen on a warm, sunny day in October, here in Lawrence. It was resting on the support of the wind instruments above the tower of a university building, 105 feet from the ground.

A friend living in Liberal, Seward County, who sent me a specimen of the

heel-fly, reported that this kind first appears early in the spring and again in June.

In order that a correct understanding may be had regarding this cattle pest and remedies for it, the account given by Professor C. M. Weed in his book entitled, "Insects and Insecticides," is here produced with kind permission of the publishers, the Orange Judd Company, of New York:

THE OX-WARBLE OR HEEL-FLY (*Hypoderma lineata*).

During the spring and early summer one may often find along the middle of the backs of cattle, just beneath the skin, a hard lump, usually having in the center an opening, which sometimes is more or less of a running sore. These are the "warbles," and the lump is caused by the presence of a whitish or grayish maggot of the form represented at a, in the figure. The life history of this insect is remarkable. The eggs are laid in spring by the flies on the hairs of cattle, especially on the hinder portion of the body and about the heels. Dr. C. V. Riley says: "The cattle licking themselves remove the eggs and hairs, for this is the shedding season. The eggs hatch by virtue of the warmth of the mouth, and the newly hatched larva,

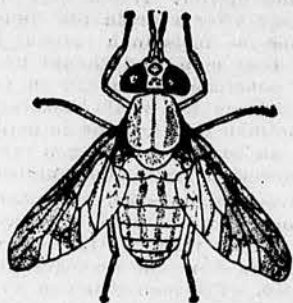


Fig. 4.—Striped Ear-fly (*Chrysops vittatus*), female, enlarged to three diameters. (From Cir. No. 6, Louisiana Crop-Pest Commission.)

provided with a number of spinous points and anal hooks, penetrates through the walls of the oesophagus. It then molts, loses the spines, and becomes almost entirely smooth with the exception of some very minute spines around the anal portion. Its skin is underlaid with strong muscular bands, fitting it for pushing its way through the tissues. In this stage its development is very slow, and it gradually works its way through the subcutaneous tissue, traveling for nine or ten months, until it has reached a favorable point upon the back, where it molts again, assuming the familiar, spiny appearance of the mature larva, becomes encysted by virtue of the inflammation of the tissue, and from this inflammation and from its own growth forms a decided lump under the skin. After another molt the skin of the animal is penetrated, and eventually the larva issues through this hole and falls to the ground to transform to the pupa." In about a month it emerges as an adult fly. The ulceration caused by these larvae is not only distressing to the animal, but injures the hide and beef, and, in case of dairy animals, lessens the quantity of milk produced.

The beef beneath these warbles has a peculiar, diseased, sickening appearance, and is commonly called "licked beef." Such beef always commands a

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lower price than that which is unaffected.

REMEDIES.

Every warble maggot destroyed before it escapes to the ground to pupate means that one less fly will be present to lay eggs for the coming brood. This should be carefully borne in mind, for from it the conclusion is obvious that if all the maggots present in the backs of cattle of a given neighborhood are killed, the egg-laying brood of flies will be exterminated, and there will be no injury the next season. There is perhaps no other important injurious insect whose numbers can be so readily controlled; and the experience of English farmers shows that by concerted action and the continuation of the treatment, the amount of warble attack may be very rapidly lessened.

Perhaps the simplest remedy is to squeeze the maggots out of the warbles. When they are nearly full grown this can be done with little trouble. A pair of medium-sized forceps is often helpful in removing them.

Another simple remedy is to apply

profits depend entirely upon his market.

I never go into a sale poorly advertised without a feeling of uncertainty for the man I am selling for; as a rule his prices will not be satisfactory, and not only the auctioneer conducting the sale, but the breed of stock so far as that immediate neighborhood is concerned as well as the breeder himself are bound to suffer.

So many breeders neglect this part of their business, and advertising is just as much a part of the business as the providing of feed and proper quarters for stock. One thing that keeps a great many from using more space in agricultural papers is the fact that it is hard for papers to secure proper credit due them for services rendered. I believe that I am in a fair position to give a correct opinion on this subject, having had experience in both selling and buying advertising, as well as watching results of hundreds of other advertisers, and I believe nine times out of ten, the man who buys advertising gets more for his money than he pays for, even though rates invar-

from year to year, and will continue just so long as he fills his orders and furnishes good value for the price. This he must do or his inquiries will grow beautifully less from month to month.

The writer commenced to breed pure-bred Berkshires in 1876 in the very smallest way, and felt the way and progressed slowly, with but little advertising, not knowing at that time the value of printer's ink. By dint of hard work and perseverance we gradually grew in business as we grew in knowledge, until we have at the present time a really international trade, and the end is not yet. Had the present-day methods of high-class advertising been known, we could have built up this same business in less than one-third of the time it has taken us to do it. This is being done to-day by means of many new breeders, and good animals and properly placed advertising matter with good business methods and absolute honesty are reaping the benefits.

I am a thorough believer in advertising, not spasmodic but continual ad-



Ohio Major 36357, by Kant-behent. Owned by Grant Chapin, one of the popular Duroc breeders of Kansas.

to the opening a little oil or grease which closes the breathing pores of the maggot, thus causing it to die. Kerosene applied to the warbles either in autumn, winter, or spring also destroys them, as does indeed the application of almost any oily or fatty substance. Train-oil or fish-oil is especially commended in England. Dr. C. V. Riley says that smearing the animals' backs with this substance "is the simplest and easiest method of destroying the warbles, which it does by closing the breathing pores on the posterior end of the body. The destruction of the larvæ in this way may be effected by one or two applications in autumn, and is the most satisfactory method of controlling the pest."

Professor Weed's work, "Insects and Insecticides," is a practical manual concerning noxious insects and the methods of preventing their injuries. It can be supplied by the publishers of THE KANSAS FARMER for \$1.50.

From the Auctioneer's Point of View.

A great many things have been said and written along the line of proper advertising for public sales of live stock and its effect upon prices. Considering the breeding of pure-bred live stock from a purely financial standpoint, and this is not all that the breeder derives, for we strive to attain wealth, to satisfy wishes, and gratify whims, what does or could give a man more pleasure than to know that his farm is stocked with the best, and that if he couldn't secure top prices somebody would have to pity the other fellow. But getting back to dollars and cents a man must do two things. Get something and then sell it. His

INTERESTING BOOK, "CHICKEN CHAT."

One of the simplest and cleverest little booklets that has come to our attention is Zenoleum Chicken Chat, issued by the Zenner Disinfectant Company, 61 Lafayette Ave., Detroit, Mich. This contains a series of poultry diseases giving symptoms, cause and remedies for practically all the diseases to which poultry is heir. Each of our readers should have a copy. Sent free on request.

ably seem high. If it were possible to trace results, it would be surprising to know the number of sales of high-priced animals that were made this year, the credit of which is due some advertising solicitor, possibly several years ago. And this in a great measure accounts for the fact that the well-known breeders are always in a position to ask and command more money from buyers than unknown breeders could get for possibly the same animals. Advertising is part of the business, and should be given more attention by every breeder, and especially the beginners, and they should not feel that a few dollars are gone because they have not sold a pig or a calf. You expect to stay in the business, and it may be the result of selling ten next year at more money than you are asking this. And it would be pretty safe each year in taking your invoice, to include in your assets the amount of money you have spent for advertising.—Carey M. Jones in White's Class Advertising.

Influence of Advertising on the Live-Stock Industry.

One may be a breeder of live stock, or a manufacturer of supplies and may have the very best of either for sale, yet if he is not an advertiser he will do little business, and will probably wonder why this is the case.

The fact is, no one outside his immediate neighborhood will know of him or what he has to sell. Let him commence to advertise and use the proper periodicals and state what he has to sell in a concise and attractive way, and he will almost wonder that so many people know of him, for the inquiries will certainly begin to pour in.

He must not, however, expect that the mere fact that he has placed an ad here and there, that this is all there is to be done, for it is now up to him to make the sale. He must now do his share of the business and if he does this and has the stuff to fill his orders, he will begin to reap the benefits of advertising. His business will grow

vertising, with frequent changes of reading matter. If one sees the same ad year after year in the same publications, he feels in a manner familiar with that man, and should he at any time conclude to embark in that line of business he would naturally turn to the man that had for so many years kept an ad before his eyes every time he opened a particular publication.

Advertising has certainly become an art or a science, and it is wonderful how catchy many of the ads now appear, and how one becomes interested in them. The men that can write such ads as appear in so many publications, describing certain paints, or harvesting machinery or other goods, are certainly artists in their particular line. I believe it would be possible, if one could breed enough animals that were right in quality and breeding, to build up a trade that would be unlimited by this same system of advertising, such as could be placed through a high-class agency.

The only trouble in doing this in the live stock business would be the fact that one would need many farms on which to grow the necessary number of animals that would be required to fill the orders or supply the demand. In reviewing my past career as a breeder, I can see how it has taken us many years to build up a business that in these days of push and select advertising might have been done in a few years. My advice to beginners in the breeding of pure-bred stock of any kind is to start with the best and most popular strains and then be a liberal patron of some of the best publications as a continual advertiser.—A. J. Lovejoy in White's Class Advertising.

Biennial Meeting General Federation of Women's Clubs at St. Paul, May 30—June 7.

The Chicago Great Western Railway will on May 28 to 31 inclusive, sell tickets to St. Paul at one fare plus \$2 good to return June 9, with the extension privileges. For further information apply to any Great Western agent or J. P. Elmer, G. F. A., St. Paul, Minn.

Horse Owners! Use

GOMBAULT'S

Caustic Balsam

A Safe, Speedy, and Positive Cure
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTIC OR FRIKING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

No More Blind Horses For Specific Ophthalmia, Moon Blindness and other Sore Eyes, BARRY CO., Iowa City, Ia., have a cure

DEATH TO HEAVEN Guaranteed
NEWTON'S HEAVE AND COUGH CURE
A VETERINARY SPECIFIC.
14 years sale. One to two cans will cure Heaves. \$1.00 per can. Of dealers, or express prepaid. Send for booklet. The Newton Remedy Co., Toledo, O.

BE SURE AND WORK THE HORSE
BRINGS SORE SHOULDERS AND HARNESS GALLS. Bickmore's Gall Cure will cure it while you work the horse.
BICKMORE'S GALL CURE
Is guaranteed or money back to cure all harness or saddle galls, cracks, cuts and bruises. Look for the trade mark. Write today for our new illustrated Horse Book and large FREE sample box Gall Cure, for 10c to pay postage on both. Sold by dealers.
Bickmore Gall Cure Co., Box 916 Old Town, Maine.

Dipolene

For All Farm Stock

Every farmer should dip his stock in DIP-OLENE—promotes health,

Prevents Disease

It kills sheep ticks, lice on hogs, horses and cattle, fleas on dogs. Cures scab, eczema, mange and all skin diseases on domestic animals; lice on chickens. DIP-OLENE DOES IT IN A MINUTE without injury. One gallon makes 100 gallons of dip ready for use. Write today for price and FREE booklet, "DIPPING FOR DOLLARS"—learn how easy it is to dip.

MARSHALL OIL CO.,
Box 15,
MARSHALLTOWN, IA.

KRESO DIP KILLS LICE

ON ALL LIVE STOCK EASY & SAFE TO USE



Write For Free Booklets For Sale By All Druggists

PARKE, DAVIS & CO.

HOME OFFICES AND LABORATORIES: DETROIT, MICH.
BRANCHES: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Indianapolis, Minneapolis, Memphis, U.S.A., Walkerville, Ont., Montreal, Que.

Miscellany

The Movement in Kansas for Better Roads.

PROF. W. C. HOAD, KANSAS STATE UNIVERSITY.

Kansas is a diversified State as regards several of the main factors upon which any well-designed system of highway maintenance and improvement should be based. Some of these factors are: The nature of the soil; the amount and distribution of the rainfall; the nature and amount of farm produce and other commodities that are hauled over the roads; the density of the population; and the wealth of the community. In Kansas this diversity is noted from east to west in very much greater degree than from north to south. The eastern one-third to two-fifths of the State, however, may be considered to be fairly uniform as regards highway conditions, and we may properly study the general problem of road-administration here with the assurance that the conclusions drawn from such study will apply with a fair degree of accuracy to the whole of the area investigated. Moreover, it is over this part of the State that road conditions are becoming less tolerable every year, and it is here that the interest in road-improvement is most deep and active.

It is pretty generally admitted that the methods of road-management, usual in the past and at the present time, while doubtless well fitted to pioneer conditions, are in many respects poorly adapted to serve the more exacting present demands, and entirely inadequate for the indefinite future. In recognition of this incompetency of present road-methods, a number of the Eastern counties of the State have been experimenting a little in methods of road-management, usually with at least some good results. For example, many townships are this year for the first time having the road tax paid in cash instead of in labor, and certain counties have been building or are beginning to build macadam roadways along certain of their main thoroughfares. Also, in some counties certain modifications in methods of choosing road-overseers and of applying the funds to the roads have met with a very satisfactory degree of success. It is the hope of the writer of this article to lay down certain principles which he thinks should be considered in the planning of a system of road-administration, and to set forth in some detail a plan which he believes to embody some desirable features.

The writer has recently collected a considerable number of data relative to road-work as at present carried on in the Eastern part of Kansas. The area investigated comprises the fifty-two counties covering the Eastern two-fifths of the State. Road conditions over this area are somewhat similar, and the methods of administration fairly uniform. These data have been collected partly through letters of inquiry addressed to the clerks of these counties, partly by personal investigations and conversations with various road officials in nearly all parts of the area under consideration, and partly from other sources. Populations of counties, county seats, and townships have been taken from the census of 1900, areas of counties and miles of roads from atlases, and certain other data from various obvious sources. It is thought that the figures deduced from these data are fairly representative of the area investigated.

PRESENT SYSTEM OF ROAD MANAGEMENT.

A brief statement will first be made of the method of operation of the present system of road-management; its cost, and what it accomplishes; this will then be followed by an exposition of what the writer believes to be possible and practicable in the way of improvement.

The typical county of this part of Kansas has a total population of 21,400. The county seat is a vigorous little city of five thousand people, with a continuous though not a very rapid rate of growth. The area of this county is 768 square miles. The surface is somewhat broken, though not rough. The general level of the upland is about two hundred feet above the beds of the larger streams. The soil is a dark clay loam, a little lighter and sandier on the uplands, and blacker, deeper, and more clayey in the bottoms, with a tendency toward gumbo in the flats of the river or creek valley. The nature of the soil is always one of the controlling factors in road-work. The soil of this, our typical

county, while excellent for the purposes of agriculture, is very poor for those of roads. This is in accordance with the general principle that the requirements of a soil that will grow large crops are almost diametrically opposed to those of a soil that will make good, natural roads. The yearly rainfall over this country is thirty-six inches, two-thirds of this coming in the six months of spring and summer, and one-third in the fall and winter. The amount and distribution of the rainfall has an important bearing on the general conditions of earth roads.

The county commissioners of this typical county build and maintain the larger bridges, and also usually carry on any special road-work that is undertaken. Except in these special cases, however, the road- and culvert-work of the county is done through the various township boards, and with the township funds, including the poll tax.

There are in our typical county fifteen of these political townships, each having on the average 94 miles of roads. Every year each township raises, by a direct, specific tax, about \$1,525 for township purposes. This amount is in addition to the amounts collected for State, county, school, and other purposes. This money is expended during the year by the township board, practically all of it being spent for road-work and for bridges and culverts, about two-thirds, or \$1,016, being spent for roads. This money is raised by the rural community and is spent in the country, incorporated towns not being included in the township government, and not being taxed for its support.

In addition to the township levy, there is the poll tax of three dollars per year for road purposes. The average township of our typical county has a population of 1,000. According to the census statistics, 17.2 per cent of this population are males between 21 and 45 years of age, and probably about 80 per cent of these pay their poll tax. This tax then amounts to \$413 for the township, which, when added to the \$1,016 of the property tax, gives \$1,429, and this represents practically the expenditures for road-work within the township. This \$1,429, divided by the 94 miles of roads, gives about \$15 as the average expenditure for ordinary maintenance work per mile of road per year. For the whole county, with its 1,416 miles of roads, the sum spent each year is \$21,450. The total for the Eastern two-fifths of the State foots up to the startling sum of \$1,165,000.

It is to be emphasized that this amount is spent not for permanent improvement of the roads, but merely for repairs and maintenance. Special work in the nature of a permanent improvement, such as the grading down of a bad hill or the macadamizing of a short stretch of thoroughfare near the county seat, is occasionally undertaken, but the cost of such work is usually largely borne by the county and the city and by private subscribers. The average amount so contributed by the typical county each year is about three or four thousand dollars.

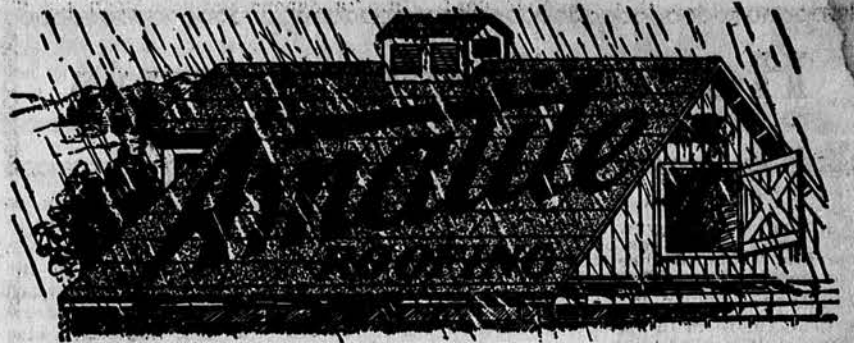
(To be continued.)

Cheap Rates to Boston.

\$19 for round-trip from Chicago (plus \$1), via the Nickel Plate Road, May 31 to June 9, inclusive, with privilege of extension of return limit to July 15. \$24 via New York City, all rail, or \$23 via New York City and steamer in both directions between New York and Boston. Stopover at Niagara Falls and Chautauque Lake points, if desired, within limit of ticket. Tickets good on any train on above dates. No excess fare charged on any train on Nickel Plate Road. Meals in Nickel Plate dining-cars, on American Club Meal Plan, ranging in price from 35 cents to \$1. Mid-day Luncheon 50 cents; also a la carte. Three through trains daily, with modern Pullman sleeping-cars to Fort Wayne, Findlay, Fostoria, Cleveland, Erie, Buffalo, New York City, and New England points. Trains depart from La Salle St. Station, Chicago, the only depot on the Elevated Loop. Write John Y. Calahan, General Agent, Room 298, 113 Adams St., Chicago, for reservation of berths, in through standard and tourist sleepers, and full particulars.

Gossip About Stock.

Samuel Boston, one of the popular red hog men of Northern Kansas, has a fine individual in his herd boar, Klondyke Prince, 24889. The spring pigs sired by this boar are fine fellows and there is some show stuff among them. Mr. Boston has a number of excellent brood sows among them being Lydia R. 82936, sired by a son of Ax-Sar-Ben, Lady H. 50522, Goldie, 99682, and Louella, 98576. If you are contemplating



The Kind That Never Leaks

Unseasonable weather never troubles an Amatite roof.

Amatite lasts for many years and needs no painting, coating, nor repairs.

This seems almost incredible, but such is the case.

Once properly on your buildings (and it is so easy to lay that any man can do the work), you can absolutely forget about it.

The rain may fall in torrents, but it will not be necessary for you to worry nor make temporary repairs, as on shingle, tin, or ordinary ready roofings.

If a storm blows up at night you will have no need to think about leaks nor damaged stock. With Amatite everything will be tight, warm and dry. Amatite is the best investment you can possibly make.

No REPAIRS or painting means no expense for nails, shingles, paint, carpentry work nor tinsmith's labor.

Not one cent for any kind of repairs for many years.

And the cost of Amatite is so small that you will marvel at its wonderful wearing qualities.

All the information that you could desire, in the form of a booklet, together with a free sample, will be mailed upon request to any one wishing to know more about this famous roofing. Address our nearest office. BARRETT MANUFACTURING COMPANY, New York, Chicago, Philadelphia, Allegheny, Kansas City, New Orleans, Cleveland, St. Louis, Cincinnati, Minneapolis, Boston.

the purchase of some Durocs it will pay you to write Mr. Boston at Smith Center, Kansas.

Volume 28 of the American Hereford Association record is at hand. It contains pedigree records of pedigrees numbered 205001 to 225000 inclusive. Also list of shareholders, index to animals, the entry records, and an index of breeders and owners, with a report of awards at National Hereford shows. Back numbers may be had of the secretary, C. R. Thomas, Kansas City, Mo.

J. R. Ebert, owner of the High Point herds of Shorthorn cattle, O. I. C. and Duroc-Jersey swine, Route 6, Caldwell, Kans., writes that the wheat in that section of the State is looking fine, and other crops growing nicely. Stock is healthy, doing well, though the pig crop was somewhat short because of bad weather during March. Mr. Ebert also breeds Barred Plymouth Rock chickens, and ducks and geese.

W. G. Nitt, secretary and treasurer of the Nebraska Swine Breeders' Association, Seward, Nebraska, writes: "I can truthfully say that Zenoleum is the best disinfectant we have ever tried, and we have used lots of them. During the three years I have been in the hog business I have never been troubled with lice on my breeding stock, but I disinfect quite heavily as I think it pays to keep everything in nice, sweet odor. They gave Zenoleum a good test on the farm last fall, as the hogs in the feed-lots had many lice on them. The dip we had previously used was put on in full strength and the lice got fat on it, but when a solution of Zenoleum was used, it put them out of business forever."

W. Guy McCandless, owner of the Pleasant View herd of Galloway cattle and Cotswold sheep, at Cottonwood Falls, Kansas, has just sold a car-load of Galloway cows to "Buffalo" Jones for shipment to his "catelo" ranch in Arizona. Col. Jones has been crossing buffalo with cattle of various breeds for the production of "catelo" and finds that the Galloway breed is the best for this purpose, as they produce a heavier robe and much more beef than do the other crosses he has tried. Mr. McCandless yet has a few good Galloway bulls for sale. They are strong, useful animals and will be sold at attractive prices. Here is a bargain for some one. Don't miss it. See his advertisement.

If natural liking for a business and the ability to choose good foundation stock has anything to do with success in raising hogs J. L. Williams, of Bellaire, Kansas, will certainly be a winner. He has some of the finest pigs we have seen this season and his brood sows are certainly wonders. Baby Myster, 58214, by Gault's Ak-Sar-Ben is a wonderful animal, large and smooth with wonderful bone and possessing all those qualities that go to make up a show animal. Then there is Ada by Klondyke Prince, Countess III by Field Marshall Jr., and many others of equal worth. In fact they are like five peas; all alike in possessing good qualities. It will pay you to correspond with him if you are in the market for hogs.

A Good Offer on a Good Horse Remedy.

An interesting horse book is sent by the Bickmore Gall Cure Co., Old Town, Maine, to every person who sends for a free sample of Bickmore Gall Cure. Their gall cure is an old-time well-known remedy for collar and saddle galls, sore shoulders, wire cuts, and bruises, etc. The book is illustrated nicely and the sample of gall cure is large enough to cure any collar gall while the horse is being worked. 10c should be included to pay postage on the book and sample. Every horse owner should accept this offer as it may prevent laying aside a good work animal when he is needed the worst.

Lump Jaw

The first remedy to cure Lump Jaw was

Fleming's Lump Jaw Cure

and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with exhaustive information on Lump Jaw and its treatment, is given in

Fleming's Vest-Pocket

Veterinary Adviser

Most complete veterinary book ever printed to be given away. Durable bound, indexed and illustrated. Write us for a free copy.

FLEMING BROS., Chemists, 519 Union Stock Yards, Chicago, Ill.

30-DAYS FREE TRIAL OLD HICKORY BUGGIES

We sell these splendid buggies direct to you, at lowest factory price. Saves you one-half.

GUARANTEED 2 YEARS

"Old Hickory" buggies have quality, have style, have finish, and that lasting quality that no other buggy can equal. You will be surprised at the low factory prices. Write for Catalog today.

Kemper-Paxton Mercantile Co. 1446 W. 9th St. Kansas City, Mo.



The Hay Baler

which is in a class by itself.



"ELI" PRESSES bale fastest and best for shipping and market. Largest Feed Operating standard of the world. Get the Eli catalogue. Collins Plow Co., 1208 Union Ave., Kansas City, Mo.

Duroc's

from the Highland Herd carry the blood of the leading strains of the country. Our herd is headed by Model Chief, Acorn 42843, and Ohio Major

36357. Look up their pedigrees and see if you can beat them. Orders booked now for fall boars. Grant Chapin, Greene, Kans. Mention Kansas Farmer when you write.

Collections made in all parts of the United States No fee charged unless Collection is made

BOTH PHONES NO. 1877

The Kansas Collection Agency

415 Kansas Avenue. TOPEKA. KANSAS

Special attention given to stock-breeders account Reference furnished on application.

FIFTH TERM JONES' NATIONAL SCHOOL OF Auctioneering and Oratory Davenport, Iowa

Class opens July 18, 1906. All branches of the work taught. Students now selling in 15 states. For Catalogue write Carey M. Jones, President.

Home Departments

CONDUCTED BY RUTH COWGILL.

Old Willow Tree.

Old willow tree, grey willow tree,
Full many a year has been,
Since first I placed thee, tender plant,
Thy mother's breast within.
With joy I watched thy slender arms
Bright foliage display,
Thy graceful form in summer's smile
Grows fairer every day.
For all the care that I bestowed
Upon thy frailty,
Through many years of comradeship
Thou hast no debt to me;
For vain the search in all the lands
Amongst humanity,
To find a friend as true as thee,
Old willow tree, dear willow tree.

Old willow tree, friend willow tree,
How thankfully I find
Above my roof in stormy days,
Thy sheltering arms inclined,
And when the fiery morning's sun
Ascends the stair of day,
Across my open window-ledge
Thy cooling shadows lay,
When raindrops beat upon the pane
Aslant thy leafy screen,
Each pearly splash upon the glass
Is laced with shimmering green.
And when the day of strife is o'er,
I bring my trials to thee,
To hear the whispering of thy leaves,
Old willow tree, kind willow tree.

Old willow tree, brave willow tree,
None of thy kind anear,
In winter's ice and summer's heat
Thy heart doth scorn to fear.
Tall elms and cottonwoods o'er top
And seek thy grace to hide,
But though the ax I needs must wield,
In peace thou shalt abide.
The mocking bird oft builds her nest
Within thy graceful crown,
And from thy bountiful lines it well
With fragrant, creamy down.
In all thy gentle, steadfast ways,
Thou art a guide for me,
To follow through this troubled life,
Old willow tree, fair willow tree.

Old willow tree, lone willow tree,
Where lies thy native land?
From whence the drifting down that
brought
The seedling to my hand?
Art thou content to still abide,
My lonely hut to shadow,
Or dost thou grieve to fly away
And seek thy native glade?
The scented zephyrs passing by,
Thy branches drifteth through,
And kiss thy leaves and tender twigs
Their sweetness to renew.
O, could I but put on thy form,
I make no other plea,
If I were fit to fill thy place,
Dear willow tree, bright willow tree.
—John C. Baird.

The Resurrection.

FLORENCE SHAW KELLOGG, FAY, KANS.
PART SECOND.

"Our human love and His divine
Shall bridge the chasm o'er,
If while He bids them 'go in peace,'
We help them sin no more."

I told you last week how earnestly the people at the Jerry McAuley Mission and the "slum workers" in other cities work to help whoever comes within their reach to "sin no more," and how, by such exhibition of human love and helpfulness, they are led to believe in the Divine love and help, and so in time become noble men and women. The names of these workers are legion, as are those they have helped, and we can not read or know of them without a great increase of hope for the ultimate good and nobility of our race. We feel that the little leaven will yet redeem the whole, and the day must come when love and good will be the law of all life, and all men shall live as brothers. Among the noble women who lived and worked, giving up all for a cause, none stand higher or are more to be honored than is Lydia Marie Child. Born in 1802, at a time when little chance was given to a woman for education or work outside of home, she would not be held down. She won her way upward despite all obstacles, and made a large place for herself in the hearts of the people. She edited the first American magazine for children, "The Juvenile Miscellany," the publication of which began in 1826. It flourished for several years, and was a worthy forerunner of the many excellent children's magazines of to-day. She also wrote the first novel of Puritan times, and did much that required great courage and great determination to do at that time. But all went well with her until in 1833 she wrote and published the first American anti-slavery book. It was entitled "An Appeal in Behalf of the Class of Americans We Call Africans," and anticipated "The Uncle Tom's Cabin" by twenty years. We can but wonder if she fully foresaw what the publishing of this brave book meant. It created a great excitement and furor. We read how "Friends dropped her acquaintance, the cultured of Boston closed their doors against her; Juvenile Miscellany had to be suspended because of the dropping off of subscribers; an Attorney General, of Mass-

achusetts, took a pair of tongs to throw her obnoxious books out of doors," and The Athenaeum, the then great library of Boston, to which she had been given a ticket as a reward of merit for her good work, withdrew all its favors from her, and much else was done to make her feel the error and evil of her ways. She was a proud, sensitive, loving woman, and all this must have hurt her cruelly. But she prized truth above all things else. She must be true to her convictions come what might, and "Serenely she took up the cross, and bravely she bore it, almost until her life's close." Her book bore rich fruit, as it aroused many to thought and action. Whittier, who did all he could to help "hold up her hands," and who loved and honored her greatly, said, "It is no exaggeration to say that no man or woman of that period rendered more substantial service to the cause of freedom, or made such a great renunciation in doing it." This is rich praise, and must have been most welcome to her. Her's was a voice—a pen that could not be silent. In 1855, while she was living in a little country village, and was doing the work of her household, she wrote and published the first treatise on "Comparative Religions." She called her book "The Progress of Religious Ideas in Successive Ages." Rev. Jenkin Lloyd Jones, in speaking of it, says, "It would have been a Herculean task at that time for a scholar at a university center." Then what must it have been for this little woman with only the resources of a little village at her command? But she accomplished it in such a way that even yet her work is not outgrown, and the good resulting from it in a better understanding of the religions of the peoples of many lands, in wiping out the differences and in the uniting of the essential truths, can not be computed or told. We are glad to know that, living until 1880, she saw some of the good fruits of her labors, and won back some measure of the confidence and respect she forfeited by her bold stand for a worthy but unpopular cause. It was Lydia Marie Child who said that "The reward is in keeping the ten commandments not for keeping them," a truth we will do well to "keep and ponder in our hearts."

Many of you, doubtless, have read of Dr. Barnardo and the great work he did for the poor street waifs of London—the resurrection of life and hope that came to them because of what he did.

Years ago he started a night school for "ragged boys," for those too poor, too ill clad to go elsewhere. One night a poor waif called Jim entered the school-room, not for study but for the warmth he found there. At closing-time Dr. Barnardo told him to "go home," and was surprised to learn he was utterly without home or friends. He went with him to a shed-roof where they found eleven other boys just as friendless, just as destitute and alone, huddled together asleep. In speaking of it afterward the Doctor said, "Just then (as they stood there) the moon shone out clearly, and as the pale light fell upon the upturned faces of those poor boys, and as I, standing there, realized for one awful moment the fact that they were all absolutely homeless and destitute, and were, perhaps, but samples of hundreds of others, it seemed as if the hand of God himself had suddenly pulled aside the curtain which concealed from my view the untold miseries of forlorn childhood upon the streets of London. Added to this that passionate sense of the unfairness of things flooded my heart and mind as I stood that night upon the roof-top. I confess I was dazed by the very thought of it, and only found relief when I gave up trying to solve it, and thought I must do just the one duty that lay so manifestly at any door, to save this poor lad whatever might come of it." In this resolution Dr. Barnardo showed his wisdom, though what one can do in the great mass of work to be done seems so little as scarce to be worth the doing. If each of us will do the duty that lies nearest, the great work will be done in time. As a result of that night's discovery, Dr. Barnardo established his first home for waifs in one of London's lowest, most poverty-stricken places, with accommodations for twenty-five boys. Jim was his right-hand man, helping him in making repairs and otherwise fitting up the house, and then in finding just the boys that were

most in need of help. Such was the small beginning of a work that to-day cares for "thousands of children in upward of one hundred homes, at a yearly expenditure of hundreds of thousands of dollars." As illustrating the way by which God gives opportunity to those who are earnestly trying to do good, let me tell you how it was that Dr. Barnardo made his first speech in public in behalf of his work. It was a meeting, held in Agricultural Hall in London, conducted by a Dr. Davidson. The expected speaker failed to come, and, seeing Barnardo in the audience, Dr. Davidson called on him to address the people. He responded by giving an account of the East End Mission. Simply but sincerely he related his experience with Jim and the finding of the waifs asleep on the shed-roof. The speech carried conviction, as truth must always do. The then Earl of Shaftesbury was so impressed with it that he invited Barnardo to dine with him at a fixed date. The invitation was accepted, and there, among the richly dressed ladies and gentlemen assembled at the table, he told again the story as he had told it in public. His listeners could not believe such depths of child-poverty existed, and to prove it he proposed that the whole party go with the good Doctor and see for themselves. Cabs were called and they drove to the lowest slums in London near Billingsgate. Though the Doctor knew many boys were there, not one was to be seen. A friendly policeman told them "There's a lot of 'em in there and they'll come out if you offer them a copper," pointing as he spoke to a hidden recess where it did not seem possible for five waifs to hide. "Half a penny a head" was offered, and instantly, from among old crates, boxes, and barrels that had been piled together and covered over with a bit of old sail cloth, seventy-three boys crawled out. Barnardo had "made good." The Earl, deeply touched by all he saw, marched the boys to a coffee house and had them well filled with coffee, bread, and butter. "All London shall know of this," he said to Barnardo, and from that time he did much to help on the work. At the time of the Doctor's death, in 1905, nineteen thousand two hundred and fifty children had been cared for by his various agencies. His purpose was to "build up a system of child rescue and restoration that included every kind of waif needing help," while at the same time he "sought to prevent the benevolence from becoming an incitement to improvidence among parents of the baser sort, and thus to intensify the very evil he sought to lessen." He felt that institutionalism must be avoided at all hazards, and children must be brought up under homely and natural surroundings as far as possible. Schools are maintained, trades of all kinds taught, both to girls and to boys, and everything possible is done to fit them for strong, clean living. The great effort is to implant principles of truth and a desire for better things in each mind and heart that shall, by the help of God, overcome and uproot inherited tendencies to evil; to make good, useful men and women out of those whom, left to themselves and in their evil environment, must become criminals, a danger and a menace to society. Our "Children's Aid Societies," and other charities, are doing the same grand work. Who can compute what it all means? Who can measure the difference between these thousands and thousands of children, saved to decent living, trained to strong manhood and beautiful womanhood in place of being left to grow more and more evil.

Plans.

It is a splendid thing to make plans. More is accomplished and better work done if plans are followed. No one thinks of building a house or even a barn without plans. Some people spend months in drawing plans before beginning to build. There are plans for the garden and field, for the lawn, flowers, and shrubbery. We all know how much better is the effect when a little thought is given to planning these things. The farmer plans for his summer's work—how much corn he will plant and when—if—and how

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many hogs it will fatten; when and how often the alfalfa will be cut, and every minutia of the work will be thought out.

Likewise, the housewife scarcely opens her eyes in the morning before she has formulated in her mind a plan for the day's work, and not only for each day in the week, but ere this, doubtless has planned for the whole summer—just how many hens she will set, and probably "counted the chickens before they are hatched," which, the proverb infers, is not always wise.

But I fear, however carefully she may have planned, she has neglected some very important things. I fear she does not consider that a little later in the season, when the sun grows hotter and the days longer, the body will have lost some of its vigor, and the strength will lag, and nature will make urgent demands for a little less strenuous living. In short, she has left no space for a vacation, a rest and change. Her plea no doubt is: "I have not time." Such a common excuse! From the lips of the lisping child to the stammering tongue of the old comes the same excuse, "I have not time." We have all the time there is. It is a matter of the right use of it. When sickness or physical inability comes, that excuse counts for nothing. A short rest or recreation taken at the right time often saves us pain and illness, and it is much pleasanter and cheaper than a "spell of sickness." So do not fail to plan for a vacation some time during the warm months. If you can not take a little trip somewhere, have a vacation at home, if it is nothing more than a week of Sundays when you do only what is positively necessary.

A dear little 5-year-old boy who often wrote to his grandmother, using his mother for his amanuensis, said: "Dear Grandma, I have found out that I have a conscience. I don't know what it is nor where it is, whether it is in my head or my heart or my back, but it is that thing that tells you not to do what you want to do." There are a lot of dear, unselfish women whose consciences are just like that—always telling them not to do the things that will give them pleasure, unless that pleasure be in the line of duty. I wish I could show to such that it is a duty they owe to husband and children as well as to themselves to occasionally relax and play a little. I wish that, as they make their plans for the summer, they will leave a space for recreation and relaxation. Some people get a tent and camp out for a few weeks. It may be near the house if need be—a few yards off. Fly netting, put up at the door and around the lower part where the air must be admitted, makes it pleasant, and cots may be used, making it a delightful place to sleep. Let the time used for recreation be spent in doing the thing the heart craves, granting, of course, that they are innocent and healthful pleasures. Get acquainted with the children. Enter into their joys. Fish and investigate the woods. When making the plans, leave a place to read some healthy, restful book, something that will give new thoughts; something that will stir up the laugh from the very depths. "Sonny," a little story by Ruth McEnery Stewart; "Rebecca," by Kate Douglass Wiggin; "Sandy," by Alice Hegans Rice, are some of the books that are restful and entertaining for both old and young.

Our Mistakes.

Somebody has condensed the mistakes of life and arrived at the conclusion that there are fourteen of them. Most people would say, if they told the truth, that there was no limit to the mistakes of life; that they were like the drops of the ocean or the sands of the shore in number, but it is well to be accurate. Here, then, are fourteen great mistakes:

It is a great mistake to set up our own standard of right and wrong, and judge people accordingly.

To measure the enjoyment of opinion in this world.

To expect uniformity of opinion in this world.

To look for judgment and experience in youth.

To endeavor to mold all dispositions alike.

To yield to immaterial trifles.

To look for perfection in our own actions.

To worry ourselves and others with what can not be remedied.

Not to alleviate all that needs alleviation, as far as lies in our power.

Not to make allowances for the infirmities of others.

To expect to be able to understand everything.—Selected.

The Young Folks

Granddaddy Long Legs.

David and Dolly, with eager eyes,
Are watching the clover that bends
and bows,
Making a swing for old Granddaddy
Wise;

"Granddaddy, Granddaddy, where are
the cows?"

"Through the meadow, and over the
brook,

In the shady swamp where the cat-
tails grow,

They were not there, for we went to
look—

Granddaddy, Granddaddy, you must
know."

Not a single word says Granddaddy
Wise,

But he points one foot to the shady
lane;

And David and Dolly, with laughing
eyes,

Catch the tinkle of Brindle's bell
again.

Never a word says Granddaddy Wise,
As he sways and thinks, and thinks
and sways—

He believes that knowledge in silence
lies,

And he'll never speak to the end of
his days.

Fleetfoot; the Autobiography of a Pony.

MARION SEWELL.

CHAPTER X.—KEEPING STORE.

While the memory of Bad Man's
Lane still lingered in their minds Mar-
cella and Daisy behaved very sweetly
to each other, but in the course of time
this angelic harmony departed, and the
damsels found many things to disagree
about, much to the relief of their dot-
ing mamás, who had been fearing an
attack of measles or some more malig-
nant disease.

One day in the latter part of June
Mrs. Dearcot was called away to some
distant place early in the morning. As
she intended to take Doris with her,
and as Lyall was still at his grandpa's,
Marcella was given a choice between
going to the Floyd home or having
Daisy brought over to stay with her.

Since the servants were all to re-
main at the house that day, Marcella
knew that there was no likelihood of a
lonely time, and taking into consid-
eration the extra freedom that might be
expected under the circumstances, she
quickly decided in favor of Daisy's
visit. Falling in with her plan at once,
Mr. Dearcot agreed to go after Miss
Floyd while Marcella's mama went into
the house to prepare herself and Doris
for their journey.

In a little while the musical beat of
hoofs and a high-pitched treble voice
told of the arrival of our little guest.
I did not delay in going to meet her,
for being so well acquainted with
Daisy, I was anxious to hear what new
ideas had inspired her since I saw her
last, feeling sure she was brimful of
some startling discovery, as her ener-
gies gave her no rest.

Her excitement now being at the
highest point she could not remain
seated, but stood up in the buggy,
waving her hands to the invisible Mar-
cella, her dark, curly hair blown back-
ward by the breeze. I whinnied joy-
fully at her approach, for I knew her
as she was, fiery, impulsive, tender-
hearted little thing, and I loved her
much.

The family now being assembled, she
greeted every one at once, and alight-
ed, a moving mass of bundles. Refus-
ing assistance from all hands, she de-
posited them in an alarming heap upon
the ground. Grinning rubber monkeys,
and dusky, wooly-headed babies
sprawled over the sides of boxes, al-
ready filled with marbles and pieces
of colored glass. Nuts rattled in paper
sacks, and blue-eyed, staring dolls
bumped china heads together in such
a way as to give me an uneasy feeling.

Mrs. Dearcot had taken her place in
the buggy, but Marcella's papa was so
interested in the remarkable display
of toys that he found it hard to leave.
He stood pointing at the different ar-
ticles, asking questions and laughing at
Daisy's sharp retorts. He would have
remained longer, I suppose, if he had
not accidentally put his heel on some-
thing that squealed loudly, and Daisy,
flying to the rescue, found the victim
to be one of her most cherished rab-
bits. Mr. Dearcot then hurried to his
seat, and gathering up lines and whip
made a hasty departure.

Marcella then suggested that all the
toys be taken to "the long room" up-
stairs, but this arrangement was im-
mediately overruled by Daisy, who de-
clared she would place them in the
wood-house, at the same time, stating
that she had "reasons."

The "reasons" later proved to be
that she wished to include me in her
plans, and of course this would be out

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of the question in the long room upstairs.

After an absence of half an hour or so, the little girls returned to the wood-house, where I was patiently awaiting developments. They brought with them a platter of molasses candy, a quantity of ginger cookies, some pasteboard, and a pair of shears. This last-mentioned article did not appeal to me favorably, because I did not know how far Daisy's ingenuity might lead her, and I expected her to commence trimming my mane or depriving me of my foretop. But in this I was mistaken, for she quietly went to work to cut the pasteboard into little squares and mark numbers on them.

In the meantime, Marcella had fashioned benches from the lengths of wood, and before many minutes all of Daisy's toys and some of Marcella's were on exhibition, and I learned from certain animated remarks that a new store had thrown its doors open to the public. A very prosperous undertaking it promised to be, despite the fact that the grocery department was in constant need of replenishment, due to the liberal sampling of candy, cookies, apples, sugar, etc., by the ladies in charge.

As behooves a polite hostess, Marcella gave precedence to her guest, while she made an humble shop-girl of herself, wearing an apron and tucking her curly hair under a comical old cap. Daisy was the wealthy customer (Mrs. Napoleon Bonaparte, of Oakleaf), who came to town on a pony, rode into the store, and made her purchases in such an imperious and exacting manner that the poor shop-girl was overwhelmed with confusion. However, Mrs. Napoleon Bonaparte always relented before she left the store, and refusing to accept any change would invite the now-radiant Miss Sugarcake (that was Marcella) to come and see her sometime. Once, when trade was most brisk, the spotted kitten, probably attracted by the smell of good things in the rear of the store, came in to look about her. She was instantly seized upon by Daisy and placed on the "curiosity counter." The kitten, being a great pet, calmly washed her face and viewed her surroundings with evident approval.

The next trip on which I brought Mrs. Bonaparte shopping I missed the small cat, and was not surprised to find that she had grown tired of being a curiosity. But Kitty was not to escape so easily. It appeared that Mrs. N. Bonaparte had taken it into her mind to purchase a young cat and was willing to pay \$500 for the same, providing it was spotted black and white, and suited her in other ways. Miss Sugarcake, delighted with such a munificent offer, made all possible haste to show her important customer the only specimen she had of the feline tribe. Upon discovering Kitty's disappearance poor Miss Sugarcake was filled with dismay, giving evidence of that fact by a smothered groan. But Mrs. Bonaparte, of Oakleaf, was very kind and condescending, bidding the shopkeeper not to worry if she "was all sold out." "I can come again," she said, "and then you may have a better grade. I may wish to look at something worth \$800." The last startling announcement fell on deaf ears, for poor Miss Sugarcake had just made a very real and at the same time heart-breaking discovery, and one which she dreaded to communicate to her royal customer.

"Oh Daisy!" she faltered, the tears falling fast and faster, "I'm so sorry. Kitty has just eaten the head off—the head off—Boo-hoo, Boo-hoo."

For a moment Daisy's quick tongue was silent. She leaned over the shaky counter and looked at Marcella in astonishment; then suddenly she found her voice. "Whose head off?" she demanded. "Not yours I guess, and not her own. Whose head did she eat off, anyway, Marcella?" with rising inflection.

"Your beautiful rubber rabbit," sobbed Marcella, "the one with the squeal in it. Oh, Daisy!"

"Tweren't any squeal in it," corrected Daisy with wonderful calmness. "Your papa fixed that this morning when he stepped on it. It was time for the old rabbit to die anyhow."

"But I know you care, Daisy," sympathized my little mistress. "You liked that best of all your toys."

"I didn't," denied Daisy stoutly, as she cast a sidelong glance at her gnawed treasure. "I didn't either. It was all my fault just the same. I remember I had lots of butter on my hands when I put the rabbit on the counter, and that's why the cat ate it."

The ridiculous situation did not pierce through Marcella's remorse; so

she only said, "My poor Daisy," and was again on the verge of tears.

The late Mrs. Napoleon Bonaparte made an undignified ascent over the pile of wood which recently served as a counter, and soon had the sorrowing shop-girl in her arms. The difference of their stations in life was forgotten while they consoled with each other, and Daisy whispered lovingly, "We'll go in to dinner soon, Marcella. I smell fried chicken clear out here. Put the rabbit back on the counter where it belongs, for it is more of a curiosity now than ever."

CHAPTER XI.—THE FOURTH AND THE FIFTH.
After many changes as to date and the nature of the affair, Daisy's party at length came off.

As her own birthday did not arrive until late in winter, and as postponement was out of the question, she finally decided to celebrate the anniversary of Marcella's birth, which occurred July 5, treading closely on the heels of the glorious Fourth.

This state of events suited Daisy to perfection, and Marcella herself, who was supposed to be somewhat of a check on her more impulsive friend, had hard work to keep her delight within reasonable bounds at the prospect of two holidays coming so closely together.

All the noisy and dangerous accompaniments of Independence Day were counted out, so there was not much left to do, but listen to the martial music played by a local band, and the speeches of gray-haired men, who told of things which happened years and years ago; but what cared we for days long past and gone? The present was enough for us.

We visited the merry-go-round where we saw many of our schoolmates riding elephants, lions, tigers, and wild-appearing horses with flowing manes. Daisy at once made up her mind to mount a ferocious-looking tiger, and insisted that Marcella should take charge of a lion. They quickly purchased their tickets and left me standing near by, knowing full well that the merry-go-round offered no convenient way for me to ride. The music started up clear, sweet, and elevating. Happy laughter floated back, bright faces smiled under flowers and ribbons. It was truly a festive scene, and the thought came to me that in

should be deeply interested in what he has said about soda crackers, because they are the one food with which all of them are familiar.

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spite of all things youth would rejoice and be glad. Yet there was one part in the perfect whole which saddened me. It was the sight of the "real horse" whose feeble power moved the heavy machine that called forth the children's happiness and mine. Unnoticed, unthought of by all the throng to whom he furnished pleasure, he tolled on bravely from early morning, with no time for food or drink and very little time for rest. My heart ached for him as I stood there in all my pampered beauty and watched his noble efforts to do the work which was many times too hard for his falling strength.

When the "twenty times around the world" was completed, and the raw-boned horse was allowed to stop a minute or two in order that new passengers might be taken on, I was so engrossed with watching the broken-hearted beast that I did not notice Marcella and Daisy as they came up to take me away. The manager of the merry-go-round patted me on the neck, and jestingly asked the little girls if they would hire me to him for the remainder of the day that I might take the tired horse's place, but Marcella leaned her head close against me and answered, "Not for anything in the world would I do that," and then for the first time she realized the sufferings of the horse within the circle of the merry-go-round, and great tears welled up in the blue depths of her eyes, so filled was she with pitying tenderness.

But Daisy did not weep. Quickly a plan had formed in her fertile brain, and after whispering a few moments to Marcella, she went here and there among all the children and some of the grown people who stood about, and by the time she had finished, the manager of the merry-go-round stood dumbfounded and angry, for all the wild animals remained riderless, and in vain he called out that one could go round the world "twenty times for only a nickel, a half a dime, the twentieth part of a dollar."

His mystification came to an end when Daisy stepped bravely up and announced that it had been agreed that no more rides would be taken until the "poor horse" was fed, watered, and rested. At first the manager scoffed at the idea, but soon he understood that in no other way could he secure

passengers; so, much against his will, eight long ears of yellow corn, a generous pan of oats, and a large bucket of clear water were placed before the astonished eyes of the old horse, who stood with beating sides and heaving throat. The harness was removed, and the musicians played fife and fiddle for the entertainment of the crowd, and time passed so quickly that the old horse had a long rest.

When the performance again commenced he looked refreshed and full of new life; seeing this, the manager smiled and spoke kindly to the faithful animal, and I am sure that the man learned how much better is humanity than cruelty, if it were only for the sake of one's pocketbook.

The fifth of July was more beautiful than the preceding day, and Marcella and I went in full glory to attend our own birthday party.

To my great pleasure the first guests which I beheld were the Howler children, resplendent in new dresses and hair ribbons, blissfully unconscious of



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how near they had come to being numbered among the uninvited.

When I say I was glad to see them there, it was not so much for the sake of the Howler girls who, although the party was an event to them, would in due time have gotten over the disappointment of necessary absence, but it was Daisy of whom I was thinking most. By this ungenerous act, the "leaving out" through petty spite of her schoolmates, her whole life would be changed, and a flaw would enter into the makeup of her impressionable character that no noble deeds in later years could quite obliterate.

Such an ideal little hostess as Daisy proved to be was a revelation to her nearest friends. First of all she introduced Miss Dearcot as guest of honor, and for the time being modest Marcella was the "Mrs. Napoleon Bonaparte" of the assembly.

In every point that came up Daisy yielded to her guests, allowing them to select all the games, not even offering an objection when "Charades" was suggested and started, a mental pastime which happened to be her especial abomination.

In due time she brought in a great assortment of dishes, and with some slight assistance from her mama, who was herself entertaining company in the drawing-room, prepared a delightful luncheon under the shade of two sturdy pines, and all sat down and made a merry feast.

Marcella was willing to "wait on table" and help in every possible manner, but the fact that she was guest of honor considerably retarded her efforts, for between the graceful reception of congratulations and settling disputes as to her exact age (which, by the way, on account of her tender years was an open question and one attended by no embarrassment) she succeeded in serving only two dishes of ice-cream.

But Daisy, who seemed to be under the spell of some good fairy, forgot herself entirely and made every one so happy and comfortable that when the young guests were departing for their homes, each carrying a souvenir of the occasion, after giving three cheers for Marcella and wishing her many "returns," they gave four cheers for Daisy and urged her for "a speech, a speech." Tired and overheated as she was, she did not want to miss this last chance of being agreeable, so mounting a rickety box she gave some interesting pointers on "taming young squirrels." Although to the critically inclined the subject might seem a little unseasonable, her audience was greatly pleased, as was shown by the loud applause which she received.

When at length we three were left alone with the remains of the merry-making staring up at us from the green grass, scattered toys and paper napkins, crusts and soiled dishes, Daisy looked across at Marcella, and like many an older hostess before her, voiced her mingled feelings of joy and despair in a doleful, "Oh, dear me!"

"Yes, dear you," responded Marcella in a burst of enthusiasm. "I am proud of you, Daisy Floyd, for such a good girl there never was."

Daisy evinced as much surprise as her fatigued condition would allow; then said with studied indifference, "I was just thinkin' of all this muss; it will be stone dark before we get things cleared away."

"We'll clear them away," announced the cheery voice of Mrs. Floyd, who with another lady was coming across the yard in our direction. "Put the pony in the barn," she continued, "and then go to the house and see the new pictures. A whole boxful has just arrived."

As it had been arranged that we were to remain overnight at Daisy's home, the girls were greatly relieved at the prospect of viewing pictures instead of clearing away the chaos which is the natural sequence of a successful party. After watering me from the tank near the windmill, a tall, queer machine which frightened me at first, they led me to the barn and there I was given a pleasant-appearing stall and a good supper.

While looking over my new surroundings I was surprised to see a bright eye regarding me through a knot-hole. Upon closer investigation, I found the owner of the brilliant orb to be a yellow mule with a bad temper. When I stood closely against the partition in the stable, he turned quickly and banged away with both hind feed, at the same time uttering an unearthly shriek. I was considerably jarred by the occurrence, and felt that I need not expect a night of undisturbed rest, having as I did such an eccentric neighbor.

The Little Ones

Dolly's Lesson.

Come here, you nigoramus,
I'm ashamed to have to 'fess
You don't know any letter
'Cept just your cookie S.

Now listen, and I'll tell you—
This round hole's name is O,
And when you put a tail in,
It makes it Q, you know.

And if it has a front door
To walk in at, it's C.
Then make a seat right here
To sit on, and it's G.

And this tall letter, dolly,
Is I and stands for me;
And when it puts a hat on,
It makes a cup o'T.

And curly I is J dear
And half of B is P.
And E without his slippers on
Is only F, you see!

You turn A upside downwards,
And people call it V,
And if it's twins, like this one,
W 'twill be.

Now, dolly, when you learn 'em,
You'll know a great big heap—
Most much's I—O dolly!
I b'lieve you've gone to sleep!

—The Youth's Companion.

That Dog Dixey.

"Well—I never!" exclaimed Aunt Ruth.

Don't you think I'm clever?" wagged Dixey's tail, as he carefully dropped an egg at Aunt Ruth's feet.

"What won't that dog do next?"

But Dixey was half-way out to the barn again, and so, of course, Aunt Ruth got no answer. By the time she had picked up the egg, and wiped it with her apron, Dixey had another one ready. As she was picking up the third egg, Dot and Philip came tumbling up the steps.

"Isn't he cute, Aunt Ruth?" said Philip.

"You don't mean to say, your mother allows that dog to carry eggs around in his mouth in this fashion?" Aunt Ruth made answer, in a voice intended to be severe, but which ended in a laugh.

"Why, Aunt Ruth, you don't begin to know what Dixey can do. He knows almost as much as we do," said Philip, throwing his arms around the dog's neck. Dixey responded to the caress with his tongue, and by several tail thumps.

Aunt Ruth had heard Dixey's praises sounded for several days; and she had seen much of his cleverness; so she told the children the next thing she would expect to see the dog do would be to sell the eggs.

"Of course I do!" thumped Dixey's little black tail.

"Why, he does that already, Aunt Ruth. Don't you, Dixey?" questioned Philip.

"We put two dozen eggs in a basket, and Dixey carries it over to Mrs. Moore's and stops while she takes out one dozen; then he goes over to Mrs. Whitcomb's and she takes the rest; then Dixey trots home with the money rattling round in the basket," continued Philip.

Dixey meanwhile assumed an air of importance suited to the occasion, sitting soberly erect, with his tail straight out behind him, and his large brown eyes glancing first at Philip, and then at Aunt Ruth, who finally patted the dog's head, and told him she hoped to get well acquainted with him during her visit.

The next day it rained, and the children were forced to amuse themselves indoors. After Dixey had brought in the eggs, there did not seem to be much of anything to do; so Dot informed the dog that he looked sick, and that he must go to bed immediately. Dixey had played "sick doggie" before; so he jumped into a chair and sat very still while Dot produced a white ruffled cap, and tied it under his chin. Then he laid his head back against a pillow which Dot had provided, and feebly opened his mouth while she fed him "milk medicine." But when his little mistress proceeded to fasten a red bow upon his ruffled cap, Dixey made very decided objections. Aunt Ruth was informed that the red bow never yet had been fastened to the cap. The dog evidently did not like the color.

Dixey was very fond of candy. There was a confectioner's down in the village, where he often stopped. Sometimes he succeeded in getting into the store, and when he did so the clerks usually treated him to chocolates. Oftener he went into the yard back of the shop, and nosed round among the things until he found a piece of candy. One day he rushed into the house



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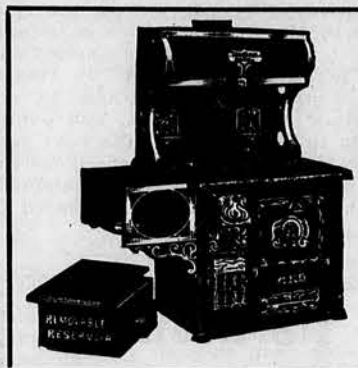
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Would you hesitate to buy a stove or range of us by mail if you were confident you could save \$15 to \$40 by so doing, and at the same time run no risk? That is exactly what we are offering you. A stove or range second to none in the world at a price far less than your local dealer can even buy such a range. We are able to save you many dollars, in your range-buying for three reasons, viz.:

1. Our direct selling plan, from factory to family (one profit).
2. We have a perfect factory and foundry of our own.
3. We have the experience of over twenty-three years.

For durability, economy, and baking qualities, our Tolman Ranges are unsurpassed. They are made from the very best of material, by skilled workmen, in our own factory. The ovens are large, square, perfectly ventilated, and fitted with oven thermometer, which prevents any waste of fuel from overheating the oven. No one has ever yet disputed the fact that Tolman Ranges are absolute range perfection. We challenge comparison.

We do not claim that we manufacture the only good range on the market to-day, but we do say, we will sell you a stove or range, far superior to any other on the market to-day, at a price far lower, and terms fairer than those offered you by any other stove manufacturer or dealer.

It is a well-established business principle to buy where you can buy the cheapest. **QUALITY CONSIDERED.** Your home merchants do this EVERY TIME. Not one of them will pay you a cent more for the articles you offer them than they can procure the same thing for of OTHERS. **WILL THEY?**

Then why pay your local dealer fifteen to thirty dollars more for a range than you can procure a better article for of us? Our "FACTORY TO FAMILY" plan enables you to buy of us by mail safer than of your local dealer.

We have pleased customers in nearly every county in the United States. Their letters show that we saved them money and gave them entire satisfaction. We know that we can give you satisfaction and save you money. You run no risk because we ship on

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Our large free catalogue tells how steel ranges are made. Why some are good; some are bad, and how to tell one from the other. It tells you why you can buy of us by mail without risk and how to save the dealers' profits. Our free catalogue illustrates why our Tolman Ranges are "BUILT TO BAKE;" moreover, how a Tolman Range will cut your housework and fuel bill in half. It will pay you to investigate. **SEND FOR CATALOGUE E TO-DAY, AND SAVE DOLLARS.**

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with part of a stick of candy in his mouth. Something was sticking to it. "A wad of paper," Philip said, as Dixey carefully dropped the candy upon the floor, and waited eagerly while Philip pulled off the crumpled bit of paper, which proved to be a dollar bill.

When Dixey passed the basket occupied by Chloe and her four black kittens, he always stopped and looked in. If the kittens happened to be alone, he would often hop in beside them and cuddle them just as he had seen the cat do, sometimes giving them a bath with his tongue.

When Aunt Ruth went home, Dixey, along with Dot and Philip, soberly accompanied her to the station. Aunt Ruth stooped to kiss the children just before she stepped on the train, when up rushed Dixey and gave her a genuine dog kiss that nearly took away her breath. Everybody laughed. Dixey, seeming to understand that he had done something unusual, stood and received in a sober and dignified manner, the numerous pats showered upon him.—Helen M. Richardson, in *Pets and Animals*.

Club Department

OFFICERS OF THE STATE FEDERATION OF WOMEN'S CLUBS.

President.....Mrs. May Belleville Brown, Salina
Vice-President.....Mrs. L. H. Wishard, Iola
Cor. Secretary.....Mrs. N. I. McDowell, Salina
Rec. Secretary.....Mrs. W. D. Atkinson, Parsons
Treasurer.....Mrs. H. B. Asher, Lawrence
Auditor.....Mrs. Grace L. Snyder, Cawker City

Our Club Roll.

Women's Literary Club, Osborne, Osborne County (1902).
Women's Club, Logan, Phillips County (1902).
Domestic Science Club, Oage, Oage County (1888).
Ladies' Crescent Club, Tully, Rawlins County, (1902).
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).
Chalisco Club, Highland Park, Shawnee County (1902).
Cultus Club, Phillipsburg, Phillips County (1902).
Literature Club, Ford, Ford County (1902).
Sagehen Club, Mission Center, Shawnee County Route 2 (1899).
Star Valley Women's Club, Iola, Allen County (1902).
West Side Forestry Club, Topeka, Shawnee County, Route 8 (1903).
Fortnight Club, Grant Township, Reno County, (1903).
Progressive Society, Rosalia, Butler County (1903).
Pleasant Hour Club, Wakarusa Township, Douglas County (1899).
The Lady Farmer's Institute, Marysville, Marshall County (1902).
Women's Country Club, Anthony, Harper County.
Taka Embroidery Club, Madison, Greenwood County (1902).
The West Side Study Club, Delphos, (1902).
Fremont Reading Club, Cawker City, Mitchell County (1903).
Cosmos Club, Russell, Kans.
The Sunflower Club, Perry, Jefferson County (1905).
Chaldean Club, Sterling, Rice County (1904).
Jewell Reading Club, Oage County.
The Mutual Helpers, Madison, Kans. (1906).
West Side Study Club, Delphos (1906).
Domestic Science Club, Berryton, Shawnee County (1906).
Mutual Improvement Club, Vermillion, Marshall County (1906).
(All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

In Memoriam.

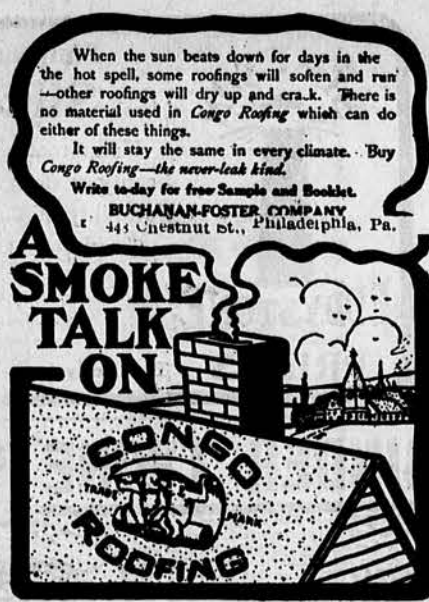
Whereas, The Divine Master in his great wisdom has called from our midst Mrs. Ella Wood, we bow in submission to His mandate, and we also desire to pay a tribute of respect to a highly valued member of our club. A faithful wife, a devoted mother, with the never-ending thought and care of a large family, she was one of the most interested in our work, proving forcibly the great need of this mental recreation to country women. In her home were held some of our best meetings, and memory will linger long and lovingly around them. To her bereaved family we offer our sincerest sympathy. May Time, the great healer, enable them to say, "She is not dead, but sleeping."

HELEN STANLEY,
ELMIRA SHIDLER,
CLARA SCOTT,
Committee.

Woman's Country Club, near Anthony, Kans.

Woman's Country Club.

Our club is in evidence, and is growing stronger in every way. Not many papers are prepared; as they say we are too busy to give attention due such things. We discuss in a general way subjects that are brought out. We have a question department, and a current-event leader. We are reading "The Virginian." For myself, the club is doing a good work in educating, a careful, thoughtful wish for helping my neighbor, for weeding out the disagreeable characteristics that belong to me, for helping me to see my own errors, and correcting them. Clubs that are a help to others and an inspiration to yourself can not be a menace to the home; and that is what our club



is. In June we elect officers, and I will write you then something which I hope will be of interest. CLARA SCOTT.
Near Anthony, Kans.

Lady Farmers' Institute.

We have a membership of eighteen, and our meetings are held the first Wednesday of each month.

The meetings are well attended, all the members taking an active part in the programs, which are usually interesting and instructive.

At our May meeting, Mrs. R. H. Hawkins read a very interesting and instructive paper. The subject was, "Is it a dangerous thing to apply scientific discoveries and theories to things intellectual and spiritual?"

Mrs. J. Cook also read a very good paper. Subject, "Some Everyday Luxuries."

We discuss current events, and have a roll-call, which is answered in different ways—by giving names of authors or missionaries, discoveries, and inventions, etc.

MRS. JOHN KRAEMER, Sec.
Marshall County.

The clubs that have used the Art Programs, printed in the club column the last year, will especially be interested to learn that the "Angelus," that famous picture by Millet, was burned in San Francisco at the time of the recent earthquake. It was in the residence of Mr. Crocker. This is according to a report from San Francisco and it is hoped it is incorrect. In 1889 it was bought for 580,000 francs by the American Art Association, and exhibited in this country, but the next year it was bought by M. Chanchard for the sum of \$150,000, with the understanding that it would finally be placed in the Louvre.

Horticulture

Horticulture at the Kansas State Agricultural College.

The problems which confront the grower of vegetables and fruits are fully as important to the men who grow these crops and to the consumers of them, as are questions concerning the production of cereals or the feeding of stock.

The application of manures and fertilizers is always practiced by the truck- and fruit-growers in a community long before the grain-farmer realizes that manures are valuable. The value of vegetable- and fruit-crops warrants a more liberal use of manures and commercial fertilizers than the grower of cereals or fodders could afford. The cost of growing a poor crop of celery or strawberries is nearly as great as that of growing a heavy crop, and the investment in fertilizers is expected to give large returns.

The horticultural department of the Kansas Experiment Station is working on a number of these problems. For a number of years the yield of sweet-potatoes in the districts of Kansas where this crop is extensively grown has been decreasing. A better stand has been secured on soils that have grown one or more crops of "sweets" than on soils that have been growing corn or fodder crops, and the cost of production has been less; but the continued use of the land for this one crop is telling on the yield, and a number of experiments are to be continued the coming season. The work is done for the most part in cooperation with men

who have good sweet-potato soils that have been giving inferior yields.

Combinations of fertilizers containing varying proportions of nitrogen, phosphorus, and potash will be used. The method of application will vary, some being sown on the land, some drilled in, and some applied directly to the row.

Barnyard manures in varying quantity, from five tons to twenty tons per acre, with and without the commercial compounds, will be tested, and wood ashes in amounts varying from a hundred to one thousand pounds per acre will be included in some of the tests.

Fertilizer tests with Irish potatoes, tomatoes, and other vegetables and with small fruits are under observation. The prevention of potato blight by use of Bordeaux mixture has so far given satisfactory results and will be continued. Prevention of brown rot of peach and plum by use of Bordeaux was begun before the buds opened. This will be followed by another spray as soon as the leaves are well grown. The peach leaves are more delicate than are the leaves of most tree-fruits and the solutions used on peach must be diluted one-half.

The battle with the codling moth is commencing. The great part of the work will be done with arsenate of lead (three pounds to fifty gallons of water) and Bordeaux mixture, in varying strength from the "standard" (six pounds copper sulfate, four pounds of lime, to fifty gallons of water) to one-third strength will be tested. The set of fruit on the experimental plots testing the comparative value of winter and summer pruning, seems to favor the summer work.

The "Farmers' Garden" experiment begun last year is even more interesting to the city man with small space, as the plot fifty by fifty feet is about equal to the end of a city lot. Last year's garden made the following yields, which were secured in succession from early spring until late fall, much of the land producing three crops and all of it two crops: Lettuce, 195 pounds; radishes, 134 pounds; onions, 325 pounds; peas, 141 pounds; string beans, 101 pounds; beets, 148 pounds; cabbage, 450 pounds; cucumbers, 184 pounds; spinach, 148 pounds; tomatoes, 575 pounds; peppers, 5 pounds; squash 337 pounds; parsnips, 28 pounds; carrots, 15 pounds; turnips, 75 pounds; green corn, 491 ears; egg-plants, 24.

For most of the vegetables the rows were eighteen inches apart; corn and cabbage were three feet apart. There was not a day after the first radishes were of table size, which was twenty-one days after planting, until heavy frosts occurred but that fresh vegetables were ready for use.—Albert Dickens, in the *Industrialist*.

The Shawnee Horticultural Society.

At beautiful Vinewood Park, on May 10, there assembled one of the most representative groups of business men and women in Kansas. Associated as the Shawnee Horticultural Society, these men and women meet together once each month, at some selected place, for the discussion of all topics of interest to the wide-awake farmers of to-day, but more especially those which bear upon horticulture in its broadest meaning.

Each of the meetings held in the summer season is preceded by a basket lunch. That is what these good people call it—a basket lunch. In reality it is a banquet and a glorious one. The guest who attends one of these meetings and partakes of a banquet goes away feeling like the great John Ridd, who thanked the Lord for the room there was inside of him. Good as this banquet always is, the mental pabulum which follows is better.

The papers read and the discussions had are of the best because they represent knowledge gained at first hand; knowledge taken at the grass roots.

The programme announced for last Thursday included "Strawberries, From Planting to Market," by N. H. Brosius, "Canning Fruit and Vegetables" by Mrs. C. A. Klein, "Improvement of Private Grounds" by Dean Kaye, "Cooperation in Marketing Fruit" by C. Dyson, and reports on fruit prospects.

The July meeting will be held on the grounds of the Industrial school for boys, North Topeka, and the August meetings will be held at the Kansas State Agricultural College, Manhattan, the most beautiful place on the map.

A Good Cream-Separator.

A good cream-separator is one of the most useful and economical machines on the farm. Dairying is the most profitable branch of agriculture and no one thing has contributed so much to this as the hand-separator. A poor separator is a poor piece of prop-

KIDNEY TROUBLES

Increasing Among Women, But Sufferers Need Not Despair

THE BEST ADVICE IS FREE

Of all the diseases known, with which the female organism is afflicted, kidney disease is the most fatal, and statistics show that this disease is on the increase among women.



Unless early and correct treatment is applied the patient seldom survives when once the disease is fastened upon her. We believe Lydia E. Pinkham's Vegetable Compound is the most efficient treatment for chronic kidney troubles of women, and is the only medicine especially prepared for this purpose.

When a woman is troubled with pain or weight in loins, backache, frequent, painful or scalding urination, swelling of limbs or feet, swelling under the eyes, an uneasy, tired feeling in the region of the kidneys or notices a sediment in the urine, she should lose no time in commencing treatment with Lydia E. Pinkham's Vegetable Compound, as it may be the means of saving her life.

For proof, read what Lydia E. Pinkham's Vegetable Compound did for Mrs. Sawyer.

"I cannot express the terrible suffering I had to endure. A derangement of the female organs developed nervous prostration and a serious kidney trouble. The doctor attended me for a year, but I kept getting worse, until I was unable to do anything, and I made up my mind I could not live. I finally decided to try Lydia E. Pinkham's Vegetable Compound as a last resort, and I am to-day a well woman. I cannot praise it too highly, and I tell every suffering woman about my case."—Mrs. Emma Sawyer, Conyers, Ga.

Mrs. Pinkham gives free advice to women; address in confidence, Lynn, Mass.

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A. L. Craig,

ROOM 212 WORCESTER BLDG.,

PORTLAND, OREGON.

erty and has but little value above that of the tin can "separators" and "extractors" which are all too numerous yet.

What is the best cream-separator? We do not know. There are several that are good and that are capable of doing good work well. The farmer can buy any one of these and it will prove a money maker for him. Among these good machines may be mentioned the Omega Separator which is manufactured at Lansing, Michigan and which is deservedly popular wherever it is known. This company now publishes a handsome little booklet about the use and care for cream-separators, which they will send free to readers of THE KANSAS FARMER. Drop them a postal card and see what it is like.

The Grange

"For the good of our Order,
our Country and Mankind."

Conducted by George Black, Olathe, Secretary
Kansas State Grange, to whom all correspondence
for this department should be addressed.
News from Kansas Granges is especially solicited.

NATIONAL GRANGE.

Master.....N. J. Bachelder, Concord, N. H.
Lecturer.....Geo. W. F. Gaunt, Mullica Hill, N. J.
Secretary.....C. M. Freeman, Tippecanoe City, Ohio

KANSAS STATE GRANGE.

Master.....E. W. Westgate, Manhattan
Overseer.....A. P. Beardon, McLouth
Lecturer.....Ole Hibner, Olathe
Steward.....R. C. Post, Spring Hill
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Some of the Obstacles to the Simple Life and How Far Can the House- wife Overcome Them.

READ BEFORE MANHATTAN GRANGE BY MRS.
E. W. WESTGATE.

As most of you know my present occupation as a housekeeper has been of short duration, therefore, the experience I have had in battling against these obstacles is not extensive.

But I have lived long enough to have observed considerable, and in many cases the hinderances to the simple, happier mode of life may be likened to the "little foxes that destroy the vines"—look out for them and oftentimes the obstacles are buried.

As far as I have gone in the capacity of a housewife, no insurmountable obstacles have presented themselves; it seems to me we are living the simple life and enjoying it.

As I understand Charles Wagner's version of simple life—the book that President Roosevelt so heartily endorsed when he told the author, "I am preaching your book to my countrymen,"—it depends more on the state of the mind and the physical condition than the class or social position people may be placed in.

Ella Wheeler Wilcox has chosen a very wise life motto. "If you haven't what you like, then try to like what you have." The spirit of simplicity, the faculty of being happy and making the best of things under any circumstances and importing brightness into other lives—therein lies the secret source of the simple life.

Take time to live; don't let the condition of things make your life a drudgery. Begin the day right. On rising in the morning, see that your windows are wide open. Then take from five to ten minutes, or as much more time as you can spare, in taking the deep-breathing exercises; a cold shower bath is also very invigorating and in many cases beneficial, but unfortunately in most of our country homes, the luxury and conveniences of a bath-room, considered a necessity in cities, is as yet lacking with the farmer. But if they have some luxuries we desire, God's pure air goes a long way to make up for them. Many a morning in the city of St. Louis have we wished we could stop breathing until the atmosphere saw fit to clear. Since the law was passed compelling the great manufacturing plants to consume their own smoke, the density is less.

We know we are living in an age of great wonders. Notable events have taken place since we first saw the light of day, but it is also an age for nerve-breaking force—too much of this "hurry up," hustling activity is sapping the life of hundreds and thousands in our big cities, and proving one of the greatest and most dangerous obstacles to living the simple life.

The "get rich quick" schemes that are being worked on the people are only another means to rob the public and keep the people under a nervous strain, thus destroying the real pleasure of living. These are not confined entirely to the city, for I have visited in country homes where they seemed to be trying to turn night into day, working by far too many hours for the best interests of the household. This is an obstacle that seems to me might be overcome by better judgment backed up by force of will-power.

Longfellow has it "Something uncompleted still awaits the rising of the sun." Then why try to rob one day of its duties by overcrowding the present?

It is not so much the never-ending

work that hinders one from taking pleasure in a simpler mode of life, as the method or lack of method that some people employ to accomplish their tasks. Some on retiring, in imagination, will do the next day's work preparatory to doing the real thing, thus unfitting themselves to wrestle to the best advantage with the daily duties or rise above the trivial obstacles that mar the home life. It makes me think of the aged father who on his death bed called his family around him and said: "Children, I have had a great deal of trouble in this world, but more than half of it did not happen." Let us not go to the trouble of building bridges and anticipate crossing them long before their approach comes in sight.

Dame Fashion is a very tyrannical mistress to those who would follow her lead. Contrast, for instance, the dress of the Quaker, the Sisters of Mercy, and others who have adopted some uniform style of dress. They do not have to think, worry, and dream of tucks, gathers, shirrs, ruffles, lace, and a hundred other considerations that go toward the making or marring the style of the garment. Though we may claim to be independent, not caring much for fashion, we dress to please the eye of man who, because he arrived first on this globe, calls himself the lord of creation. In any case we can not afford entirely to neglect the prevailing style, but we can select the simpler methods and thus partially overcome what would tend to detract and hinder our leading the simple life.

Another aid to surmounting the obstacles that perchance may cross our pathway is to get out of doors as much as possible each day. There is no tonic for the nerves so good as that of getting near to the heart of Mother Nature.

"Go forth, under the open sky, and list To Nature's teachings, while from all around

Earth and her waters, and the depths of air—

Comes a still voice—"

In general I have mentioned what to me seem some of the hinderances to our enjoying the simple life, and have given a few suggestions that, if carried out in practice, might prove helpful.

But the greatest obstacles I have left for the last—that is the overcoming of self.

"Let's oftener talk of nobler deeds, and rarer of the bad ones, And sing about our happy days, and not about the sad ones, We were not made to fret and sigh, and when grief sleeps to wake it Bright happiness is standing by, this world is what we make it."

Cadmus Grange, No. 350, Linn County.

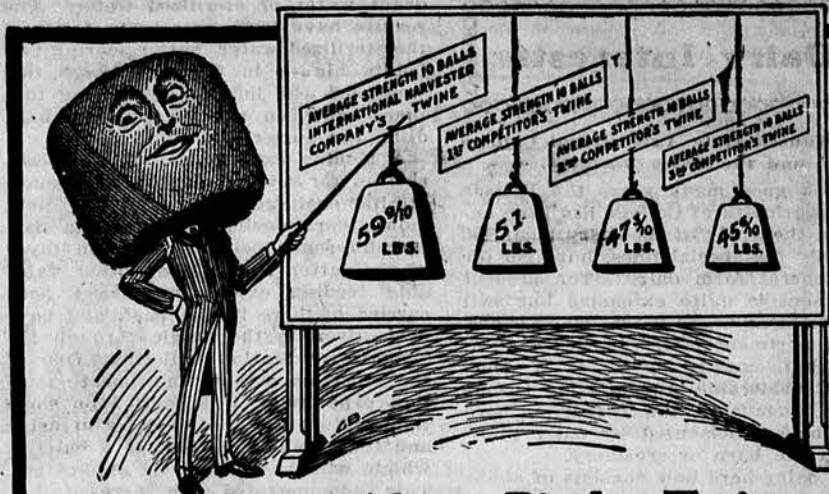
Editor Grange Department:—As secretary of Cadmus Grange, No. 350, I thought I would write you a few lines and state what we are doing in our locality, as information for the good of the order.

We hold our grange meetings in a small town called Cadmus, in Linn County. We are about eight miles from the railroad. Our town is small but it is a grange town, and we are alive and doing something for ourselves. I think we have the largest grange in Kansas, as we number three hundred and ten members and if this is not the largest, we want to know it, and we will grow some. During the quarter, ended March 31, 1906, we added seventeen to our membership by initiation, and have a class of ten on the road, which will appear in our next quarter's report.

Our cooperative enterprises are in good working condition, and our business is growing and in every way a success.

Like other granges writing for the grange department, we have been discussing the good road question, which is terminating in good practical results. We also discuss the topics suggested by the Grange Bulletin, as well as farm topics suggested at home, with the result that our meetings are interesting and well attended.

We have a literary entertainment once a month which brings with it a very large attendance. We have in our grange a brass band which adds greatly to the success of our out-of-door meetings. We also have an orchestra which performs a very important part in our literary entertainments. About two-thirds of our membership are young people and they take an active part in all our entertainments, while the older members turn out enmasse to be entertained and form the audience. I have endeavored in a short way to state what we are doing; and



Some Facts About Binder Twine.

When the rush of the harvest season is full upon you it is too late to consider the merits of the various binder twines offered in the market.

Experience has taught that there's a whole lot of difference between good twine and inferior twine. It is not necessary to argue that question with a practical grain grower.

Twine that breaks—twine that won't work—is one of the greatest troubles the farmer in the midst of harvest can encounter.

Breakage means delay, and delays are always expensive in harvest time.

If you want to be sure of your twine in the harvest field, make sure of it while you have time to think of it now.

Special machinery is necessary for accurately testing the strength of binder twine. The grain grower, of course, has not this machinery.

But he can know to his own satisfaction and absolute certainty what the tests show at the factory.

Fifty pounds is regarded as the standard of strength in all twines for which high grade is claimed. Any twine that breaks under this weight is pretty sure to cause trouble at harvest time.

The above illustration accurately displays the result of a series of tests of ten balls of standard twine. The International Harvester Company's twine averaged 59 1/2 pounds, while one competitor's twine barely reached

the standard, and two fell below 2 & 7-10 and 4 & 10 lbs., respectively.

These are not simply bald, unsupported claims. They are facts—that have been proved under absolutely fair and correct conditions.

After quality comes the length of the twine—the amount you get when you buy a pound. Of sisal and standard grades you should get practically 500 feet to the pound.

A pound of International Harvester Company's twine was shown by tests to run nearly 504 feet, while competitors' twines averaged as low as 452.3. There's a big difference here and it is against you.

There is better twine and more twine in a ball of International Harvester Company's twine than in any other—and foot for foot, a good deal less costly twine.

Another thing: Some of the twines offered by other makers are very hard-twisted. Such twine, as grain growers know, is liable to kink and break on a binder and cause the ball to collapse at the last end. This means additional loss.

You can figure it out for yourself. And now is the time.

You will be absolutely safe however if you go to the International local dealer and ask for prices on either Champion, Deering, McCormick, Milwaukee, Osborne, Plano or International brands of sisal, standard, manila or pure manila.

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(INCORPORATED)
CHICAGO, U. S. A.

would be glad to hear through this same grange channel what other granges are doing in Kansas.

BERT FLOOK, Secretary.

Miscellany

Rock Island Excursion to the Agricultural Colleges Leaves Norton 2 a. m. Tuesday, May 29.

The college has been going out to the farmers all year in the farmers' institute work and now an opportunity is offered for the farmers and their families and others to come to the college for a day. It ought to be understood by every farmer and by all taxpayers that the Kansas State Agricultural College belongs to Kansas, is supported by Kansas, and exists for the purpose of advancing agriculture and helping to advance general prosperity. Kansas is an agricultural State, and her prosperity depends upon the prosperity of the farmers. The college is peculiarly the farmers' school, and these excursions afford a fine opportunity for farmers to visit and inspect their school and their experiment farm.

On May 29 visitors will be shown through the agricultural and dairy buildings, through the stock barns, and shown the corn-fields with their many experimental plots, and through the orchards with five spraying machines in operation that day. The ladies will be shown through the greenhouses and the domestic science building. The beautiful Jerseys and Shorthorns, Ayrshires and Herefords, Holsteins and Angus will all be on exhibition as will the Poland-Chinas, Berkshires, Plymouth Rocks, and Leghorns. It is to be hoped that several hundred Kansas people will visit the college on May 29. A rate of one cent a mile each way has been granted. The train will leave Norton at 2 a. m., and pick up a car at Phillipsburg, one at Smith Center, two at Mankato, and two at Belleville, and will reach Manhattan at 10.30 a. m., and start on the homeward trip at 6 p. m.

Another excursion is contemplated for the St. Joseph line and for the Hutchinson line for the next week, trains starting from St. Joseph and Pratt.

Shawnee County Corn-Growing Contest.

The following boys have entered the Shawnee County corn-growing contest: R. Finney Markham, Ross Clifton, Harold Garnett, Clarence Olson, Ray

Kimball, Will Hohberg, Albert Hohberg, Albert Higgins, Cullie Wray, Vern Farnsworth, John Davis, Arthur Monroe, Glen Pollum, Charlie Smith, Fred Van Nice, Glen O'Neal, Roy Holze, Irwin Long, Milton Long, Roy Watson, Clarence Watson, Clayton Kline, Kenneth Kline, Charles Hedwick, John Buckman, Perry Tice, Geo. Swartz, Carl Nystrom, Joe Burnett, Dwight Williams, John Ready, Hugh Bundy, Edward Werner, F. P. Rude, Emery Brobst, and C. A. Kline, committee in charge.

The College Y. M. C. A. Fund.

It is now a little over a month since the canvass was started to raise \$10,000 more for the Y. M. C. A. building which it is proposed to erect at the Kansas State Agricultural College. The three farm papers which are conducting the canvass each contributed \$100 to start the list. Only about \$325 has been contributed by the farmers of the State. In a recent student gathering at the college \$800 more was subscribed by students. This leaves \$8,575 still to be subscribed before the \$10,000 required to complete the building is secured.

I may say that I have been somewhat disappointed in this canvass with the way in which the farmers have responded. I take it that a great many people are interested in this movement but have simply been slow to respond and have neglected to send in the amount which they desire to subscribe. I hope this delay may not be continued. It is very essential that we have the balance of the amount required subscribed as soon as possible in order to begin the erection of the building this summer, so that it may be completed and equipped for use next winter, when the largest number of students attend college, a great many of them coming from the farms to take the short-courses in agriculture, dairying, etc.

I know this is a busy season, but I hope that those who read this note will not delay longer in sending in their subscriptions for the Y. M. C. A. building fund. Every little helps; if you can not give a large amount, give a small amount. Make checks payable to W. W. McLean, Secretary College Y. M. C. A.

A. M. TENEYCK.
Previously acknowledged.....\$22,995.00
L. M. Dupray, Ash Valley..... 5.00
J. S. Swanson, Jamestown..... 1.00
Mabel Edwards, Emporia..... 5.00
J. D. Schuyler, Sterling..... 5.00
H. Schnitzspahn, Blk City..... 1.00
Mrs. T. M. Lewis, Salina..... 1.00

Total.....\$23,013.00

Dairy Interests

The Kansas State Agricultural College and the Dairy Business.

For a good many years the Kansas State Agricultural College has been active in the study of the dairy business, not only for special lines, but also for the general farm dairy. The present equipment is quite extensive but will have to be enlarged before many years. The department is in charge of Prof. Oscar Erf, assisted by Mr. C. W. Melick. Considerable student labor is employed, as much of the instruction here must be supplemented by daily practice in the barn or creamery.

The dairy-herd now consists of about thirty cows and four bulls, not counting nearly as many heifers and calves. The herd is divided among the following breeds: Jersey, Holstein, Ayrshire, Guernsey, and Red Poll. Three men are employed in the care of the barn, cows, milking, etc. The barn is kept scrupulously clean, and students are taught the importance of cleanliness in the stable, and gentleness with cows.

The creamery equipment is quite complete. The dairy building is a beautiful stone structure, with storage and shop rooms and engine in the basement, office, class-room, cheese-room, butter-room, and demonstrating-rooms on the first floor, with a large room above for storage and demonstration work. Two men are employed here, aside from student labor, a buttermaker, lately from Denmark, and one helper.

The creamery has a 300-gallon churn, four different kinds of pasteurizers, sanitary milk-vats, machinery, tubs, etc., for making cheese, and practically all the different makes of hand-separators for demonstration purposes.

In addition to the milk and cream from the college herd, the creamery now has ten milk patrons and thirty cream patrons. This number will increase during the summer. Two grades of butter are made, and almost the entire product is sold readily in Manhattan. There are a few special customers in Kansas City and Denver. Whenever there is any surplus it is shipped to Chicago or New York, where it commands the highest market price.

Cheese is made only occasionally, just for instructional purposes. However, a large quantity of cottage cheese is made, not only for market and for table use, but for poultry food, thus utilizing all the by-products of the creamery. Most creameries count most of the butter-milk as waste, selling a small quantity to nearby farmers. The department here has found that by heating the butter-milk almost to the boiling point it can be curdled and made into excellent cottage cheese for poultry food, making a valuable marketable product.

In the demonstration-room are probably a dozen of the best-known cream-separators, and students are instructed and trained in the proper use of these valuable machines. Just now the department is making an experiment to determine the causes of the difference in butter-fat tests on different days, and working on the following lines of experiment:

(1) Speed of separator. (2) Rate of inflow into bowl. (3) Adjustment of cream-screw. (4) Amount of water used in flushing. (5) Temperature of milk at time of separating. (6) Freshness of milk.

Another interesting experiment is in washing the butter with common hy-

drant water or sterilized water. The results have been greatly in favor of the sterilized water, butter scoring two points higher in Chicago where this was used, the judge not knowing that there had been any difference in handling the butter.

A feeding experiment has been carried on for several months, one month alfalfa ensilage alone and the next month corn ensilage and alfalfa hay, the difference being slightly in favor of the latter feed. Many other valuable feeding experiments have been carried on here in the past, and have been given to the public through the Experiment Station bulletins. One of the most important, an almost startling experiment, was carried on some time ago on the care of dairy utensils, and the results published in a bulletin which will be mailed on application. This demonstrated the necessity of thoroughly washing the separator every time after using, and the advantage of the use of a brush instead of a cloth for cleaning all parts of the separator.

This department is helping to make Kansas a great dairy State by insisting on better cows, better feed, and better care of cows and milk.

Hon. R. M. Washburn, State Dairy Commissioner of Missouri, sends out the following advice upon a most important subject:

"Since suggesting a test of 30 per cent fat for all first-grade cream, I have received letters calling attention to the injustice of requiring so rich a cream, when there are many good separators in use that will not deliver cream of that grade.

"If any of your patrons have separators that ordinarily deliver only a 20 or a 22 cream, advise those patrons to proceed thus:

"Separate about one-half of the run of milk, then mix the cream gotten with the remaining half of the whole milk, and continue separating as usual. The cream obtained will test 30 or over, and no more fat will be lost in the skim-milk than under ordinary method. I have in this way increased the test of cream from 16 to 27, from 20 to 33, from 17 to 28, and from 22 to 34, with no extra loss in the skim-milk.

"This done and the farmer has more milk, better cream, and less express to pay."

Grading Cream.

Although the dairy products of Kansas amount to about \$15,000,000 per year, this industry is still in its infancy. The possibilities are enormous. The dairy industry has already proved itself a gold mine for Kansas farmers, but it has now received a check which will be difficult to overcome unless better methods are adopted. During a recent visit to New York the secretary of the Kansas State Dairy Association visited the large commission houses and verified the reports which had been disturbing the market for some time past. It was found that there are thousands of tons of butter placed in cold storage that grades as "seconds," and for which there is no market. All of the good butter had long since been sold and the demand for it can not be supplied. Further inquiry developed the fact that a considerable share of this second-grade butter is of Kansas manufacture, and it is realized that better butter must be furnished these markets or the dairy industry will be permanently injured in this State.

The trouble is not far to seek. In their anxiety to do a large volume of business, the creamery companies have paid the same price for any quality of cream that was offered them, and the farmer who supplied good cream in good condition received no more cash than he who supplied old cream in poor condition. The demands of the market, the efforts of the State Dairy Association, and the interests of the patrons and the creameries themselves have brought about a long-needed change. Hereafter, cream will be bought on the graded-cream system. This is the only way possible by which the product can be made of good quality and salable.

All cream that is delivered in good condition two times per week in winter and three times per week, or more, in summer, and that tests 30 per cent butter-fat will be ranked first-class and will be paid for at the rate of about 5 cents per pound for butter-fat more than the second grade, which includes all other kinds.

There is not one operator in a thousand who is capable of testing cream. All cream, hereafter, will be tested by experts at the central plant. Samples will be taken from each can in the

CREAM SEPARATORS

The accompanying picture illustrates how one buyer of a "cheap" cream separator feels over his great "bar ain" and how he has arranged to punish himself for so wasting his money, time, labor and produce.



DE LAVAL CREAM SEPARATOR may cost a little more in the beginning, but they always cost less in the end. If you are thinking of buying a separator, you will never have to "kick" yours if you select a DE LAVAL machine. Send for a 1906 catalogue.

THE DE LAVAL SEPARATOR CO.

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109-113 YOUVILLE SQUARE
MONTREAL
75 & 77 YORK STREET
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14 & 16 PRINCESS STREET
WINNIPEG

World's Champion Cow

The Guernsey cow here illustrated has proven herself the biggest butter producer in the world. This letter tells the story.



"Milwaukee, Wis., Feb. 12, 1906. My Guernsey cow, Yeksa Sunbeam, No. 15439, holds the World's record for a yearly butter-fat production, having made in a year 857.15 pounds of butter-fat. She also made 14920.8 pounds of milk testing 5.75 per cent fat; this is the largest amount of milk produced in a year by any Guernsey cow.

The butter exhibited from my farm was awarded **FIRST PRIZE** over all at the State Dairymen's Convention at Waukesha, Wis., scoring 97 1/2 points.

I use the United States Cream Separator, of which I have three on as many farms.

FRED RIETBROCK."

Don't miss the point of this story: **GOOD COWS** and the

U. S. CREAM SEPARATOR

is a combination that means biggest profit to dairymen. You feed your cows to produce rich milk, and to get the most butter-fat from that milk you need a U. S. Cream Separator because it **Holds the WORLD'S RECORD for CLEAN SKIMMING.**

Our new, handsome 1906 catalogue tells all about the U. S. Read it before you put any money into a cream separator. Just write us, "Send catalogue number 91." You'll get one by return mail. Better lay this paper down and write us now while you think of it.

VERMONT FARM MACHINE CO.

Bellows Falls, Vermont.

Eighteen centrally located distributing warehouses throughout the United States and Canada. Prompt delivery.

Peerless Cream Separators

Reasons Why the PEERLESS is the Best

1st—Twice the capacity of any other bowl. That is to say two times smaller than any other bowl of equal capacity.

2d—Compound feature, two bowls in one, hollow bowl and disk bowl, combining all the features of the tubular and disk machines.

3rd—Enclosed frame. Free from dust. Injury resulting from machine impossible.

4th—Perfectly noiseless.

5th—Heavy enough and strong enough to lift a box car, which insures durability.

6th—The bushings made of phosphor bronze—the most serviceable material for the purpose. Fitted and guaranteed to be accurate to 1/16 of 1-1000 of an inch.

7th—Every journal bushed with brass or phosphor bronze. This fact together with the fine adjustment described above, accounts for the light draft of the Peerless machine. Each bushing is made in duplicate and interchangeable and if at any time they show wear they can be replaced at small cost.

8th—At normal temperature the skimmed milk will always show less than 5-100 of 1 per cent of butter-fat and generally less than 1-100 of 1 per cent butter fat. PEERLESS CREAM SEPARATORS are guaranteed to anybody—everybody, anywhere—everywhere.

For further information, write

BRADLEY, ALDERSON & CO.,

Tenth and Hickory, KANSAS CITY, MO.

Sharple's TUBULAR CREAM SEPARATORS

Will you buy a bad separator because the agent is a "good fellow?" Some people do. They should read this.

If You Have a Brand New Separator

not a Tubular, put it in the garret. We guarantee Tubulars to make enough more butter than any other separator, and from the same milk, to pay 25 per cent yearly interest on their cost. You test them free side by side. Your decision is final. Carnegie is using investments paying 6 per cent; here is a guaranteed 25 per cent to you. The waist low supply can—simple bowl—enclosed, self-cleaning gears—are found only on Tubulars. Catalog T-165 explains it.

THE SHARPLES SEPARATOR CO.

WEST CHESTER, PA. CHICAGO, ILL. TORONTO, CAN.

presence of the patron if desired, and these samples will be tested at the home-office.

With their thousands of dollars invested in this business, the creamery companies find it to their own interest to be fair and honest with the patrons, and no fear need be felt that the testing will not be carefully and honestly done.

This system has long been needed in Kansas, and its adoption marks a distinct step in advance. The dairy industry was in a state of failure unless some change of this kind had been made and that at once. Any questions bearing upon this system of cream-grading will be gladly answered by the dairy husbandry department of the Agricultural College at Manhattan, or by the secretary of the State Dairy Association.

Cow Sucks Herself.

I have a cow that sucks herself. I have tried both the nail muzzle and the yoke, but neither has been of any benefit. She does not eat much, and is very poor. What can I do to break her of this habit? LAURA BURKETT.

Johnson County.

We have had very little experience with cows that have the habit of sucking themselves. There is probably no means by which a cow can be broken of this habit when it is once formed, and unless she is an excellent producer, she should be fattened and sold to the butcher.

The remedies you need are not as efficient as splitting the tongue, or using a wooden-stave collar around the neck. The former is really a cruel method, and not as efficient as the latter. A close-fitting collar made of wooden staves and united with wire the same as a picket fence, and fastened so that it will not loosen and come off, has proven to be a very successful method of preventing a cow from sucking herself. A piece of picket fence, sawed in two, leaving the length about 18 inches or two feet, and fastened securely around the cow's neck will answer the purpose as well as anything we have tried. C. W. MELICK.

The Farmer Needs Attention.

That the creameries in the West are producing much inferior butter which sells at a low price is a fact that has forcibly been brought to the minds of the buttermakers and creamery-managers. During this year the writer knows of several creameries which have become financially embarrassed. Some creameries have changed buttermakers, although they were as good makers as could be had, and others have gone along trying to do the best they knew how under the circumstances. It is surprising to note what efforts some creameries have and will put forth in order to remedy the quality of butter. The management of some plants almost grow desperate when their butter, which used to sell at a premium, is cut in price from 5 to 10 cents per pound. This very thing has happened to several.

Many creameries have installed pasteurizers, new and up-to-date cream-ripeners, starter-cans, etc., in order to try to improve the quality of butter. Some have met with a degree of success; others have not. One man told the writer that they installed a pasteurizer and cooler in order to improve their butter, but, in the words of that maker, "When we began to pasteurize then our real trouble began."

Readers should not draw the conclusion from this that pasteurization is not an improved method in butter-making. It is; but only when the cream tests at least 25 per cent fat. To try economically and successfully to pasteurize sour, or partially sour, thin cream is of little or no use.

The creamery to which the writer referred above was getting cream testing, on an average, 19 per cent, and this mostly in a sour condition. Such cream is bad to handle, whether it be pasteurized or not; and the best thing

to do under such circumstances is to pay more attention to the men who are producing and delivering that cream.

Curiously enough, few creamerymen's thoughts drift in this direction in order to seek remedies for poor butter. It is the buttermaker to whom the creamery-manager looks if anything is wrong with the butter. The buttermakers of this country are great—indeed, the writer believes that, as a class, they are far above any other class of laboring men in intelligence, and in scientific and practical knowledge of their work—but they are not superhuman. They can not make extra good butter out of spoiled cream.

SOURCES OF POOR BUTTER.

The sources of poor butter may be said to be: (1) from the cream before it is manufactured into butter; (2) from employing improper methods during the process of manufacture; (3) from keeping the butter a long time and under unfavorable conditions.

The latter two factors, at the present time, play only a comparatively small part in producing the large portion of poor butter which is found in American butter-markets. A great many claim that so much of the poor butter now on the market is storage butter. There is no question that this is so; but this poor butter, in most cases, may be traced to poor cream.

The writer has seen butter made from good cream, and butter made from fair cream, both lots stored the same length of time—the usual storage time—and in every case it was the butter made from the poorer cream which had the bad taste and smell.

That made from the good cream kept well, some of it being almost equal to fresh butter made from good cream.

The writer believes that, relatively speaking, too much stress and attention have been given to the methods of manufacture.

The cream-producers have not been kept in touch with the proper and economical methods of producing and caring for the cream. The buttermakers, as a class, are undoubtedly so far ahead of the cream-producers that the gap left between the two has and is serving as a drawback to the progress and efficiency of cream-producers and butter-makers alike.

During the last few years the tendency has been to widen this gap between the producers of the raw material and the manufacturers. If there is any business in which cooperation is needed, it is the dairy business. The buttermakers may profitably take a step toward the cream-producers, or, if necessary, go the whole distance in order to help them in their present trouble. The creamery-operators can not by the use of new and progressive methods produce the desirable quality of butter from a poor grade of cream, and thereby work out their own salvation by themselves.

It may seem a step backward to let go of some up-to-date method in butter-making, and use the time required for doing this in helping the farmers to produce a better grade of cream. The writer does not mean that the makers should discard any useful process in the manufacture, but only such methods as are not practicable under existing conditions. For instance, the writer once saw a man receiving old, sour cream, and he tried his best to develop a definite per cent of acid before churning. He would test it for acidity a dozen or more times, while the best thing to have done under the circumstances would have been to have added a starter, cooled it, and churned it as quickly as possible.

Oftentimes a man gains by taking a step backwards. The trains which run by the college daily have to climb a steep grade. When heavily loaded, they sometimes fail to get over the hill. So they back up and climb the hill with an additional force. They have a purpose in backing up, and they usually accomplish it. When the sheep get to feeling ugly towards each other they always back up; and they do it with a purpose.

The real point is this: It would be advantageous to the dairy business if the creamery-operators could get out and help the cream-producers. The buttermakers can inform their patrons better than can anybody else. Do not trust too much to men like the hand-separator agents.

"Whilst a second-rate man is considering how he should take the lead, a first-rate man takes it."

To rule one's anger is well; to prevent it is better.—Edwards.



Dairy Talks by the EMPIRE Dairy Malt

Be Good to Yourself

Get An Easy-to-Turn, Easy-to-Clean, Separator.

YOU don't buy a cream separator very often—unless you get a poor one that you have to throw away after a few months' use.

Be good to yourself—be good to your pocket-book—get a good one. While you're about it, get the best.

By "best" we mean the cream separator that will give you the best results, save you the most work and time and money, and make the most dollars for you.

That's the famous

Improved Frictionless Empire Cream Separator

The fact that it turns more easily—separating more milk with less hard work than any other—is proof that it will save you the most time and labor in turning.

The fact that its bowl is smaller and lighter than other machines of the same capacity, and contains fewer parts, and no complicated devices, discs or other junk, is proof that it will save you the most time and labor in cleaning.

The fact that it has the simplest turning mechanism, free from all intricate parts, with nothing to cause friction—nothing to cause trouble—nothing to wear out—is proof that it will save you the most in worry, trouble and repair bills.

The fact that with its simple bowl

and smooth cones, it is the only separator which you can keep absolutely clean, is proof that it will produce the best quality of cream for you.

The fact that the Empire has increased in popularity more rapidly than any other separator ever put on the market—leaping into the very front rank in a few years, is proof that it does the most satisfactory work. People wouldn't be throwing away old style separators after a few months' use and putting in the Empire if they were not sure the Empire is the best separator ever made.

These facts mean much to every cow owner in the country. They mean more dollars—the most dollars to you.

You owe it to yourself to find out more about them.

Send your name today for catalogue and free dairy books. Please tell how many cows you keep and what you now do with the milk. Address

Empire Cream Separator Company, Bloomfield, N. J.
311 TEMPLE BLOCK, KANSAS CITY, MO.

A Dollar Game Free for postage. Send eight two-cent stamps and tell how many cows you keep and what you do with your milk and we will send you the "Game of EMPIRE Success"—the most amusing, attractive and fascinating game ever invented. Old and young can play. Baskets of fun for all the family. Handsomely lithographed in colors; mounted on heavy binders' board 15x16 inches.

Get the Empire Book. Ask for the one you want.—1. Full catalog and price list. 2. "The EMPIRE Dairy Malt." 3. The Switching of Hiram. (story.) 4. "Figure it out for Yourself." 5. A Gold Mine for Butter Makers. 6. Dairy Results—Dollars. 7. Money and the Way to Make It.



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The man who ships his cream direct is rewarded for quality. He stands alone. He doesn't have to bear the burdens and suffer for the mistakes and carelessness of his neighbors. If your cream is clean and not too sour and good flavor, you get the highest grade and the best price. If your facilities for handling your cream are better than your neighbors and you can keep it longer you need not ship so often. Consequently you economize on time.—"Time is money."

Everything favors the individual shipper.

Our system takes care of him. Our factory is his natural home.

Send us your cream and we'll send you the money.

Respectfully,

BLUE VALLEY CREAMERY CO.,

ST. JOSEPH, MISSOURI.



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Can be enjoyed in safe delight
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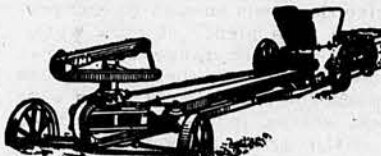
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The simple cream separator which doubles profits and cuts dairywork in two. Absolutely the simplest, easiest running, easiest cleaned separator in the world. Just belt high to a man. Its three-piece bowl gets the last drop of cream. Investigate our liberal selling plan. Send your name and address to us on a postal card and get our money saving catalogue No. 125 by return mail.

Davis Cream Separator Co., 540 N. Clinton St., Chicago, Ill.



PLYMOUTH ROCKS

BARRED PLYMOUTH ROCK EGGS—From free range stock, no other fowls kept on the farm. Price \$1 for 15; \$6 for 100. Mrs. C. F. Brown, Box 61, Manchester, Oklahoma.

BLUE BIRDS—Barred to the skin. Hawkins Ringlet strain. Eggs, \$1 per 15, \$5 per 100. Minnie K. Clark, Lyndon, Kansas.

BARRED PLYMOUTH ROCKS—Large pure-bred good laying strain. Male, weight 11 to 13 pounds. Have free range. Fresh eggs packed carefully. \$1 per 30; \$1.45 per 45. Emma Rauer, Beattie, Kans.

EGGS FOR SALE—Buff Rocks, exclusively farm range; 50 cents per 15; \$3 per 100. Mrs. W. Lovelace, Muscotah, Kans.

BARRED PLYMOUTH ROCKS—Bradley strain prize winners, won 1st on chl. last three years at Harvey county poultry show. Eggs from pen \$2, yard \$1 per 15. R. Harmston, R. 6, Newton, Kan.

WHITE PLYMOUTH ROCK EGGS—bred direct from a pen of U. R. Fisher's birds. Eggs for hatching from pen No. 1 \$2 per 15. Satisfaction guaranteed. J. A. Kaufman, Abilene, Kansas.

WHITE PLYMOUTH ROCK EGGS from high-scoring show birds. \$1.50 per 15; \$2.50 per 30. Incubator eggs, \$5.00 per 100. M. B. Turkey eggs, \$3.00 per 11. J. C. Bostwick, Route 2, Hoyt, Kansas.

EGGS FROM MAMMOTH BARRED PLYMOUTH ROCK CHICKENS \$1.50 per 15. A. D. Wyncoop, Bendena, Kans.

B. P. ROCKS AND BUFF ORPINGTONS—Eight grand matings. Send for price list on eggs and Collier pups. W. B. Williams, Stella, Neb.

BUFF PLYMOUTH ROCK EGGS for sitting, \$1.50 for 15. Jay S. Buck, Oskaloosa, Kansas.

FOR SALE—After May 1, best Barred Rock eggs in State for \$1 for 15; \$5 for 100. A. C. Rait, Junction City, Kans.

BARRED AND WHITE ROCK EGGS for hatching from choice birds; farm raised. White Rock eggs, 15 for \$1; 30 for \$1.55; 45 for \$2.05. Barred Rock eggs, 15 for 75 cents; 30 for \$1.45; 45 for \$2.10. D. S. Thompson, Welda, Kansas.

White Plymouth Rocks

Scoring 95. Eggs from selected pen, \$1.50 per 15. Eggs for incubators, \$5 per 100. Mrs. Ida Meier, Route 2, Lincoln, Kansas.

W. P. ROCKS EXCLUSIVELY
Eggs for hatching 15 for 75 cents; 50 for \$2.
MRS. ALICE PERKINS,
Munden, Kansas

Barred Plymouth Rocks

Exclusively—"Superior Winter Laying Strain" noted for size and quality. Seventeen years of careful breeding. Eggs, 15 for \$1; 30 for \$1.50.
E. J. Evans, Route 4, Fort Scott, Kansas.

BUFF ROCK EGGS

Here they are. Good ones. Fifteen for \$1; 45 for \$2.50; 100 for \$5. Orders filled in rotation as received. Eggs ready now. H. M. Stephens, Munden, Republic County, Kans.

Eggs for Hatching

Send for my special Barred Rock circular; also ten other varieties of choice standard leaders. All free. Write me your wants.

A. H. DUFF,

Larned, Kansas

White Plymouth Rocks EXCLUSIVELY.

Good for Eggs, Good to Eat and Good to look at. W. P. Rocks hold the record for egg-laying over every other variety of fowls; eight pullets averaging 280 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96%; and as good as can be found anywhere. Eggs only \$2 per 15; \$5 per 45, and I prepay expressage to any express office in the United States. Yards at residence, adjoining Washburn College. Address: THOMAS OWEN, Sta. B, Topeka, Kans.

LANGSHANS

BLACK LANGSHAN EGGS—From main flock, 15 for \$1.00; 100 for \$5.00; from pen, \$2.00 for 15. Mrs. Geo. W. King, Route 1, Solomon, Kansas.

WHITE LILY POULTRY YARDS—One dollar buys 15 eggs from pure bred White Langshans and Silver Spangled Hamburgs. Mrs. John Cooke, Greeley, Kans.

BLACK LANGSHANS—Hens scoring 88 and upward—headed by 2d and 4th prize cockerels from Kansas City 1905 show. Eggs, \$2 for 15; \$3.50 for thirty; special price by hundred. Can fill orders at once. Mrs. C. S. Cross, Fair Acres Farm, Emporia, Kansas.

BUFF LANGSHANS

White \$2, Black \$2, \$1 and \$5 per 100; Buff Leghorns, Orpingtons, Cochins, S. & D. C. B. and White Leghorns, B. and W. Rocks, W. and S. L. Wyandottes, L. Brahmas, \$1.50 to \$2.00 per 15. Toulouse Geese eggs 20c each. M. B. Turkey eggs, \$1.50 and \$2 per 9 \$8 per 100. Imported and native high-scoring blood in our yards. Mention Kansas Farmer when writing. America's Central Poultry Plant, J. A. Lovette Mullinville, Kans.

BRAHMAS
FOR SALE—Choice Light Brahma eggs, \$1 for 15; \$1.75 for 30. Wm. Plummer, Barclay, Kans.

LIGHT BRAHMAS
More prizes than any breeder in the state; 10 first this season. Eggs, \$1.50. Cockerels, \$2 to \$4.
T. F. Weaver, Blue Mound, Kansas

15 BREEDS. Pure-bred Chickens, Ducks, Geese and Turkeys. Largest poultry farm in southern Minnesota. Choice stock and eggs for sale. Catalogue free.
H. H. HINIKER, Box 90, Mankato, Minn.

Light Brahma Chickens

Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kan. Route 4

The Poultry Yard

Conducted by Thomas Owen.

Success with Poultry.

First, I would advise not to be afraid of lots of hard work. Second, get some good breed and keep it up, also keep your hens gentle, and you can do anything with them. We have the Black Langshans, and consider them hard to beat for an all-purpose fowl. They are excellent layers the year round, good sitters and mothers, and quick to market.

The old motto, "It's all luck with chickens," has been done away with, for the good luck consists of equal parts of hard work and common sense, and the one who quotes "just luck," and does no work, has no fowls.

For mites I find a good wash of crude oil inexpensive and a sure preventive.

I always feed my young chickens for the first few days, curd, stale bread, etc., and after that cracked corn. Keep plenty of pure water before them. Milk to which a pinch of soda and a dash of pepper has been added is excellent for little chicks as well as old.

Franklin County. A READER.

Poultry Notes.

Elsewhere in this paper will be seen the advertisement of the Western Poultry Review, of Manhattan, Kans., calling attention to their offer of a \$300 piano and five or six incubators to club-raisers. This is one of the most liberal offers ever made by a poultry journal. The subscription price is only 25 cents per year, and it is an easy matter to get subscribers. You get 50 per cent of this for your labor, and a chance for the \$300 piano. Send at once for a bundle of sample copies and start to work.

This is fine growing weather for young chicks, and they ought to be having a good start before the very hot weather comes. It is essential to see that they are kept growing right along, which demands the best of care and attention. See that they are fed regularly several times a day, and that they always have plenty of pure water before them. In hot weather some kind of shade should be provided for them to keep them from the broiling sun.

To make a good, and at the same time cheap, disinfectant, dissolve in five gallons of water about three pounds of copperas, to which add one pint of crude carbolic acid. Use a common watering-pot and sprinkle the house and yard occasionally with this mixture, and contagious diseases will not often appear. It will also keep down the lice and mites.

Cut green bones serve several purposes when fed to poultry. They are rich in nitrogen, and therefore serve as a food. Being phosphate of lime they are capable of being digested, which is not the case with oyster shells and grit, and they supply fowls with elements which may be lacking in the food. They also assist in grinding the food, partly taking the place of grit, and are greedily eaten by all classes of poultry. Green bone is very generally fed to laying fowls and growing chicks, as an egg food in the former case and for growth in the latter case. Green bone is no doubt one of the best egg-producing foods we have. For growing chicks it is excellent, producing rapid growth and sturdy frame. A bone-cutter can be bought at from \$5 to \$12, and the bones obtained free from the butchers. If you can not afford a mill, cut as much of the bone as you can with an old hatchet.

Cleanliness is the royal road to success with poultry. Filthy houses generate bad odors, which poison the blood and bring on a train of evils generally charged to cholera. By all means clean out the houses as often as necessary to insure pure air; renew the litter often enough to keep it clean; be sure that the house is as free from dampness as it can be kept; feed only sound, wholesome food, free from mouldiness; feed regularly, scattering the whole grain in litter to induce as much exercise as possible; feed a variety of food; do not overfeed, still give the fowls enough to eat; provide them with plenty of pure water; give them as much range as you can conveniently; provide them with green food when you can; use cut green bone or meat scraps in some form; keep good, sharp grit, oyster shell or old plaster before them, and the chances are a hundred to one that you will be delighted with your poultry, for the

reason that they will continue healthy, be productive, and prove to be a profitable investment.

Care of Ducklings.

Advice as to taking care of young chicks is plentiful, but not much is written as to the care of young ducks. Maybe the reason is that they do not need as much care as chicks, for they certainly do not, still the more care given them, the better the results will be. After the first week of their lives they are not nearly so sensitive to good care as chicks. Water should be given to drink in shallow dishes, in which some sand or grit is placed. The ducklings should not be allowed to swim in a pond or other water until they are well feathered. They should have as much food as they can eat at a meal, but none should be allowed to remain over and become tainted and sour. If there is no grass run, green food, such as chopped cabbage or lettuce must be given. Some breeders give boiled nettles with the soft food. The shed or house in which young ducks sleep should be dry and ventilated, and free from cold drafts. The best bedding is straw, and they should be kept clean by a frequent change of this. Young ducks are at their best for table use just before they go into their first molt. This is when they are 9 or 10 weeks old. If they are kept until they lose their feathers, they are not so salable nor so tender as before they begin to molt. When allowed to survive until they are 14 or 15 weeks old, they will not, as a rule, realize as much as younger birds. Much of the profit, too, disappears if they are kept all this additional time. Early-hatched ducklings realize high prices, and are undoubtedly the most profitable. Formerly, there was scarcely any sale for ducklings after green peas were over. But the fact is now appreciated that well-fed young ducklings are not to be despised at any time, and those raised late in the season can be sold at a good profit.

Rat Exterminator.

The following prescription for getting rid of rats and mice is the one usually advertised to be "sent on receipt of 10 cents."

Purchase of your druggist 10 cents worth of Oleum Menthae Pip (peppermint-oil). Apply this to wads of cotton and introduce into the haunts of rats and mice. It will drive them away at once. Perhaps they may be persistent and attempt to return; if so, repeat the process, saturating the wads daily until a permanent exodus has become evident. The liquid used is non-poisonous to mankind. Now is the time of year when it should be valuable.

Chicken Gapes.

Just at this season of the year is when the poultryman and farmer are losing their greatest number of little chickens from a trouble commonly known as the "gapes." Most of us are familiar enough with it to know that it gets its name from the action of the chicken thus affected, causing it to continually gape or gasp as though for breath, hence the name. We all know, too, that the cause of this gapping is a very small worm located in the windpipe or trachea of the little chickens or young poult—clinging to the mucous lining, and thus sapping the very life of the helpless little ones. Many theories have been advanced as to the origin of the gape-worm, but on every hand have been met with tests which have proven them wrong. We know there must be a cause, and if a cause, a preventive. An ounce of prevention is worth many, many pounds of the old-fashioned way of a cure by removing the gape-worm by the use of a horse-hair or blue-grass. Such methods should be abolished where they have not been already.

I am of the opinion, and am working now on the theory that the gape-worm comes from a very minute egg or a germ of some kind which at times floats in the air, and is breathed by the chicken into the lungs, where it very readily—perhaps in a few hours—develops into a very tiny worm which finally locates itself in the windpipe near the entrance. Not knowing then just where this little germ or minute egg, as the case may be, originally comes from, I would admonish every one to at all times use a good germ-destroyer—one which not only removes odor, but kills any and all disease germs around where it is used.

So many people complain of the brooder chicks dying off so rapidly. "I'm convinced now that I just literally cooked hundreds of chicks to death in my brooders," says one poultryman.

WYANDOTTES

FOR SALE—Silver Laced Wyandotte eggs; farm raised, \$1 per 15; \$4 per 100. Cumberland raspberry plants, \$5 per 1000. Frank Rice, Wathena, Kans.

FOR SALE—White Wyandottes, one pen high scoring; also eggs \$1 per 15. A. R. Gage, Minneapolis, Kans.

WHITE WYANDOTTE COCKERELS, (Stay White), \$1 to \$5 each. Eggs, \$1.50 per 15. S. W. Arts, Larned, Kansas.

WHITE WYANDOTTES—the lay all winter kind. Bred to high score, large egg record cockerels. Dusty strain. Eggs 5 cents each. \$4 per 100. J. L. Moore, Eureka, Kans.

BARRED AND WHITE ROCKS—Seventeen years breeder of exhibition birds scoring 94% to 96%. Eggs, \$2 per 15; \$5 per 45. Chris. Bearman, Ottawa, Kansas.

PURE BRED White Wyandotte eggs for sale \$1.00 for 15. Mrs. C. E. Williams, Irving, Kans.

FOR SALE—Throughbred Gold-laced Wyandottes. Eggs, \$1 per sitting. H. A. Montgomery, 310 Parallel St., Atchison, Kans.

EGGS, EGGS—All kinds of fancy pigeons, also Toulouse Geese eggs at \$1 per sitting. Pekin and Rouen duck eggs, 15 for \$1. Muscovy duck eggs, 10 for \$1. Turkeys, Peacocks, Barred Rocks, Buff Cochins, Houdans, S. S. Hamburgs, Rhode Island Reds, Orpingtons, White, Buff and brown Leghorns, White, Buff and Silver-Laced Wyandottes, Games, Golden Sea-bright Bantams, Pearl and White guineas, hunting dogs. Poultry eggs 15 for \$1. Write D. L. Bruen, Platte Center, Neb.

SILVER LACED WYANDOTTES—Thorough bred cockerels, \$2; pullets, \$1.50. Jewett Bros., Dighton, Kansas.

FOR SALE—Golden Wyandotte eggs, from the best pen; \$1.50 per 15. E. Davis, 910 Madison, St., Topeka, Kans.

HIGH CLASS POULTRY Silver Wyandotte and White Plymouth Rock Eggs for hatching, \$1 for 15. R. F. Meek, Hutchinson, Kans.

SILVER LACED AND WHITE WYANDOTTES \$1 per sitting of 15. Eggs guaranteed. Circular free. R. C. Macaulay, Route 1, Frederick, Kans.

SILVER WYANDOTTES exclusively Blue ribbon winners at the State Fair and State Poultry Show. Eggs \$2 per 15; \$5 per 45, expressage prepaid. A few good cockerels for sale. W. R. Comstock, Station B, Topeka, Kans.

White Wyandottes Exclusively
Pen 1 headed by 1st prize cockerel. Topeka; hens scoring 93% to 95%; eggs, \$2 for 15. Pen 2, cockerel scoring 93%; hens: 92 to 94%; eggs, \$1 for 15. All stock for sale after June 1. F. H. Sutton, Minneapolis, Kans.

S. L. Wyandottes

Indian-Runner ducks. Our Wyandottes have been bred for 20 years and never fall in any company. Our yards are headed by Silver Prince, the 1st cock at the Kansas State Show, and three of his cockerels. Stock for sale. Eggs, \$2 per sitting. Incubator eggs, \$5 per hundred. Duck eggs, \$1.50 per sitting.

M. B. CALDWELL, Broughton, Kansas

LEGHORNS

ROSE COMB BROWN LEGHORN EGGS, 15 for \$1.50 for \$2.50, 100 for \$4. Mrs. John Holshay, Bendena, Kans.

BUFF LEGHORNS AND BUFF ORPINGTONS. Catalogue free. W. H. Maxwell, 1240 Quincy St., Topeka, Kans.

EGGS FOR HATCHING—From one of the best laying strains of S. C. Leghorns in the West, at \$1 per 15 eggs, both brown and white. Special prices on larger lots. L. H. Hastings, Quincy, Kansas.

STANDARD-BRED SINGLE-COMB BUFF LEGHORNS—headed by first prize pen Chicago show 1903 and took six first prizes and first pen at Newton 1904. Eggs \$2 for 15. S. Perkins, 801 East First street, Newton, Kansas.

S. C. W. LEGHORNS AND BUFF ROCKS—Winners at State Fair. Eggs, \$1 per sitting. J. W. Cook, Route 3, Hutchinson, Kansas.

SINGLE-COMB WHITE LEGHORN cockerels, \$1 each; two or more, 50 cents each. Fine white, pure, thoroughbred birds. Also a few Barred Plymouth Rocks, barred to the skin—fine, pure and vigorous; hens, cocks and pullets, \$1 each; two or more, 50 cents each. All of our customers are very well pleased. We will make reductions on large lots. Meadow Poultry Farm, Coultersville, Illinois

S. C. B. LEGHORN EGGS—From first cockerel at the State show. \$2.50 per 15. Other pens \$1 per 15. Mrs. Siler Seal, Meriden, Kans.

STAY WHITE—S. C. W. Leghorns and Buff Rocks. Winners at State Fair. Eggs \$1 per sitting. J. W. Cook, Route 3, Hutchinson, Kans.

EGGS FOR SALE—S. C. W. Leghorns, W. Wyandottes, \$1 per 15. W. H. Turkey, \$1.50 per 15. Emenden Geese, 30c each. W. African Guinea, \$1 per 17. All guaranteed pure-bred. A. F. Hutley, Route 2, Maple Hill, Kansas.

FOR SALE—Exhibition S. C. Black Minorca cockerels, \$2. I guarantee them. Address George Kern, 817 Osage street, Leavenworth, Kans.

Pure Single Comb Brown Leghorn Eggs—30 for \$1; 100 for \$3. F. P. Flower, Wakefield, Kans.

Buff Leghorns

S. C. Eggs, 30 for \$1.25, 100 for \$4. John A. Reed, Route 3, Wakefield, Kan.

Johnnie Chase, Glasco, Kas.

Breeds Black Minorcas, S. C. Brown Leghorns and Barred Rocks. Second to none in the state. Eggs, \$2 per sitting.

PRIZE-WINNING S. C. BROWN LEGHORNS

Exclusively. (Short's strain.) Farm stock eggs from pen scoring 190, \$2 per 15; \$1 per 15 as they run. Incubator eggs a specialty.

MRS. W. O. MACATAGEN, BEATTIE, KANS.
Mention KANSAS FARMER when writing.

Rose Comb Brown Leghorns EXCLUSIVELY

Farm raised. Eggs, per sitting of 15, \$1. Incubator users write for special prices in 100 lots.
P. H. MAHON, Route 3, Clyde, Cloud Co., Kans

ROSE COMB BROWN LEGHORNS AT READING, KAN.

Pure stock. 15 eggs \$1.00; 50, \$2.75; 75, \$4.00; 100, \$5.00. Main flock farm range. Have pen 50 turkish eggs no relation to stock or eggs sold last year. These are for my last year's customers. Mrs. I. A. STANDFIELD, "Up-to-Date" Farm

LEGHORNS

Rose and Single Comb White Leghorns and White Wyandottes **IN ALL THEIR PURITY** Unsurpassed in every respect for beauty, utility as winter layers. At State show, the largest in the U. S., just held at Topeka Kansas, 26 prizes were awarded me. Write for my catalog, giving prices on stock and eggs. W. S. YOUNG, McPherson, Kansas. When writing mention this paper.

R. C. B. LEGHORN SPECIALIST—Breeder 22 years. Utility and exhibition stock or eggs—\$1 per 100. Circular free. Gilt-edge Poland-Chinas. A. B. Hoffman, Reece, Kans.

BUFF COCHINS

BUFF COCHIN EGGS—From high scoring prize-winning stock, \$1.25 per 15; \$5 per 100. Stock for sale. A. R. Gage, Minneapolis, Kans.

MINORCAS

Imported S. C. Black Minoras The world's greatest laying strain. Eggs \$1.50 per 15; \$5 per 100. Send 5 cents for circular. Address George Kern, 817 Osage St., Leavenworth, Kans.

GEESSE

BROWN CHINA GEESSE, Indian Runner Ducks, Barred Rock cockerels. Prize winners at State Poultry Show. O. C. Sechrist, Meriden, Kansas.

INDIAN GAMES

Cornish Indian Game Eggs. Write L. C. Herat, Newton, Kansas.

RHODE ISLAND REDS

RHODE ISLAND REDS EXCLUSIVELY Cockerels \$1. Eggs, sitting \$1.50; for incubators \$5 per 100. Address Ben Warren, Maple Hill, Kans.

ONE DOLLAR buys 15 eggs of either Rose Comb I. Reds or Barred Rocks from prize-winning stock at the college show. Mrs. A. J. Nicholson, Manhattan, Kans.

IN ALL THEIR BRILLIANCE—Rhode Island Reds, Rose-Comb and Single-Comb. Write for circular describing origin, prices of eggs, etc.; it is free. A. Sibley, Lawrence, Kansas.

RHODE ISLAND RED EGGS for sale at \$1.25 per 15 eggs, or \$2 per 30 eggs. Mrs. G. F. Keller, "Vineyard Farm," Mound City, Kans.

MAMMOTH BRONZE TURKEYS

MAMMOTH BRONZE TURKEY EGGS—9 from choice hens and 34 pound young to 1, also a few Fox Terrier puppies. Safe delivery of eggs guaranteed. Mrs. A. E. Harness, Route No. 1, Reed, Mo.

EGGS FOR HATCHING from large high-scoring M. B. turkeys, \$2 per 10; S. C. and R. C. Brown and S. C. White Leghorns, S. Spangled Hamburg, C. Black Minorcas. Prize-winners in every year. \$1 per 15. Vira Bailey, Kinsley, Kans.

Eggs for Hatching

M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2.50 and \$1.25 per 15. Satisfaction guaranteed. Mrs. B. Grevt, Emporia, Kansas.

Eggs For Hatching

WHITE HOLLAND TURKEYS, MAMMOTH, EXETER DUCKS AND BARRED PLYMOUTH ROCKS. \$2 per setting for any of the above, fresh eggs carefully packed and safe arrival guaranteed. F. Huse, Manhattan, Kans.

Kansas Chick Feed

For baby chicks, a balanced ration which makes the little fellows grow; 100 pound sack, \$2.50. Kansas Lice Killer, the strongest made; a concentrated liquid compound. Each package equals one gallon; packages prepaid, \$2. W. E. SMITH, maker of Kansas Safety Incubators, Osborne, Kans.

SAVE YOUR CHICKS.

Use the Itumar Mite and Lice Killer, a mite and lice destroyer. Guaranteed to kill mites and lice if properly used. If not satisfied return bottle and label and money will be refunded.

CHAS. E. MOHR,

Glendale Park, Hutchinson, Kans.

CHICK FEED

The cleanest, purest feed for baby chicks on the market. Every day egg producer on alfalfa mash, keeps the hens to laying and keeps them laying. Wholesale poultry supplies. Send for circular.

The Otto Weiss Alfalfa Stock Food Co.

Wichita, Kansas

I am coming to stay with you. If you hatch me in a Kansas Safety Incubator. Raise me in a Kansas Safety Brooder and feed me Kansas Chick Feed. Keep the place free from lice and disease germs with Kansas Lice Killer. These are all made and warranted by

W. E. Smith, Osborne, Ks.

KILL the LICE

Why let lice eat up your poultry profits? Kill the lice with the

LIGHTNING

Lice Killing Machine

Guaranteed to do the work better, quicker, more easily and more thoroughly than any other method. Sold on a positive guarantee—your money back, if you are not perfectly satisfied. Get one at once and double your egg profits. Write today for free booklet.

Des Moines Incubator Co., Dept. 823, Des Moines, Iowa.

"Finding that I had so much better luck in keeping chicks alive in the home-made brooders, I took to experimenting with the boughten brooders, and when I reduced the heat in these until it stood at that of a single lamp, placed in a box below the home-made brooder, and let in the fresh air as it was bound to come through the home-made affair, then and not until then did I succeed in keeping as many chickens alive in the brooders I purchased as in the brooders I made. Do not let any one make you believe that the smell of a kerosene lamp in those improvised brooders is going to kill the chicks. It isn't. As the weather gets warmer, which it will now soon, be on the lookout for the heat in any brooder that you may have purchased. Give extra ventilation, so that every time a chick stirs the fringe of the covers in comes the pure, cool air among them. Don't crowd. Keep things clean, and don't overheat.

Dry quarters are an absolute necessity for young chicks, yet do not think that they must be kept all the time on a board floor, or a stone or cement floor. The meaning of dry quarters for young chicks is that they shall have a place to go where they can be dry and comfortable, and not be compelled to continually run about in the wet when the weather is inclement.

Feeding for Market.

When desiring to dispose of any portion of your winter flock of poultry, never send them to market while they are giving good returns in eggs. At the same time never sell them in thin flesh or poor condition. It is a very easy proposition to put them in marketable condition. In feeding poultry for market, confine them in small lots within enclosures, and feed them all the fattening food it is possible to induce them to eat. The best preparation is ground oats, with all the hulls sifted out, one-third finely ground corn-meal, one-half wheat-middlings, and the balance of flour. If you have a little fat or beef-scrap, this may be mixed in. Always mix this food with boiled milk of some kind if possible—sour milk, skim-milk, butter-milk, or any kind of milk will do, provided it is thoroughly cooked and the food mixed therewith, into a very dry, crumbling mash. It is best to feed just what they will clean up from three to five times a day, rather than to feed too much at a time. Keep them hungry, yet keep them eating. Provide a sufficient supply so that they may never lack food in their crop and gizzard. In addition to this, a plentiful supply of fresh water and grit should be given them. When poultry are finished or fattened in this way, send them to market just as soon as they are ready to go.

If sold live, feed them all the whole corn they will eat just before shipping. Try to manage so that they may travel over night and be sold the first thing in the morning. If some grain can be put into the shipping coops, so much the better. This is the best way to prevent the loss of weight during shipment. If dressed for market, do not feed for twenty-four hours before killing. Stick through the roof of the mouth, dry-pick, hang in a cool place until all the animal heat has departed from the body before packing to ship. Always be careful about washing perfectly clean the shanks, feet, and head of poultry sent to market.

Care of the Youngsters.

One of the most common mistakes of amateurs is to begin feeding the little chicks too early. As soon as they are thoroughly dry they can be taken from the nest and placed with their mother in the brood-coops, where they should be provided with good, sharp grit and pure water, and left to themselves until they are at least thirty-six hours old.

Some well-informed poultry writers claim that seventy-two hours is still better, but it is a safe rule to never give a brood of little chicks food the first time, until they are hungry enough for it to manifest it by their insistent cry and restlessness that all poultry-keepers have noticed when food has been withheld beyond the regular feeding-time.

It is claimed that the yolk of the egg absorbed by the chick just previous to hatching is fully sufficient for the support of the chick until it is 4 or 5 days old, so the folly of feeding them as soon as they can be transferred to the brooder or brood-coops ought to be evident to all.

If proper precautions have been taken to thoroughly rid the sitting hens of lice by carefully dusting them reg-



After the care and expense has been invested in hatching, it is discouraging to lose chicks through diseases and lice. Gapes, cholera, roup, indigestion, leg weakness, diarrhoea, etc., are due to poisonous germs or indigestion.

DR. HESS Poultry PAN-A-GE-A

the prescription of Dr. Hess (M. D., D. V. S.), cures and prevents these difficulties; it has special germ-killing properties peculiar to itself. Feed Dr. Hess Poultry Pan-a-ge-a to the setting hen and the chicks after they are three days old and we guarantee you will have no loss from disease, and that they will grow fast, healthy and strong. Dr. Hess Poultry Pan-a-ge-a has the indorsement of leading poultry associations in the United States and Canada. Costs but a penny a day for about 30 fowls. Sold on a written guarantee. Sprinkle Instant Louse Killer on the setting hen and nest, and the brood will come off free from lice.

1 lb. \$5.00, mail or express 40c.
5 lbs. 60.
12 lbs. \$1.25
25 lb. pack \$2.50
Send 2 cents for Dr. Hess 48-page Poultry Book, free.
DR. HESS & CLARK, Ashland, Ohio.
Keep your poultry free from lice with Instant Louse Killer.

STEINNESCH'S CHICKENS

Winners at St. Louis and Portland. Farm raised. 15 Varieties. Catalog FREE. Contains "Some Good Suggestions." Write: Steinnesch & Co., 312 Market St., St. Louis, Mo.

ularly once a week while they have been sitting and just before placing them in the brood-coops with the chicks with a good insect powder, there should be very little trouble from lice, and by occasionally dusting the mother hen while brooding the chicks, they can be kept practically free from lice during the early part of their lives, which is the time when most of the mischief is caused by the presence of these parasites.

Before placing the young brood in their new home, the brood-coop should be thoroughly sprinkled with kerosene-oil to prevent red mites getting a foothold. This is a very important precaution to take in cooping the chicks, and no one can fully appreciate its importance until they have seen the havoc these little pests can work in a brood of young chicks. Each time the coops are cleaned they should be sprinkled with the oil, and the red mite will have no opportunity to infest them.

A good brood-coop is an important factor in the proper care and successful rearing of a flock of young chicks.

A BLOOD LABORATORY

Has been established in Chicago, where you can get the kind your own individual case demands. Science combined with medical experience is what we offer you. Is it a tonic, a blood purifier, a nerve food that you need? Let us know. Explain your case and get what you need. Two weeks' treatment for \$1.00. CALUMET CHEMICAL CO. (Not Inc.). Dept. A, 9141 Houston Ave, Chicago.

Free Sample of Black Diamond Roofing.

The little "Black Diamond" trademark has been a familiar sight on roofing materials for some thirty years or more.

Two- and three-ply Black Diamond Ready Roofing has been standard for a quarter of a century. It has proven the longest lived roofing known if given ordinary care; in fact, there are many instances where Black Diamond roofs have given satisfaction for ten to fifteen years.

Free sample of this famous roofing may be had on application to the nearest office of the Barrett Manufacturing Company, New York, Chicago, Cleveland, Allegheny, Kansas City, St. Louis, Minneapolis, Philadelphia, New Orleans, and Cincinnati.

\$15 St. St. Paul and Minneapolis and Return.

From Kansas City via Chicago Great Western Railway. Tickets on sale June 1 to September 30. Final return limit October 31. Equally low rates to other points in Minnesota, North Dakota, Wisconsin, and Lower Michigan. For further information apply to Geo. W. Lincoln, T. P. A., 7 West 9th St., Kansas City, Mo.

THE HELPFUL HEN

Subscription, 25 Cents a Year. "OUT THERE IN KANSAS" All about the chicken industry in Kansas, the bees and pigeons. Full of information illustrated and made plain for the people. Practical, by and for practical people. The paper that reaches the chicken folks. If you are interested in poultry, bees or pigeons, THE HEN will interest you. Address THE HELPFUL HEN, Topeka, Kansas.

The Western Poultry Review

MANHATTAN, KANSAS is offering a \$300.00 Chase Piano for the largest list of subscribers before Dec. 15. A number of other premiums offered. Everybody eligible to compete for the piano. Send for a bunch of samples and get up a list. Read a Home Paper

BEE SUPPLIES

We can furnish you bee and all kinds of bee-keepers' supplies cheaper than you can get elsewhere, and save you freight. Send for our catalogue with discount sheet for early orders. Topeka Supply House 7th and Quincy, Topeka, Kansas

THE FAMOUS OLD TRUSTY

More than your money's worth in incubators during the summer. We have them all beat; 40, 60 or 90 days to prove it. 5 year guarantee. Now is the time to write to M. M. JOHNSON, The Incubator Man, Clay Center, Neb.

Generous Combination Offer

The Kansas City Post, a new, metropolitan, Democratic Daily (per year).....\$3.00 Poultry Culture, an interesting monthly poultry journal (per year)......50 The Kansas Farmer.....1.00 \$4.50

We have completed arrangements whereby we can furnish ALL THREE PUBLICATIONS for only..... \$2.50

THE POST is a good live, Democratic Daily paper containing all the news of importance, complete and accurate market reports; a page devoted to the women folk and the home as well as a page devoted to sports.

THE POULTRY CULTURE is one of the best poultry journals published and is of particular interest to those already engaged or about to engage in the poultry raising business.

Here is a splendid opportunity for you not only to get a good live Daily, a splendid poultry and the "Old Reliable" Kansas Farmer about half price.

SUBSCRIBE AT ONCE

Address THE KANSAS FARMER COMPANY Topeka, Kans.

Heart Weakness.

Dr. Miles' Heart Cure has made many hearts well after they have been pronounced hopeless. It has completely cured thousands, and will almost invariably cure or benefit every case of heart disease.

Short breath, pain around heart, palpitation, fluttering, dizzy, fainting and smothering spells should not be neglected. Take Dr. Miles' Heart Cure and see how quick you will be relieved.

It cannot make a new heart, but will restore a sick one by strengthening the heart nerves and muscles, relieving the unnatural strain, and restoring its vitality.

"I had a very bad case of heart trouble. For six months I could not work. Last July I was plowing corn and feeling bad all day; in the afternoon in plowing one row I had to lay down, or fall down, three times. My heart throbbed as though it would burst through, and I had difficulty in getting my breath. I purchased a bottle of Dr. Miles' Heart Cure, and before I had used half of it I could lay down and sleep all night. Previously I had to get up from five to ten times a night. I have taken several bottles, and my heart is as regular as clock work. I feel like a new man, and can work considerably for an old man, 64 1/2 years old."

H. D. McGILL, Frost, Ohio. Dr. Miles' Heart Cure is sold by your druggist, who will guarantee that the first bottle will benefit. If it fails he will refund your money. Miles Medical Co., Elkhart, Ind

The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer. Kindly give the age, color, and sex of the animals, stating symptoms accurately, and how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply all letters for this Department should give the inquirer's postoffice, should be signed with full name and should be addressed to the Veterinary Department of The Kansas Farmer, Topeka, Kans., or to Dr. C. L. Barnes, Veterinary Department, Kansas State Agricultural College, Manhattan, Kans. If in addition to having the letter answered in The Kansas Farmer, an immediate answer is desired by mail, kindly enclose a 2-cent stamp. Write across top of letter: "To be answered in Kansas Farmer."

Scours in Steer.—My 2-year-old steer got badly scoured during the winter; he was bad for three or four weeks, so I changed the feed and he got better, but at times he scours badly yet; he is getting weaker all the time and has a poor appetite, and mopes around most of the time; he has to be helped up when he lays down. Is there any simple medicine that will help him?

Answer.—I would advise giving the steer tincture of opium in ounce doses; give it in a pint of water as a drench every six or eight hours until the scouring ceases; then give the following tonic: 1 ounce tincture nux vomica, 1/2 ounce tincture iron chloride, water sufficient to make 8 ounces; give 1 ounce three times daily. As soon as the animal will eat medicine in the feed, give the following condition powder: 1 ounce pulverized nux vomica, 2 ounces pulverized iron sulfate, 4 ounces pulverized gentian, 2 ounces pulverized ginger, mix with 5 pounds of oil-meal, and give a heaping teaspoonful night and morning in ground feed.

Fistula and Poll Evil.—I have a 10-year-old mare that has fistula; she was treated last year but the pipes have never healed, and they are discharging. The horse is in good flesh. The shoulder is swelled very little. What would you advise?

Answer.—We have mailed you a press bulletin treating of fistula and poll evil, and trust it will give you the desired information.

Lice on Colt.—I have a year-old colt that has been fairly well-fed, but is very poor and weak; I find it is covered with small lice; it also has swellings under the jaws. What is the trouble?

Answer.—We are mailing a press bulletin on the preparation and use of lime and sulfur dip, which will be good to rid your colt of the lice. Hand-treat the colt with the dip as hot as he will stand; treat twice, ten days apart. Apply the dip with a stiff brush. Then give internally the following: 1 ounce of tincture of nux vomica, 2 ounces of tincture of gentian, 1 ounce of tincture of iron chloride; mix and give half a teaspoonful in 2 ounces of water; inject into the animal's mouth with a syringe, getting it well back over the base of the tongue.

Wire Cut on Mare.—My 6-year-old mare got a wire cut three months ago on her leg below the ankle; I used a liniment on it and thought it was getting along all right until two weeks ago, when she began to get lame, and has been growing worse ever since; she can hardly walk now. There is a hard swelling just above the hoof, and the top of hoof seems to be turning out; I lanced the lump but nothing came out except blood. What should be done?

Answer.—I would judge that pus had accumulated under the skin and run down to the hoof. Would advise opening freely, and irrigate with a good disinfectant, such as some of the coal-tar preparations.

Mare with a Cough.—My 7-year-old mare has had a cough for the past two months. I have wondered if she has pneumonia. I can hear a rushing noise when I put my head to her chest to listen to her breathing. She eats well, and does not run at the nose.

Answer.—Would advise applying the following liniment to the mare's chest and on the neck at the entrance to the chest: 8 ounces of turpentine, 6 ounces raw linseed-oil, 4 ounces tincture of cantharides; mix and shake well before using; apply twice daily with considerable hand-rubbing until sore, then withhold for three or four days and begin again.

Sheep Overfed.—My sheep take something like paralysis; they get stiff in the back and hind legs, and if hurried, fall down and can not get up without help; they die in two to four days. They are ewes and heavy with lamb. They have a variety of rough feed, stalk-fields, Kafir and millet hay, cow-pea hay, and crab-grass; their

grain has been Kafir-corn. Have lately quit feeding the Kafir-corn grain and turned them on rye pasture.

Answer.—I fear the animals have been overfed, and would suggest that you cut down on the feed, and give simply common hay, bran, and a little corn, and I believe you will have no further trouble.

Paralyzed Cow.—My cow seems to be in good condition and eats heartily, but when she lies down has to be lifted up by main force, but when once up can go all right if on smooth ground; she is 3 years old. She has been this way for a week, and I have begun to think there is something wrong with her legs.

Answer.—Your cow evidently has paralysis of the limbs. Bathing the limbs with hot water several times daily and rubbing them vigorously will probably do as much good as anything I could recommend. Move her around and try to get the muscles to acting. I question whether she will recover entirely.

Ergotism.—I have 5 head of young cattle affected with some foot disease. hind feet only. The toes come off and they rot above the hoof also; have been this way for two months. What is the cause?

Answer.—I think your animals are affected with ergotism. Ergot is a fungus that grows on wild grasses, such as rye and other plants that are fed to cattle. It is generally found on forage that is cut late, and may be recognized as a small, black kernel, rather longer than a kernel of wheat. We are sending you a press bulletin which will give you fuller information on the subject.

Foot Disease Among Calves (Ergotism).—Among 90 head of calves I have about 25 affected with some foot disease. There is swelling about the ankle at first, and later lameness, and then the hoof comes off. Is this disease contagious, and what can be done for it?

Answer.—The symptoms you give are those of ergot poisoning. The ergot is generally found on fodder or rye, and some other grasses, and appears as a rather long, black seed. This ergot causes a closing of the blood vessels, especially those of the feet, with the result that they come off. The only remedy is prevention, by examining your feed carefully and withholding that which is affected with this ergot.

Raising Colt by Hand.—Will you give me information for raising a motherless colt on cow's milk? How often should it be fed, and how much at a time? Should the milk be diluted? What should be given in case of scours? The colt is 2 days old.

Answer.—Sweeten the cow's milk, and feed the colt for several days, about every two hours, about four ounces of milk at a time; use a bottle the same as for a baby. Scald the milk in case of scours. There is more danger from overfeeding than underfeeding such a young colt. As soon as the colt is 2 or 3 weeks old encourage it to eat a little bran.

Mare Has Bad Teeth.—My 5-year-old mare had bad teeth when 2 years old, which were removed; she also had a hole in the lower jaw and a disagreeable odor in her mouth. She seemed to be better for a time after the teeth were extracted, but in less than a year was in her old condition. She is very thin. Her appetite is good, and she seems to feel good, but is unable to work. What can I give to fatten her up?

Answer.—I would advise having the following prescription put up: 2 ounces tincture nux vomica, 4 ounces tincture of gentian, 1/2 ounce iron chloride, water sufficient to make a pint; give an ounce of this night and morning with a syringe in the mouth. Open the mouth, draw the tongue forward, and throw the liquid back over the base of the tongue.

Scours in Pigs.—What can I do for my little pigs that have scours? Have been bothered a good deal in this respect.

S. E. S.

Valley Falls, Kans.

Answer.—Give the little pigs a dose of castor-oil, to be followed in ten hours by a dose of tincture of opium; not knowing the size of the pigs, am unable to give the dosage of oil and opium.

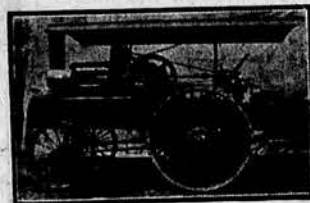
C. L. BARNES.

Can You Answer These Questions?

Where did alfalfa come from? What soil is best suited to alfalfa? What are the advantages of growing it? How is it best harvested, cured, and fed? What kind of grain should be fed with alfalfa? How does it enrich the soil? How should alfalfa be sown? What is the best method of selecting seed-corn? How should it be stored? How can you improve the stand and increase the production of corn per acre? What is the best method of testing seed-corn? What is a germination box?



YARD FENCE HANDSOME, STRONG AND DURABLE. Almost as cheap as wood and lasts ten times longer. Sold direct to consumers on thirty days trial. Write for catalogue.
The Farmers' Fence Co.
Box 36. MELVERN, KANSAS



The Lowell Manufacturing Co.
SALINA, KANSAS

Leather and rubber belting and thresher supplies of every description. We have for sale at a bargain ten second-hand threshing outfits, many of them as good as new. Long distance phone 432. Mention Kansas Farmer when you write.

RENT PAYS FOR LAND

FERTILE SECTIONS OF THE SOUTHWEST, WHERE
LAND SELLS FOR \$15 AND RENTS
FOR \$5 PER ACRE

One of the remarkable things about Eastern Arkansas and Northern Louisiana is the fact that cleared land rents for \$5 per acre cash, and can be bought for \$7.50 to \$15 per acre. It costs from \$6 to \$10 an acre to clear it. Other improvements necessary are slight and inexpensive.

The soil is rich alluvial, or made. It produces a bale of cotton per acre, worth \$45 to \$60. This accounts for its high rental value. Other crops, such as corn, small grains, grasses, vegetables and fruits thrive as well.

Alfalfa yields 4 to 6 cuttings, a ton to a cutting, and brings \$10 to \$16 per ton.

In other sections of these States, and in Texas as well, the rolling or hilly land is especially adapted to stock-raising and fruit-growing. Land is very cheap, \$5 to \$10 per acre; improved farms \$10, \$15, to \$25 per acre.

The new White River country offers many opportunities for settlers. High, rolling, fine water—it is naturally adapted to stock- and fruit-raising. Can be bought as low as \$5 per acre.

See this great country for yourself and pick out a location. Descriptive literature, with maps, free on request.

The Missouri Pacific-Iron Mountain System Lines sell reduced rate round-trip tickets on first and third Tuesdays of each month to points in the West and Southwest, good returning 21 days, with stop-overs. For descriptive literature, maps, time tables, etc., write to

H. C. Townsend, G. P. & T. A.,
St. Louis, Mo.

A Great Fountain Pen Offer

Our Best \$1 Fountain Pen and the Kansas Farmer one year, both pre-
paid..... \$1.50
Our best \$1.50 Fountain Pen and the Kansas Farmer one year, both pre-
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Our best \$3 Fountain Pen and the Kansas Farmer one year, both \$3.00 pre-
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Fitted with solid gold pens, will last 15 years. All pens guaranteed. Our stock is the largest west of Chicago. We refer you to any bank in Topeka or the Kansas Farmer.

M. L. Zercher Book and Stationery Co.
Topeka, Kansas

FREE UNTIL CURED

Blood Poison, Catarrh, Deafness, Asthma, Stricture, Sexual Weakness, and Consumption.

No Deposit or C. O. D. scheme. I trust to your honor to pay when cured.
M. G. SLOCUM, M. D.
300 East Douglas Ave., Wichita, Kansas

To those who do not letters from these colleges should be very persuasive. As applied to hogs it is lice-killer, mange-cure, a preventive of cholera, and creator of healthy surroundings. For the returns it yields, the cost is in nowise excessive. Be sure to read the whole of this advertisement carefully.

Elly Hay Presses.

With this issue the regular annual advertising of the annual Elly Hay Presses begins. Elly presses have long been well known to raisers and balers of hay. Nothing seems able to quite take their place. The Collins Plover Co. of Quincy, Ill., make them in many styles and sizes, near forty, we believe, in wood and steel, horse and belt power, ranging in capacity from the smaller size up to the power press which will bale 40 tons every ten hours. The Elly press should certainly not be overlooked by anyone about to buy. If you need a press read the advertisement and send for the company's catalogue.

Weather Bulletin.

Following is the weekly weather bulletin for the Kansas Weather Service, for the week ending May 14, 1906, prepared by T. B. Jennings, station director:

CLIMATOLOGICAL DATA FOR THE WEEK.

	Temperature.			Precipitation.	
	Maximum.	Minimum.	Mean.	Actual.	Normal.
WESTERN DIVISION.					
Cimarron.	87	22	59	0.38	.....
Colby.	88	32	60	.....	.....
Coolidge.	89	37	63	0.34	.....
Dodge City.	87	37	60	0.33	.....
Dresden.	83	33	61	.....	.....
Hoxie.	83	33	61	.....	.....
Jamez.	85	38	65	0.06	.....
Jett.	81	33	59	0.44	.....
Scott.	82	34	60	.....	.....
Wamego.	89	33	60	0.04	.....
Wallace.	82	33	60	.....	.....
MIDDLE DIVISION.					
Clay Center.	85	30	59	0.28	.....
Concordia.	83	27	60	0.04	.....
Ellinwood.	88	39	62	0.02	.....
Ellsworth.	86	33	61	0.02	.....
Hutchinson.	85	34	58	0.07	.....
Macleanville.	83	33	57	0.17	.....
Medicine Lodge.	86	35	58	0.01	.....
Norwich.	84	28	60	0.09	.....
Pratt.	86	37	62	.....	.....
Republic.	86	31	59	0.04	.....
Salina.	85	31	62	T	.....
Wichita.	82	37	60	0.06	.....
Winfield.	82	33	60	.....	.....
EASTERN DIVISION.					
Agri. College.	89	31	62	0.21	.....
Atchison.	84	34	60	0.17	.....
Burlington.	83	29	60	0.05	.....
Columbus.	80	34	56	0.02	.....
Emporia.	81	35	60	0.03	.....
Fort Scott.	82	31	58	0.06	.....
Frankfort.	80	32	54	0.45	.....
Independence.	86	36	62	T	.....
Iola.	80	33	60	0.11	.....
Kansas City.	82	39	60	0.07	.....
Oswego.	79	32	57	0.01	.....
Ottawa.	83	39	58	.....	.....
Pleasanton.	79	32	58	0.04	.....
Sedan.	82	33	59	.....	.....
Topeka.	84	38	60	0.13	.....
Valley Falls.	80	32	58	0.82	.....

GENERAL CONDITIONS.

The first days of the week were decidedly cool, the 8th and the morning of the 9th being cold. A general frost occurred on the morning of the 9th; it was heavy in the southern counties and killing in the south-eastern counties. The maximum temperatures reached 90° to 92° in the western counties but only reached 78° to 82° in the extreme eastern counties. The rainfall was light, several counties reporting no rain. Some hail occurred in Ottawa County.

CONDITIONS IN DETAIL.

EASTERN DIVISION.

Allen.—The temperature was about normal but the rainfall was very deficient. There was a light frost on the 7th and a heavy frost on the 9th which killed garden truck in exposed places.

Anderson.—The first part of the week was cool with frost on the 9th that damaged ten-

the latter part of the week was warm and pleasant.

Greenwood.—It has been a very cool week with frost on the 7th and cold enough to form ice on the 9th. Only .16 of an inch of rain fell.

Jefferson.—On the 8th .32 of an inch of rain fell. The first five days were cool with a minimum temperature of 32° on the 9th. The last two days were warm. The temperature rose to 86° on the 11th.

Labette.—The week was cool with a killing frost and a minimum temperature of 32° on the 9th. The first few days were partly cloudy but the last three were clear. Only .01 of an inch of rain fell.

Linn.—Maximum temperatures ranged in the sixties the first four days but were higher on the 11th and 12th.

Lyon.—There was a light frost on the 9th but it did no damage. Only two light showers fell.

Marshall.—A good rain fell on the 7th. A minimum temperature of 32° occurred on the 9th but the latter part of the week was warm.

Montgomery.—The first of the week was cool with traces of rain on the 6th and 7th. There was a heavy frost in the valleys on the 9th. The week ended warmer with high winds from the south.

Riley.—The first of the week was below the normal temperature but the last part was warm accompanied by high winds. The maximum temperature was 89° on the 11th and the minimum was 30° on the 9th.

Shawnee.—The first of the week was quite cool with a heavy frost on the 9th. The last three days were warm with high southerly winds. .18 of an inch of rain fell on the 8th and a trace on the 12th. There was plenty of sunshine during the week.

Wilson.—The first three days were cool with a frost and a minimum temperature of 30° on the 9th. The latter part of the week was warm, clear, and dry.

Woodson.—The first part of the week was cool and cloudy with a killing frost and a minimum temperature of 27° on the 9th.

Wyandotte.—The first four days of the week were cold and there was a light frost on the 8th and a heavy frost on the 9th, the latter doing some damage to vegetation. On the whole the week was sunny and the earth begins to show the need of rain.

MIDDLE DIVISION.

Barber.—The week has been pleasantly cool and free from winds until the 11th when there was quite a high wind. A little shower on the 8th amounted to .01 of an inch and laid the dust. But rain is now needed.

Barton.—There was a high wind on the 11th and a dust storm on the 12th. There was a frost on the 9th. The highest temperature was 85° on the 10th and the lowest was 39° on the 9th. There was only .02 of an inch of rain.

Butler.—There has been no rain for a week. On the 9th there was a heavy frost.

Clay.—The first of the week was cool and cloudy but there was a general warming up after the 8th and the latter part of the week was above the normal. .27 of an inch of rain fell on the 7th and light showers on the 6th and 12th.

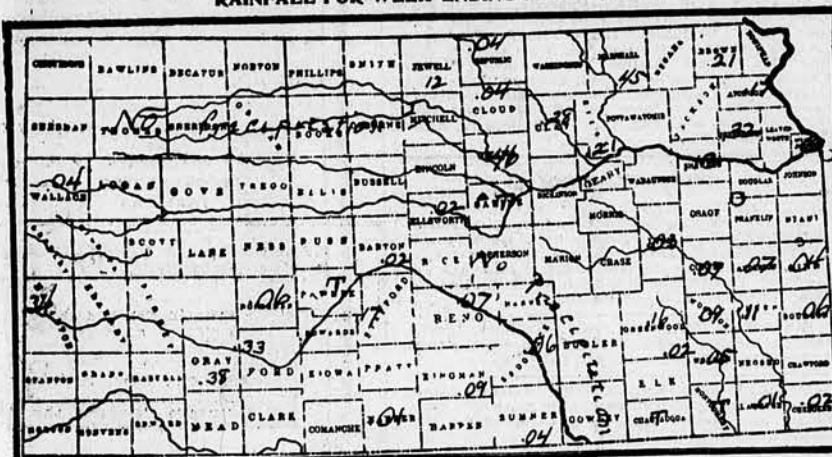
Cloud.—The first four days ranged from the normal temperature to 14° below normal but the last three days were 5°, 18° and 12° respectively above normal. Very light showers fell on the 6th, 7th, and 12th. It was generally partly cloudy.

Cowley.—There was a killing frost and ice on the morning of the 9th but the latter part of the week was warm. There was no rain.

Ellsworth.—The temperature ranged from a minimum of 33° on the 9th to a maximum of 86° on the 11th. There was a light shower on the 8th.

Harvey.—The week has been dry, and most of the time windy. There was a heavy frost on the 9th with a minimum temperature of 29°.

RAINFALL FOR WEEK ENDING MAY 12, 1906.



SCALE IN INCHES:



der vines in some places. There were high southwest winds on Thursday and Friday. Rain is very much needed.

Atchison.—The first part of the week was cool and cloudy. Tuesday night some damage was done by frost, although high ground was exempt from its effects. The latter part of the week was warm and clear. There were light showers on the 7th and 8th.

Bourbon.—Very light showers fell the first four days. The first of the week was generally cloudy and cool with a temperature of 31° on the 8th. The last of the week was clear and warm.

Brown.—Three days of the week were partly cloudy and four were clear. Light showers fell on the 7th and 8th. The temperature was rather low during the mornings of the first of the week but was more reasonable the last two days.

Chase.—There has been no rain during the week and strong southwest winds have prevailed. Three days were partly cloudy and the rest were clear with a maximum temperature of 83° on the 11th and a minimum of 28° on the 9th.

Chautauque.—There was a light frost on the 7th and a heavy one on the 9th with a minimum temperature of 33° which froze garden truck in many places. The week ended warmer with maximum temperature of 82 on the 12th.

Cherokee.—There was a heavy frost on the 9th which caused considerable damage. Only two very light showers fell.

Coffey.—Four days were clear and three were partly cloudy. A high wind the latter part of the week has dried out the ground very much. The only precipitation was .06 of rain on the 8th.

Elk.—There was a light frost on the 7th and a heavy one on the 9th with a minimum temperature of 30° which damaged vegetation to some extent. There has been no rain.

Franklin.—There was no rain during the week and the latter part was very windy. The minimum temperature was 29° on the 9th, but

Jewell.—The first of the week was cool; the latter part warm. There was a light shower on the 7th. It was generally clear.

Kingman.—Very light showers fell on the 6th, 8th, and 12th. The nights were generally cool. The lowest temperature was 38° on the 9th.

McPherson.—There has been no rain and the ground is getting dry. There was a light frost on the 9th but it did little damage. High winds occurred during the week.

Ottawa.—The first three days were cool and pleasant, the latter part of the week was warm and dry. .46 of an inch of rain and a little hail fell on the 7th.

Pawnee.—The days have been warm and the nights cool. On the 9th there was a minimum temperature of 27° which did some damage. Only traces of rain fell.

Pratt.—High winds occurred on the 11th and 12th. The temperature ranged from 37° on the 9th to 87° on the 12th.

Reno.—There was a light frost on the morning of the 9th. .07 of an inch of rain fell on the 6th and a trace fell on the 8th.

Republic.—The minimum temperature, 31°, occurred on the 6th, with a light frost. The first of the week was cool but the latter part was above the normal temperature. Light rains occurred on the 7th and 8th.

Saline.—The first three days were cool, the lowest temperature being 21° on the 9th, when a light frost was noted. The latter part was warm. There was a high wind on the 12th.

Sedgwick.—There were light showers during the early morning of the 6th and early morning and forenoon of the 8th. The other days were clear. The morning of the 9th was cold with a heavy frost. There were high winds on the 7th, 11th, and 12th.

Smith.—It was a dry week with high winds. There was a heavy frost on the 8th.

Stafford.—The first of the week was cool with light showers on Sunday and Wednesday. The latter part was warm and dry.

Sumner.—There was a light frost on the 7th and a heavy one on the 9th. Only .04 of an

Great American Desert Seeds are best for general use, are grown in the very heart of the region once known as the Great American Desert, at an altitude of over two thousand feet above sea level and without irrigation. They are time tried and drought tested and have proved producers of profitable crops of both grain and forage. Write for list of specialties and prices.

M. G. Blackman, Grower and Dealer, Hoxie, Kans.

ALFALFA SEED

MOBETH & KINNISON.

Pure Kansas Grown Seed. Crop of 1905. Also Cane and Millet. Macaroni Wheat and other Field Seeds in earload lots or less. Write for prices.

GARDEN CITY, KANSAS

CATALPA AND OSAGE FOR POSTS

Every farmer should grow his own post timber. Get the true catalpa speciosa. We have it. We also offer fruit trees, shade trees, small fruits, grape vines, flowering shrubs, etc. Tell us what you want. We will make the price right.

PETERS & SKINNER, No. Topeka, Kans.

PIONEER GUARANTEED NURSERY STOCK AT WHOLESALE PRICES.

All stock guaranteed disease free and true to name.

Hart Pioneer Stock is pure bred and produces heavy crops.

Value received for every dollar sent us. No Agent's Commission.

WRITE FOR COMPLETE PRICE LIST. WE WILL SAVE YOU MONEY.

HART PIONEER NURSERIES, Established 1885. Fort Scott, Kan.

WALNUT GROVE FARM

...FOR SALE...

Upon the advice of several specialists I am going to New Mexico for my health. On this account I must dispose of all my Kansas property, including the famous Walnut Grove farm, the most complete and profitable stock farm in Kansas. This includes 130 acres of the best land in Kansas, two miles from Emporia. Over 200 good O. I. C. hogs. All our Barred Plymouth Rocks, 36 Colliers, 44 head of cows, 8 head of horses, the best farm house in the State. Also one small farm house, 2 large barns, 2 large cattle-sheds, one 300-foot hen house, one 250-foot broiler house, 20 brooder houses, capacity of plant, 4000. The best hog house in the West, double-deck cement floors; many small hog houses. This is not an experiment, but a successful stock farm. Price, \$20,000 cash.

H. D. NUTTING, Emporia, Kans.

inch of rain fell.

Washington.—The first of the week was cool but it warmed up rapidly the latter part.

WESTERN DIVISION.

Decatur.—There was a heavy frost and a minimum temperature of 33° on the 6th though the damage to fruit was very light. All but one day was clear and there was no rain.

Ford.—The first four days were from 3° to 11° below the normal and the last three days were from 3° to 14° above it. There was a good rain on the 6th and a sprinkle on the 8th. The week was partly cloudy.

Gray.—The first of the week was cool, cloudy, and showery but the latter part was warm and fair. The minimum temperature, 32°, occurred on the 9th with a frost.

Hamilton.—The 6th was very cool but it was warmer after that with .34 of an inch of rain on the 11th and 12th. The maximum temperature was 90° on the 12th and the minimum 37° on the 6th.

Hodgman.—The week was generally warm and sunny. Light showers fell on the 5th and 6th. The maximum temperature was 85° on the 11th and the minimum 36° on the 9th.

Scott.—The nights were rather cool but the days, except the 6th, were warm and generally clear. There was a light shower on the 6th and a good rain of .40 of an inch on the 12th. The minimum temperature was 25° on the 6th and the maximum was 91° on the 12th.

Sheridan.—The weather was clear with easterly winds prevailing. The 6th was cool but the rest of the week was warm, the latter part being considerably above the seasonable average. The temperature ranged from 32° on the 6th to 93° on the 12th.

Thomas.—No rain this week. Monday, Tuesday, and Wednesday were cool but there was no frost. Thursday, Friday, and Saturday were very warm with the maximum temperature for the week, 88°, occurring on Saturday.

Trego.—The week was rainless. The latter part was very warm. The minimum temperature was 34° on the 9th and the maximum was 92° on the 12th.

Wallace.—High winds have prevailed. Most of the nights have been quite cool but there was no frost. The temperature rose from 33° on the 6th to a maximum of 89° on the 12th. There was only one very light rain during the week.

Western Canada's 1905 Crops.

The crop reports for 1905 of the provinces of Manitoba, Alberta and Saskatchewan, have recently been published. They give the entire grain crops of the three provinces as follows:

Wheat, 84,175,226 bushels; oats, 74,211,260 bushels; barley, 16,731,485 bushels; flax, 733,700 bushels.

These yields are distributed among the three provinces as follows:

Manitoba	55,761,416
Saskatchewan	26,107,286
Alberta	2,306,524

An interesting feature of the report is that for the first time it shows a considerable area devoted to winter wheat. The province of Alberta reports 32,174 acres in the winter wheat crop that was harvested in 1905 with an average of 21.41 bushels per acre. The spring wheat area in the same province is now only a little more than twice that of winter wheat, being 75,353 acres. The average yield of spring wheat in Alberta was 21.46 bushels. The largest yield of winter wheat per acre reported in this province was in the Calgary district, where the yield was 32.18 bushels per acre. The same

World's Premium Seed Corn,

HOWARD COUNTY WHITE

Awarded first and third premium at State Corn Show in St. Louis 1904, and gold medal at World's Fair in 1904. Has won all premiums wherever shown for the past six years. Hand nubbed and graded, making all grains uniform in size. For particulars address,

E. T. LONG, Fayette, Missouri

SEEDS That will Grow PLANTS

None better, even at the high prices. Special bargains: SEEDS, 10 pkts. Annual Flowers, 100; 5 pkts. Vegetables, 100. PLANTS, 5 boxes, 250. Geraniums, 25; 5 Begonias, 25; 4 Palms, 25. My catalog prices will surprise you. Catalog and packet Royal Giant Planter free.

A. C. Anderson, Columbus, Nebraska.

STARK FRUIT BOOK

shows in NATURAL COLORS and accurately describes 216 varieties of fruit. Send for our terms of distribution. We want more salesmen.—Stark Bros., Louisiana, Mo.

district was also so fortunate as to have the largest yield of spring wheat, namely, 33.92 bushels to the acre.

The province of Saskatchewan is exclusively a spring wheat district. The average yield of wheat in that province in 1905 was 23.09 bushels to the acre, the total acreage being 1,130,084, and the total crop 26,107,286.

The largest average yield per acre in the provinces was enjoyed by the Touchwood Hills and South Quill Lake country, where the yield reached 35.79 bushels per acre, though the acreage was only 2,249.

The largest average combined with extensive acreage was reported for the Moose Jaw district, where over 51,000 acres yielded an average of 27.56 bushels. Close behind this district came the Craik, Hanley and Dundurn district with an average of 27.39 from 20,000 acres.

The average yield of wheat per acre in Manitoba was 21.07. The northwest district had the highest average, being 27.5 bushels per acre, from 353,000 acres.

The province of Saskatchewan enjoyed an average oat crop of 42.20 bushels to the acre. Oats in Alberta averaged 39.18 bushels and in Manitoba 42.6 bushels to the acre.

It will be observed that the total of

Wheat.	Oats.	Barley.	Flax.
45,484,025	14,064,175	326,964	
19,213,055	893,396	398,399	
9,514,180	1,773,914	8,337	

the wheat, oats, barley and flax crop of the three provinces approximates 200,000,000 bushels. In 1890 the total yield of the same crops in the same region was less than 35,000,000 bushels.

\$18.00 to New Haven, Conn., and Return,

Plus \$1 from Chicago, via Nickel Plate Road, June 2, 3, 4, and 5; also via New York City at excursion rates. Return limit June 30 by arranging for extension. Nickel Plate office, Room 298, 113 Adams St., Chicago.

Kansas City Grain Market.

Wheat.—No. 2 hard, nominally 79¢; 82¢; 2 cars 81½¢, 1 car 81½¢, 5 cars 81¢, 7 cars 80¢, 4 cars out of store 79¢; No. 3 hard, nominally 76¢@80¢; 1 car yellow berry 80¢, 1 car 79½¢, 1 car 79½¢, 2 cars 79¢, 1 car 78½¢, 3 cars 78¢; No. 4 hard, nominally 70¢@78¢; 1 car 77¢, 2 cars 76¢, 6 cars 75¢, 1 car bulkhead 74¢, 1 car like sample 66¢, 1 car like sample 65½¢; rejected hard, nominally 60¢@71¢; 1 car 69¢, 2 cars 66¢, 2 cars 64½¢, 1 car bulkhead 63¢, 1 car live weevil 76½¢; No. 2 red, nominally 90¢@93¢; No. 3 red, nominally 86¢@91¢; No. 4 red, nominally 72¢@87¢; rejected red, 1 car 69¢.

Corn.—No. 2 mixed, 12 cars 48½¢; No. 3 mixed, 5 cars 48½¢; No. 4 mixed, 1 car 47¢, 2 cars 46¢; No. 2 yellow, 4 cars 48½¢; No. 2 white, 3 cars 48½¢; No. 3 white, 4 cars 48½¢; No. 4 white, nominally 47¢.

Oats.—No. 2 mixed, nominally 32½¢@33½¢; No. 3 mixed, nominally 32¢@32½¢; No. 4 mixed, nominally 31¢@31½¢; No. 2 white, 1 car 35½¢, 1 car 35½¢, 3 cars 35¢, 1 car color 34½¢, 2 cars color 34¢; No. 3 white, nominally 34¢@34½¢, 2 cars color 34¢; No. 4 white, 1 car 33½¢, 1 car 32½¢.

Barley.—No. 3, 1 car 42¢.

Flour.—Steady and in fair demand. The quotations: Hard winter patents, \$3.85@4.10; straights, \$3.70@3.85; clear, \$3.35@3.50; soft winter patents, \$4.30@4.60; straight, \$3.85@3.95; clears, \$3.10@3.35.

Corn-meal.—Market quiet but firm. Country, \$1.05 per cwt., sacked.

Corn-chop.—Slow sale but firm. Country, 94¢ per cwt., sacked.

Bran.—Market quiet. The quotations: Mixed feed, 89¢@90¢; straight bran, 88¢@89¢ per cwt.; shorts, 88¢@93¢ per cwt.

Flaxseed.—Receipts none; same time last year, none. Off again, at \$1.01 per bushel, upon the basis of pure; in carlots, to arrive, \$1.01.

Cottonseed-meal.—At all points in Kansas and Missouri, taking Kansas City rates, \$27.75 per ton in carlots.

Castor Beans.—In carlots, \$1.35 per bushel.

Ground Oil-cake.—Carlots, \$27.50; 2,000-pound lots, \$28; 1,000-pound lots, \$15; 100-pound lots, \$1.

Seed.—Timothy, \$2.25@2.50 per cwt.; red clover, \$8@11 per cwt.; alfalfa, \$10@13 per cwt.; cane, 65¢@70¢ per cwt.; Kafir-corn, 78¢@81¢ per cwt.; millet, German, 80¢@95¢ per cwt.; common, 75¢@85¢ per cwt.; buckwheat, \$1.25@1.40 per cwt.

Broomcorn.—Quotations: Choice green, self-working, \$85; good green, self-working, \$80; slightly tipped, self-working, \$75; red tipped, self-working, \$65.

Hay.—Choice prairie, \$11.25@11.50; No. 1 prairie, \$10.50@11; No. 2 prairie, \$9.50@10.25; No. 3 prairie, \$7.50@9; choice timothy, \$13.50@14; No. 1 timothy, \$12.50@13; No. 2 timothy, \$11@12; No. 3 timothy, \$9.50@10.50; choice clover mixed, \$12.50; No. 1 clover mixed, \$11.50@12; No. 2 clover mixed, \$10@11; No. 3 clover mixed, \$8.50@9.50; choice clover, \$12.50; No. 1 clover, \$11.50@12; No. 2 clover, \$10@11; wheat and oat straw, \$5@5.50; choice alfalfa, \$13.50@14; No. 1 alfalfa, \$12@13; No. 2 alfalfa, \$9@10.50; No. 3 alfalfa, \$6.50@8.50; packing, \$4.50@5.50.

Kansas City Live-Stock Market.

Stock Yards, Kansas City, Mo., May 14, 1906.

Liberal marketing of cattle continued last week, totaling 38,000 for the week. Prices were higher the first half of the week, applying to more than three-fourths of the whole run for the week, but the market weakened after Wednesday, closing about steady with the close of the previous week. More good to choice steers were included last week than usual, many cattle selling at \$5.40@5.85. The run to-day is much smaller than any recent Monday supply, only 7,000 head. Chicago has a big run and a lower market, but prices here are steady to strong account of the light supply. Cows and heifers held up better last week, and made a small net gain. The packers always want a certain percentage of light-weight carcasses, and until grass cattle start to market, fed cows and heifers will be in strong demand. The plain to good steers sell at \$4.75@5.30, best mixed heifers and yearling steers \$4.75@5.30, good to choice heifers \$4.25@5, desirable cows \$3.50@4.75, veal calves strong \$6@6. At Eastern points heavy supplies of veals are arriving, but receipts are small here as yet. There was a good demand for the right kind of stockers and feeders, at \$4@4.75, but undesirable stuff declined 15¢@25¢ last week, ranging from \$3@4. The present state of trade here can absorb between 35,000 and 40,000 cattle per week at steady prices, whereas the supply this week will fall short of this number.

Hogs made a net gain of 16¢ per cwt. last week, total run 58,000 head. The demand here is stronger than at any time before this year; Cudahy shipped a train to Los Angeles last week. Quality remains pretty good, but weights are decreasing gradually. More rough sows and stags are included than heretofore; shippers should remember that the price on these is cut. Supply to-day light, at 7,000, market strong to 5¢ higher, top \$6.45, bulk \$6.30@6.42½, weights below 200 pounds \$6.20@6.35, pigs \$5@5.90.

The mutton market put on around 10¢ last week. Supply was 28,000 for the week, run to-day 5,000 head, market 10¢ higher. Woolled lambs sold at \$7.30@7.50 to-day, clipped lambs \$6.20@6.45, a few woolled wethers at \$6.50, ewes \$5.75@5.90, Texas muttons \$5.40@5.67½. More aged sheep are wanted. Some good lambs went to the country last week at \$6.65@6.70.

J. A. RICKART.

South St. Joseph Live-Stock Market.

South St. Joseph, Mo., May 14, 1906.

The week opened with barely normal receipts of cattle at this point, and only moderate total at the five leading markets; the rough showing a slight increase over a week ago. The market for fat cattle continues to carry the good tone that characterized it last week, and supplies to-day were readily moved out at a full steady level.

KANSAS FARMER.

Established in 1863.

Published every Thursday by the
Kansas Farmer Co.,
Topeka, Kansas

SUBSCRIPTION PRICE: \$1.00 A YEAR

Entered at the Topeka, Kansas, postoffice as second-class matter.

ADVERTISING RATES.

Display advertising, 20 cents per line, agate (fourteen lines to the inch). Continuous orders, run for the paper, \$1.82 per inch per week.

Special reading notices, 30 cents per line.

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To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.

All new advertising orders intended for the current week should reach this office not later than Monday.

Change of copy for regular advertisement should reach this office not later than Saturday previous to publication.

Every advertiser will receive a copy of the paper free, during the publication of the advertisement. Address all communications to

KANSAS FARMER CO.,

116 West Sixth Ave., - Topeka, Kans.

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

CATTLE.

CHOICE D. S. Polled Durham bulls, 5 to 16 month's old. C. M. Albright, Route 2, Overbrook, Kans.

25 BEAUTIFUL RED MULEY BULLS FOR SALE—John Marriage, Mullinville, Kans.

HOLSTEINS—One yearling bull, extra choice, H. B. Cowles, Topeka, Kans.

A BUTTER-BRED Holstein bull calf—The best purchase for grade dairy herd. See report Santa Fe Dairy Educational Special. Start right in your breeding. Sixty-five head to choose from. Geo. C. Mosher, Hillcrest Farm, Greenwood, Neb.

REGISTERED HOLSTEINS and Jerseys of best milk and butter families. Youngsters at reasonable prices. Burton & Burton, Topeka, Kans.

FOR SALE—Some good young Shorthorn bulls just a year old by the 2800 pound Marshall Abbotts-burn 81 185305. Cheap, breeding and individual merit considered. D. Ballantyne & Son, Herington, Kans.

FOR Red Polled bulls or heifers write to Otto Young, Udica, Kans.

FOR SALE—Holstein-Friesian bull calves. Address Hughes & Jones, Route 2, Topeka, Kans.

GALLOWAY BULLS—4 head, 16 to 18 months old, suitable for service. All registered. Address C. A. Kline, R. F. D., Tecumseh, Kans.

ABERDEEN-ANGUS CATTLE and Percheron horses. Stock for sale. Garret Hurst, breeder, Peck, Sedgwick County, Kans.

FOR SALE—Registered Galloways. Bulls, cows and heifers, singly or in carlots. Dean Bartlett, St. Marys, Kans.

PEDIGREED SHORTHORN BULL 3 years old; sire Magenta, who cost \$1,000 at 8 months. Cheap. S. J. Rents, Leavenworth, Kans.

CHOICE registered Shorthorn bulls and heifers, cheap. M. C. Hemenway, Hope, Kans.

FOR SALE—The pure Cruickshank bull, Violet Prince No. 145447. Has been at the head of our herd as long as we could use him. An extra animal. H. W. McAfee, Topeka, Kans. 2 miles west of Kansas Ave. on Sixth street road.

FOR SALE—Registered Jersey cattle. Two yearling bulls. Sires—A son of Bessie Lewis, 32 lbs. butter 7 days, and "Financial Count" (Imported); granddam held Island butter record 3 years. Sire's dam holds public milk record of 58 pounds daily, and his dam and Island winner in class for two years. Her four dams 22 to 28 quart cows, and all winners. Sayda Polo Jersey Farm, Parsons, Kansas.

REGISTERED GUERNSEY BULLS—Ready for service. Also pure-bred Scotch Collie puppies. Dr. J. W. Perkins, 422 Altman Bldg., Kansas City, Mo.

FOR SALE Five pure-bred yearling Shorthorn bulls. Will be pedigreed in name of buyer; sired by Teddy Roosevelt 196274. Good, useful bulls at living prices. Henry Haub, Whiting, Kans.

el with Friday. The best cattle here were some 1,475-pound steers that sold at \$5.45; in considering these prices the country should not fail to remember that cattle selling at \$5.45 and around that figure on this market are not strict top-getters by at least 40¢@50¢ per hundred. Fair to good light and medium-weight fat steers sold freely at \$5@5.20 and ordinary to medium killers weighing around and under 1,000 went at \$4.60@4.90. The supply of fat cows was very small but there was a moderately fair proportion of heifer stuff. The demand absorbed these as fast as offered at fully steady to strong values with some very nice fully fat dry fed 800-pound heifers going at \$4.70. There were not enough bulls or calves here to establish a market and prices remained unchanged.

The marketward movement of hogs continues very moderate in volume and prices are showing further strength from day to day. The little supply of 3,400 which arrived here to-day met an active demand and prices ruled steady to a shade higher. It is evident from the hog movement that the country is still very busy in the fields and for this reason it remains doubtful whether this week is to see any increase in supplies, and packers will have to be content to pay around present prices for some time yet to come. Hogs are

HORSES AND MULES.

FOR SALE—A good black heavy-boned Jack. Price, \$250 if sold soon. Do not write but come and see him. I also have others for sale cheap. Address Joseph Plzinger, Box 14, Omitz, Kans.

ILLINOIS HORSE COMPANY, Des Moines, Ia., can supply 60 imported and American Bred Pedigreed draft stallions and 20 coach stallions, 40 jacks at one-half the regular price. Time given, will take part trade. Write for bargains.

FOR SALE—At reasonable prices. Black Imported Percheron stallions. E. N. Woodbury, Cawker City, Kans.

LEAVENWORTH COUNTY Jack Farm, 10 head of Jacks and Jennets for sale. Cornon Brothers, Potter, Kans.

FOR SALE—Registered French draft and Percheron stallions, mares and colts; bays, browns and blacks. One gray stallion, 13 years old, sound and sure. Jake Howard, Hoyt, Kans.

LOST OR STRAYED—Brown mare, weight 1,100 pounds, white spot in forehead, barb wire cut on side, somewhat awaybacked. Suitable reward for return. J. W. Gillard, 838 Highland Ave., Topeka, Kans.

AGENTS WANTED.

Wanted—Gentleman or lady with good reference, to travel by rail or with a rig, for a firm of \$250,000 capital. Salary \$1,072 per year and expenses; salary paid weekly and expenses advanced. Address with stamp, Jos. A. Alexander, Topeka, Kans.

HELP WANTED.

SUGAR BEETS IN THE ARKANSAS VALLEY—Laborers for thinning and cultivation needed very shortly. 15,000 acres of beets are grown for the American Beet Sugar Company by farmers near Lamar, Frowers, Lee, Animas, Rocky Ford, Manzanola and Fowler. Hundreds of men and boys needed for work in the beet fields. Farmers will pay 15 cents per hour for day labor, but contracts by acre preferred and more remunerative to the laborers. Laborers board themselves. Work will commence the latter part of May. For further information write the American Beet Sugar Company at Lamar, Colorado. Single hands or families coming to the valley about the 20th of May will also find profitable work. American Beet Sugar Company, Rocky Ford, Colorado. American Beet Sugar Company, Lamar, Colo.

FARM and ranch hands furnished free. Western Employ Agency, 704 Kansas Ave., Topeka, Kans.

POULTRY.

MY SILVER SPANGLED HAMBURG led their class at the last three State Shows; also have Worlds Fair Premium. Eggs \$1.25 to \$2.00. Mrs. Fay Finkle, Galva, Kans.

Indian Runner Ducks and White Wyandottes Eggs Fresh, fertile and from high-class stock. Price reduced to \$1 per sitting. L. D. Arnold, Enterprise, Kans.

SEEDS AND PLANTS.

NICE RE-CLEANED ALFALFA SEED FOR SALE. Guaranteed pure; \$8 per bushel. H. L. Heaton, Oberlin, Kans.

ONE DOLLAR will buy enough of McCauley's white seed corn to plant seven acres if you send to A. J. Nicholson, Manhattan, Kans.

PLANTS FOR SALE—Cabbage, Henderson's Early Summer, Succession, 30 cents per 100, \$2.50 per 1,000. Tomatoes, Early Dwarf Champion, Beauty, Stone, Matchless, 30 cents per 100; \$2.50 per 1,000. Sweet Potatoes, Yellow Jersey, Yellow Nansemond, 20 cents per 100; \$1.50 per 1,000. Red Jersey, Red Bermuda, Black Spanish Southern Queen, Vineland 25 cents per 100; \$1.75 per 1,000. F. P. Rude & Son, Box 671, North Topeka, Kans. Ind. Phone 4008.

MISCELLANEOUS.

NOTICE—My application for a permit to sell intoxicating liquors, according to law at 115 E. 5th St., in the 2d ward of the City of Topeka, is now on file in the office of the Probate Judge of Shawnee Co., Kansas. The hearing of the same is set for May 25, 1906, at 9 o'clock a. m. C. R. Hoyt.

DOGS AND BIRDS—For sale dogs, hogs, pigeons, ferrets, Belgium-hares, all kinds; 80 40-page illustrated catalogue. C. G. Lloyd, Sayre, Pa.

PRIVATE DEMONSTRATORS—Men and women for every county in Kansas. Same route each year. Salary and bonus. Address J. C. Messenger Co., Bethlehem, Pa.

WANTED—A good second-hand grain separator. Dr. Barker, Chanute, Kansas.

SPECIAL ADVERTISING OFFER—Send your photo, any style, bust, or full figure, alone or in group, with 70 cents in stamps or money order and receive fifteen dainty miniature cabinet photos mounted on pretty, new style folder cards, size about 3½x5 inches, copied separately in bust form from your picture. Original photo returned and copies guaranteed perfect reproductions. Don't miss this special offer. Hit of the season. If more than 15 wanted add 4 cents for each additional print. Cash must accompany order. Address E. R. Gregg, Gregg's Studio, Emporia, Kans.

WANTED—At once sound young men for firemen and brakemen on railways; high wages; promotion; experience unnecessary; instructions by mail at your home; hundreds of good positions now open. Write National Railway Training Association, 620 Paxton Block, Omaha, Neb.

EARN FROM \$87.50 to as high as \$155.50 per month. Wanted—400 young men and sound men of good habits to become brakemen and firemen. Big demand in Wyoming, Nebraska, Kansas, Colorado, and Missouri. Instructions sent by mail; stamp for reply. Northern Railway Correspondence School, Room 202 Skyes Block, Minneapolis, Minn.

AGENTS WANTED—Sell 1¢ bottle Sarsaparilla for 35¢; best sellers; 200 per cent profit. Write to-day for terms. F. P. Greene, Dept. 40, 25 Lake St., Chicago

very good in quality which does not favor anything like shortage in the country, and it is only a matter of time until receipts shall show a liberal increase. Prices for bulk ranged from \$6.35@6.42½ with tops selling at \$6.45. The receipts of sheep and lambs continue very moderate, arrivals here to-day being 3,900 made up exclusively of lambs with the exception of one car of goats. The market continues very strong and prices were a dime higher here to-day. Top lambs in the fleece sold at \$7.45 with a shorn stock selling a dollar lower. The outlook seems to be favorable for future days of the week.

SWINE.

CHOICE BERKSHIRE BOARS FOR SALE—The best breeding and from 125 to 240 pounds in weight. G. D. Willems, Inman, Kans.

FOR SALE—20 good strong spring and yearling Berkshire boars that are just what the farmer wants. Prices right. Address E. W. Melville, Eldora, Kansas.

REAL ESTATE.

GOVERNMENT LAND and others cheap and fertile. Described free to annual subscribers. Farm and Ranch, \$1 per year, Sheridan Lake, Colo.

4,000 ACRE STOCK RANCH at one-half price to close estate; finest farming; healthy climate. Large free range adjoining; land alone, \$6 per acre. Improvements and stock about \$25,000. Address Libby Blanchard, Clearwater, Mont.

WANTED—To get 200 acres prairie, broke, price \$1.50, and old ground plowed after harvest. Address W. W. Cook, Russell, Kans.

A Harvest of Dollars

The Ideal place for profitable investments is in the Ozarks. Write to-day. The Ozark Mutual Town and Land Co., 527 Victoria Building, St. Louis, Mo.

A CHOICE 160 ACRE FARM

In Lane County, Kansas

Only six miles from County seat, level, good soil, good water, near to school and neighbors; this is a splendid farm and is a good investment for anyone who improves. Price, \$1,400, net cash.

Albert E. King, McPherson, Kans.

Stray List

Week Ending May 3.

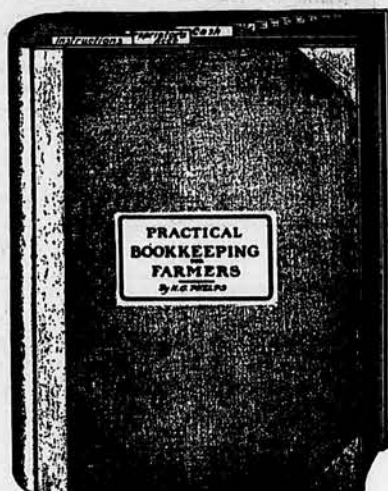
Greenwood County—W. H. Bonnett, Clerk. HOGS—Taken up by Chas. M. Mote, in Eureka tp., April 3, 1906, one large 2-year-old black hog, white face and feet; valued at \$15, also one large 1-month old black hog, white face and feet, valued at \$10.

Week Ending May 10.

Stafford County—W. W. Hall, Clerk. HORSES—Taken up by T. S. Maupin, in Ohio tp., (P. O. St. John), April 17, 1906, one dark brown gelding, 15 hands high, weight 1000 pounds, blaze in face, three white feet, about 8 years old; valued at \$100; one coming 2-year-old gelding, light bay, 13 hands high, weight 650 pounds, blaze in face, roached mane, and bob tail; valued at \$20.

LEGAL NOTICE

Notice of Stockholders' Meeting. Notice is hereby given that the annual meeting of the stockholders of The Topeka Northwestern Railroad Company will be held at the office of the company in the Office Block in the City of Topeka, Shawnee County, Kansas, on Tuesday, the 12th day of June, 1906, beginning at 10 o'clock a. m. H. A. Scandrett, Secretary.



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Woman's Home Companion. . . . 1.00
Kansas Farmer. . . . 1.00

Total. . . . \$5.00

We have 1,000 subscriptions for the first three to dispose of and can therefore offer the four above-named magazines for \$3 received at this office. The four must go in one set, though they can be sent to different addresses. Address

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