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BREEDERS' DIRECTORY.

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Agricultural Matters.

PLANT BREEDING.

(Continued from last week.)

CROSSING A PLANT VARIANT.

The plant breeder will often need to use crossing as a means for the improvement of plants. Consequently it is of great importance that he understand the possibilities in the method, at his command. As to the ease or difficulty with which one can induce plants to cross, the vegetable kingdom may be arranged in a series in which the plants at one end are sterile with each other because of too great differentiation of the sexual elements, while those at the other end are sterile because of too little differentiation. One end of the series represents species of widely different genetic relationship, and the other represents plants that are as closely related as it is possible for them to be. Somewhere between these two extremes is found the happy medium where the best results will be obtained. We must know that this position will vary with every case we examine. There is no uniformity in the behavior of plants under the influence of cross- or self-fertilization. In some cases, individuals of apparently close relationship are extremely fertile when crossed with each other, while in other cases the reverse of this is true. In some cases individuals of different specific or generic groups are very fertile when crossed with each other giving rise to fertile hybrids, while in other cases varieties of the same species apparently not very considerably differentiated are absolutely sterile with each other. This great diversity among plants in manner of behavior towards each other in performing the reproductive function makes it necessary for the plant breeder to be acquainted with every detail of this mysterious process for each variety with which he proposes to work.

Some of the early botanists laid down the rule of classification that no two plants should be considered of separate species, if they will produce fertile offspring when crossed with each other. This rule does not hold good. The more we learn about plants the more we find that they refuse to obey definite rules. However, the rule that cross-fertilization within the variety is generally beneficial seems to hold good. This seems to be a rejuvenating process, often imparting great vigor to the vegetative organs of the offspring. Crossing acts as a variant, producing in the plant just the qualities sought by the cultivator, namely, great vigor and productiveness. There are plant breeders who look upon variation of any sort as a valuable quality. I can not agree with this opinion. It is only the variation in the right direction that is of any value. Soil and climate cause plants to vary, but with such variants the chances are many to one that the changed plant will be of less value to the cultivator than its progenitors. On the other hand, the plant breeder is more certain to get good results from the use of crossing because the nature of this variant is to produce the identical qualities sought for by every cultivator of plants.

From Darwin's "Cross- and Self-Fertilization in the Vegetable Kingdom" we learn that the average of the mean heights of 54 species of plants crossed with each other and grown under the same conditions was to the average height of the same species self-fertilized as 100 is to 87.

The average of the mean heights of 13 species crossed by a fresh stock, compared with the same self-fertilized was as 100 is to 74. The average for crossed Indian corn compared with self-fertilized was as 100 is to 80. He found the average height of 15 cross-fertilized buckwheat plants when compared with self-fertilized to be as 100 is to 69. The weight of 20 cross-fertilized tobacco plants compared with the same number grown from self-fertilized seed was as 100 is to 63.

Cabbage plants from crossed seed compared with self-fertilized weighed as 100 is to 37, while seed from plants crossed with a fresh stock produced plants that weighed as 100 is to 22 when compared with seed from plants self-fertilized for three previous generations. With very few exceptions, Mr. Darwin's numerous experiments gave similar results. Not only was the size of the plant increased but its fruitfulness was promoted. In nearly every case, the cross-fertilized plants blossomed earlier and were more fruitful than the self-fertilized.

These facts bring us face to face with the practical value of crossing plants. It is well known that rich soil or stimulating fertilizers increase the vegetative parts of plants more rapidly than their fruitfulness. In fact horticulturists frequently find it necessary to inflict an injury upon a tree, reducing its vitality or starving it in order to compel it to bear fruit. By crossing varieties grown on different soils, the size of the vegetative parts and the fruitfulness may both be increased at the same time.

In this way, I believe it will be possible for us to prevent our corn from growing too much stalk in comparison with the ears. I hope that crossing may be made to develop a variety of wheat that will not lodge on any kind of soil.

Plant breeding offers a wonderful field for the improvement of our own native plants, and it is my opinion that crossing will be the method used in starting this improvement. In comparison with the total number of species, I believe no other State possesses such a large number of promising beautiful plants as does Kansas. Of our 1,500 species, 300 deserve to be cultivated for their beauty alone, and when the plant breeder gets to work upon these, we may expect to develop varieties that rival in beauty the species grown in the famous valley of Kashmir.

Besides the beautiful native plants dotting our prairies, we also have a very large number of plants useful from an economic point of view. One hundred and fifty-four species of grasses flourish within our borders. Many of these are already among the most important of our agricultural plants, furnishing nutritious feed for the fattening kine on ten thousand hills. They yield their priceless gifts to agriculture without any cultivation, yes, frequently in spite of ill treatment. I believe that many of these noble prairie grasses may be improved for agricultural purposes by cross-fertilization. I will not attempt to point out definitely the species that I believe it possible to hybridize, because no experiments have yet been attempted in this line of work. There are native species, however, that are closely related to some of our best cultivated grasses, and it seems to me that the experiment of hybridizing these with each other is well worth trying.

The possibilities for the improvement of our agricultural plants are simply beyond estimation. Many of these plants have been cultivated for ages, and the changes which they have undergone have made it impossible to identify the wild species from which they are derived. Yet all these changes have been brought about by an unconscious selection on the part of man. It is only within the past century that men have applied intelligence to the breeding of plants. The method of cross-fertilization gives intelligence an opportunity and largely eliminates the matter of chance.

The Garton brothers, of England, have been breeding cereals for about twenty years and in that time they have succeeded in producing varieties at will with almost any desirable characteristic. They have used wild species to remedy the defects of the cultivated, a notable example being the use of the naked oat. *Avena nuda*, to cross with ordinary cultivated oats. In Europe, spelt wheat has been frequently crossed with ordinary wheat within the past twenty-five years. Such a cross is likely to give rise to a variety that will neither shatter nor lodge. The editor of the Rural New-Yorker has hybridized wheat and rye, getting as a result some promising varieties. Rimpau, in Germany, has been cross-breeding wheat, barley, and oats for about twenty-five years. He has succeeded in producing some very interesting specimens. Most of the cereals are especially easy to manipulate because in culture they self-fertilize, and man does not need to take the same precautions to prevent the wrong pollen from fertilizing the blossoms that are necessary with plants that readily cross-fertilize.

The technique of crossing plants is frequently a very difficult process, requiring the highest degree of tact and skill. I will site some examples of the difficulties with which the plant breeder will have to contend. The blossoms of some plants self-fertilize in the bud long before opening. With such blossoms, the operator will be compelled to work upon very tender and delicate organs when they are but half grown. This is true with some kinds of barley, and is also probably true for the soy bean. Other plants have their flowers crowded together so closely in heads, and the individual blossoms are so extremely small that, at first thought, insurmountable difficulties in operating upon such seem to stand in the way of the plant breeder. Red clover is a good example. If I were going to cross clover plants, I believe I would domesticate a swarm of bumblebees and compel them to do the work for me. I would select the two plants that I wanted crossed and would place over each a wire screen the shape of an inverted basket. The two screens would then be connected by a long tube six or eight inches in diameter made of wire gauze, and closed at one end with a movable valve or door. The bees would be turned loose at the right time in the gauze basket over the plant intended to serve as male parent. After they had become thoroughly dusted with pollen, the valve would be opened and our imprisoned insects would gladly pass across to the other plant, and in working upon the flowers would cross-pollinate them. It is well known that clover plants do not read-



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ily self-fertilize, and with such an arrangement their crossing could be directed so as to secure the union of parents possessing definite qualities of excellence.

The sunflower family is another group in which the technique of artificial crossing is very difficult. This is owing to the fact that a sunflower is made up of a great many very small flowers. With this plant, the breeder would need to observe what kinds of insects visit the variety to be "worked," and then capture enough of the insects to do the work for him. He could use an arrangement very similar to the one described above for the clover.

In the work of crossing wheat, the writer has found it very difficult to obtain a suitable style of paper sack with which to cover the heads. Ordinary grocers' paper bags are too large and heavy. If they are used it is necessary to tie the paper sack and the enclosed wheat head rigidly to a stake. The subsequent growth of the wheat straw causes the head in the paper bag to be doubled up and seriously damaged. Occasionally the strain will break off the straw and our labor will be lost. After quite an extensive correspondence with paper bag manufacturers, the writer has found one firm in New York who will make to order a style of paper bag that is ideal for use on wheat heads. It is made of delicate translucent oiled paper and the sack is just wide enough to fit a wheat head. It is tied on the head with a small string drawn around the straw just below the first flowers. The weight of the sack is so insignificant that it can be easily supported by the wheat straw without being rigidly fastened to the stake. The wheat straw is loosely tied several inches below the head to the stake, and any subsequent growth of the plant is not detrimental to the head. The translucent paper allows the sunlight to pass through and stimulate the growth of the enclosed wheat grains while the oil makes the paper absolutely impervious to water. This is of great importance in keeping out moisture and in hindering the growth of molds upon the enclosed head.

In closing let me advise farmers who propose to cross plants to spare no pains in perfecting their methods of operation. Great care and patience are required for successful work.

GEORGE L. CLOTHIER,
Cornell University, April 26, 1899.
(To be continued.)

The Economy of Outting Corn and Feeding the Fodder.

(Continued from April 20.)

At the annual meeting of the Kansas State Board of Agriculture in January, 1898, I had the pleasure of listening to the address delivered by Mr. R. M. Allen, of Ames, Nebr., and heard how he succeeded in feeding 1,500 head of cattle three months on meal composed of ground shelled corn and cut cornstalks, and made a superior gain at a greatly reduced expense.

He described his method as follows: "The shocked corn was first run through a shredder that husked the ears at a loss of 25 per cent of shelled corn that went over into the shredded stover. This ear corn was then shelled, and, with other shelled corn, was ground up with the shredded stover, the stover being first cut up with a power cutter, then mixed equal parts by measure with shelled corn and run through two mills, the first one set to grind coarse and deliver into the other one, which ground the mixture up into a fine meal, delivering the meal into a wagon box." Right then and there I made up my mind to duplicate his work, but I knew I could do it at an enormous reduction in cost.

The husking and shelling of the corn, the use of two mills to grind it, and the mixing with the shovel I considered all useless expense, and I at once began to look around for suitable machinery.

In my letter of April 20 I described my thrashed that shelled and cleaned the corn and at the same time cut the fodder up short and then shredded it, the whole machine being run by a three-horse tread power. With this machine I have shelled and shredded the cut stover at the rate of an acre in eighty minutes, giving 40 bushels of cleaned shelled corn and two tons of cut and shredded stover.

I could see no use of grinding up that part of the stover that would be cleanly eaten up, but only that part that would be refused, or about one-fourth of the whole

product. When the refuse is taken from the mangers, it is damp and has been slobbered over. It will not grind well and is not liked by stock on account of having been mused over in the mouth of other stock. My 35-foot straw carrier runs at right angles to the thrasher, and the wind from the fan blows the light fodder, such as is eaten up clean, over to one side of the carrier, while the heavy, coarse fodder, such as is refused, travels up the carrier on the other side, so that a simple partition under the end of the carrier separates the coarse from the fine, but by adding an old worn-out blower to the thrasher, and conveying the blast of air to the end of the carrier through a pipe, the fine, acceptable stover is blown about 4 feet away, while the coarse, that would be refused, drops through the blast of air and runs down a chute to a bin directly over the grinder, the shelled corn being in another bin by the side of this one and over the grinder. I had everything now but the grinder, and not wishing to go to the expense of getting two power mills I must get a mill that would do the work of both and with small power. This took lots of correspondence, as no such mills were made. But finally the Marvin Smith Co., of Chicago, agreed to build a trial mill for me that could be run by two horses in a tread power, that would grind from twelve to twenty bushels per hour of the mixed product.

They were frank with me and stated that they did not think their mill would do it, but I insisted on trying it, and now that my mill is a success they have recently written me that they will put up a much larger mill like it, suitable for steam engines, with large capacity, and that they will advertise the same this summer in the Kansas Farmer.

This mill has an ear-corn crusher, or mixing hopper below and to one side of the grinder hopper, that thoroughly mixes up any and all ingredients put into it, screws it to one side and forces it through between two small burrs set three-eighths of an inch apart, so that everything is sized to the size of a large kernel of corn on the same principle as the Enterprise sausage mill. An elevator carries this mixed and crushed product into the hopper of the mill that holds a bushel and it is then automatically fed down into the grinders, reduced to a fine meal, then elevated up into a wagon box, bin, or sacks. The grinding plates for this work are a curiosity. They are made of white metal, tempered so hard that no tool will touch them, and are placed so that as they rub together they sharpen instead of destroying themselves. The burrs do not have file teeth but have flat bands one-half inch wide that can run against each other without damage, the furrows between the bands holding the grain, and as the bands turn against each other their sharp edges reduce the material to a fine meal.

Many a stock feeder uses \$40 worth of bran a month, and he finds that his cattle do better with \$40 worth less corn, so that the \$40 spent for bran is a paying investment.

Ground corn stover is a good substitute for bran, and when used with shelled corn will also save as much corn as the bran will, and the \$40 spent for bran will be saved.

Here is a possibility of saving \$80 per month on a small bunch of cattle, and all made out of a product grown on the farm and which is usually wasted. Very few of us will care to grind up fodder this way, but a large number of us need a mill that will mix up several kinds of seeds, such as Kaffir corn, shelled or ear corn, soy beans, and other seeds; also cut clover into clover meal.

It looks as though soy beans were to become a staple crop in Kansas, and these should be thoroughly mixed with corn or Kaffir corn at the ratio of 1 to 4, or 20 per cent bean meal to 80 per cent corn meal, and the result is a very superior fattening meal.

Twenty acres of prairie grass land put into corn for two years will furnish corn hay greater in quantity and superior in quality to prairie hay, and at the same time raise more than enough corn to pay for all this machinery I have told about.

Morantown, Kans. J. C. NORTON.



The Stock Interest.

THOROUGHbred STOCK SALES.

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

NOVEMBER 1—W. T. Clay, Plattsburg, Mo., Short-horns.

INOCULATION BY ANOTHER PLAN.

by Daniel B. Sayre, V. S., in Breeder's Gazette.

All scientific investigators and events that transpire in nature seem to have developed the fact that all non-recurrent contagious and infectious diseases are to be successfully treated with a lymph or serum made from the tissues of a subject suffering with the disease to be treated, or that these diseases are to be prevented by an inoculation or vaccination of the susceptible subject with a virus similarly procured. Hog cholera comes under this classification of diseases, and the serum or lymph treatment that has been lately spoken of and that has been nearly, if not quite, completed by Dr. Salmon, Chief of the Bureau of Animal Industry, will, according to my belief, be a thorough success. It has undoubtedly occurred to every experienced stock farmer that a hog that has once had an attack of cholera will stand immune against another attack, and some persons even go so far as to believe that a sow that has had the disease will farrow pigs that are cholera-proof. This is in a small measure true; that is, we frequently hear of an immune sow farrowing a first litter after an attack of cholera that will go through an outbreak of the disease without contracting it; and you can attribute their immune condition to no other fact than that their mother's blood during the period of gestation contained enough cholera taint to vaccinate them in utero.

Different scientific investigators of several States have presented to the public during the last ten years methods of preparing virus and vaccinating hogs, and these methods have been, in the hands of these scientific men, who were aided by having all necessary laboratory facilities, reasonably successful; but in each instance it has been a proposition to come upon a man's farm among his healthy, susceptible hogs and inoculate them with a virus which, if just of the proper potency, was all right, but fear that it might be too strong made the farmer very wisely refuse to have his hogs operated upon. But has any man proposed the plan of breeding cholera-proof hogs by an inoculation with a cholera virus of an immune sow during her pregnancy, for the purpose of perpetuating her own immune condition and to immunize her litter?

While this matter is to you but a theory, let me point to some of the reliable facts that substantiate it. When a man has an outbreak of cholera upon his farm and he loses and disposes of his entire herd, and after a season starts another herd upon his cholera-infested premises with new blood that is susceptible he very frequently has another attack of the disease the succeeding year. But on the other hand when he does not dispose of his remnants, but starts his new herd from his cholera-tainted foundation, he escapes another outbreak for some years. The fact referred to that an immune but cholera-tainted brood sow will frequently immunize her first litter after her sickness, tends to prove that the use of a virus on such a sow will vaccinate every litter she ever has if followed diligently. Nearly every physician of experience can recall instances where some mother has immunized her offspring from some contagious eruptive skin disease, like smallpox, scarlet fever, or measles, by having suffered with one of those diseases while being pregnant with that child. The American representative of the Pasteur Institute, of Paris, assured me recently that by inoculating a cow that was pregnant by the use of their blackleg virus it would certainly immunize her calf from that disease.

This method, as far as I am concerned, has outgrown the form of a theory and become an absolute fact. Beginning four years ago with sows that were immune on account of having had cholera, and following the plan of inoculating each sow for each litter she farrowed, I have produced a herd of hogs that have not only gone through the ordinary dangers of contracting cholera but have been tested in a manner that proves them to be absolutely cholera-proof. In my tests I have used only sows that were immunized by my method and not sows that stood proof on account of having had cholera.

I have brought sick hogs in all stages of cholera into my herd and left them there to die and be eaten by my hogs, and have bled sick hogs into my swill barrel from which I have slopped my sows with young pigs. I took a sow with six pigs three and one-half weeks old to a herd

of 100 hogs, which were nearly all sick, and allowed them to remain there four weeks, until the sick herd numbered but eighteen head, when I took my sow and pigs home healthy and they remained so. I next took a sow due to farrow in four days two miles from home and put her into a four-acre woods pasture where there were straw stacks of four seasons, and where they had had hog cholera each year for the last three years, and where there were at that time thirty-eight hogs nearly all sick with cholera. She farrowed nine healthy pigs that remained there twenty-five days, until there were but six of the sick herd left, and this sow and pigs are yet healthy.

These tests prove conclusively that this method is the surest and safest way to breed hogs extensively without running the risk of being burned out with cholera every little while, and that it is a very common-sense method nobody will deny who gives it any thought. While it is unsafe to vaccinate a susceptible hog with cholera virus you can readily see that you can do no harm to an immune sow but can render her litter cholera-proof. If a pig is born with any considerable degree of immunity it is very reasonable to believe that it will last him throughout the period of his natural life as a market hog, and, if his litter sister is to be retained as a brood sow and my plan is being followed, her first inoculation would take place during her first pregnancy at an age of from twelve to eighteen months, thereby perpetuating her own immune condition and rendering her litter likewise immune. No man need despise the idea of beginning hog raising in a small way with one or two cholera-proof sows, or as many as he can procure, because of the fact that they multiply so rapidly and because he frequently has an oppor-

depend in part on relative cost of grain and coarse fodder and in part on whether it is desirable to have the fattening done as rapidly as possible.

All of the steers were fed Kaffir stover and sorghum for rough forage. An odd steer, rough and very inferior in form, was fed corn meal and gained 460 pounds, or an average daily gain on 2.74 pounds. This animal, while surpassing the others in the amount and rapidity of gain, was not the most profitable, since he was still rough when finished and not as valuable to the butcher as the others.

There were marked variations in the gains from week to week. Some of these may be ascribed to the cold weather and for some no cause can be assigned. None of the steers were off feed at any time during the experiment, but the necessary handling and weighing incident to an experiment probably reduced the gains.

Summing up the whole experiment, seven steers on full feed for a period of six months made an average gain of 70 pounds per head per month. For a time they made a gain of over three pounds per day, but a slower gain during the finishing period reduces the average. The differences in gains made by individual steers emphasize the untrustworthiness of deductions based on a small number of trials. Individuality often overcomes or accentuates the effect of a given feed and it is possible to deduce definite results only from a great number of trials.

Stillwater, Okla.

Dewey Automatic Stock Waterer.

Stock raisers are carefully looking into the merits of different stock waterers, fully realizing their necessity, but they want a good one. Therefore the following article will be read with interest, as it explains



DEWEY AUTOMATIC STOCK WATERER.

tunity or is compelled to start lightly after having been burned out with hog cholera.

Steer Feeding at Stillwater.

Editor Kansas Farmer:—The Oklahoma Agricultural Experiment Station has just completed a series of feeding trials, and sold nine fat steers, averaging 1,340 pounds, at 4¼ cents, in the feed lot.

The steers were "long twos" and were on full feed for twenty-four weeks. Seven were grade Shorthorns, two showed some Galloway or Angus blood. Seven on full feed for the entire period made an average daily gain of 2.37 pounds.

During the greater part of the feeding period, the steers ate from 22 to 24 pounds of meal per day each.

Two selected as slightly the best and most uniform in breeding were fed corn meal, one gaining 455 pounds and the other 355 pounds. This gives an average daily gain of 2.41 pounds. Eight and seventy-two one-hundredths pounds of corn meal were required for one pound of gain.

Of another pair fed half Kaffir and half corn meal, the steer thought best in form, but 200 pounds lighter than his mate, gained 325 pounds while the other steer gained 440 pounds. This gives an average daily gain of 2.28 pounds. Nine and fifty-seven one-hundredths pounds of the mixture of Kaffir and corn meal were required to produce a pound of gain.

Another pair were fed Kaffir meal and made gains of 365 and 375 pounds, an average daily gain of 2.21 pounds. Nine and seventy-nine one-hundredths pounds of Kaffir meal were required to produce a pound of gain.

One pair were fed an average of one pound of meal for each 100 pounds live weight, daily for several weeks. The rate of gain was much less than with the full-fed steers, but the number of pounds required to produce one pound gain was naturally considerably less. Whether full- or partial-grain feeding is most profitable will

the mechanism of the "Dewey" Automatic Stock Waterer, and the benefit of pure water for hogs and poultry.

Why did we name it the "Dewey?" Because it is the best stock waterer that "floats." Strong, durable, and simple, all metal except the rubber valve seat. It has a brass water-closet float and valve, all inside of the chamber, which is in the water away from harm, mud, and frost. It is successful only when the working parts are in the water. It never leaks a drop, and mud can no more work against the water and get under the float and valve than a feather can work against the wind. It works two months earlier in the spring, an two months later in the fall than any other, and all winter, with care. No braces or wood screws. It is held solid by two nipples, one above the other. A child can attach the fountain to a barrel, tank, or pipe instantly.

The comprehensive illustration proves to you at a glance that the "Dewey" is the best thing ever presented, and that it will water from 50 to 300 hogs a day, besides chickens, ducks, turkeys, sheep and calves; in fact, everything that drinks. Many thousand have been sold and not one found fault with. Write us for circulars and further instructions. Stock Fountain Company, Lake City, Iowa.

Snow Trade in Sicily.

The principal export from Catania is snow, in which a most lucrative trade is carried on in Malta and parts of Southern Italy. It is collected during the winter in hollows in the mountains and covered with ashes to prevent its thawing. It is brought down in panniers on mules to the coast at night. The revenue derived from this source is immense and renders the Prince of Paterno one of the richest men in Sicily. Snow is the universal luxury from the highest to the lowest rank and is sold at the rate of 4 cents for thirty ounces; the poorest cobbler there would rather deprive

"The Mill Cannot Grind with Water That's Past."

This is what a fagged out, tearful little woman said in telling her cares and weaknesses. Her friend encouraged by telling of a relative who had just such troubles and was cured by Hood's Sarsaparilla.

The little woman now has tears of joy, for she took Hood's, which put her blood in prime order, and she lives on the strength of the present instead of worrying about that of the past.

Neuralgia—"I had dreadful neuralgia, miserable for months. Neighbors told me to use Hood's Sarsaparilla; it cured me perfectly." Mrs. FRED TURNER, Barre, Vt.

Erysipelas—"My little girl is now fat and healthy on account of Hood's Sarsaparilla curing her of erysipelas and eczema." Mrs. H. O. WHEATLEY, Port Chester, N. Y.

Hood's Sarsaparilla
Never Disappoints

Hood's Pills cure liver ills; the non-irritating and only cathartic to take with Hood's Sarsaparilla.

himself of his dinner than of his glass of "aqua gelata." It is extensively used in hospitals and a scarcity of it would be considered almost as great a misfortune as a famine, and would occasion popular tumult. To guard against such accidents, the government at Naples has made the providing of it a monopoly, the contractors being required to give security to the amount of 60,000 ducats, which sum is forfeited if it can be proven that for one hour the supply has not been equal to the demand.—Detroit Free Press.

Paint Talks--XV.

PAINT IN SANITATION.

Since the world has learned that disease is largely a matter of dirt, the importance of paint has vastly increased. We know that fully half the diseases to which the human race is liable are caused by infinitely small microbes, that can not thrive in quarters that are absolutely clean. This is the meaning of antiseptic surgery, of water-filtration, of quarantine during the existence of contagious diseases and of disinfection after their cure.

Any porous or rough surface, such as wall-paper, carpets, curtains, etc., affords a lodgment for these unseen workers of evil; and it is for this reason that paint is far preferable to wall paper for the walls and to carpet for the floors of living rooms. If it had no other point of superiority, the fact that it can be washed with cleansing or disinfecting agents would suffice to make it vastly preferable.

No one has yet been able to determine how long the germs in an infected room will retain their virulence, and no one moving into a wall-papered house can have any guarantee that he is not exposing himself to infection.

But there is another aspect to this question which is still more strongly in favor of the paint: wall paper and carpets deteriorate, but paint does not. That is to say, the right kind of paint used on the interior of a house ought to last a life-time. This statement does not apply to lead paints, it is true, because lead paints are unsuited for interior use, since the least trace of sulphur gas discolors them, and the tints made with them spontaneously change color.

But zinc white paints, even if they contain some lead, are practically indestructible for interior use, and a room painted with them can even be fumigated with sulphur without discoloration. Paints based on zinc white are, therefore, the only kind fit for interior use.

I believe that were the public as familiar with the economic and artistic advantages of interior painting all floors would be painted or varnished and wall paper would be looked upon as a relic of our present barbarism. STANTON DUDLEY.

A recent writer says, regarding the notorious maelstrom, that the inhabitants of the Lofodens are not in the least afraid of it, but fish right in the middle of it.—Albany Argus.

\$28.85. \$28.85.

The Union Pacific has made the greatly reduced rate of \$28.85 to Portland and other Puget Sound points; also to Helena and Montana points, Salt Lake City and Utah points.

For tickets and full information call on F. A. Lewis, City Ticket Agent, or J. C. Fulton, Depot Agent, Topeka.

WEEKLY WEATHER-CROP BULLETIN.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending May 1, 1899, prepared by T. B. Jennings, Section Director.

GENERAL CONDITIONS.

The rainfall for the State is decidedly below the normal; it is above normal in Sheridan and Norton counties in the western division, in McPherson in the middle, and in Marshall, Nemaha, Brown and the north part of Douglas and south part of Leavenworth in the eastern division. The temperature is slightly above normal in the eastern and below in the western division. The week has been quite windy, with a strong general wind on the 30th.

RESULTS.

EASTERN DIVISION.

Wheat has improved. Early corn is coming up as far north as in Coffey and Lyon counties, and is beginning to be cultivated in Chautauqua and Elk. Corn is being planted rapidly in all counties except where the ground is too wet. Oats are generally up, and flax is coming up. Apple, pear, and plum trees are generally full of bloom. Grass is growing and stock are being turned on pasture.

Allen county.—Much cloudy weather, with but little rain; warm; all crops growing finely; about half the corn ground planted; wheat, though a short crop, has improved very much; oats and flax looking well; apples in full bloom; peach trees leafing sparingly; potatoes planted.

Anderson.—Favorable week for growth and field work; fruit trees show full bloom, except peaches; pastures late; air swarming with chinch bugs Saturday.

Atchison.—Warm, growing weather; grass and grain growing rapidly; cherry, plum, and pear trees in bloom; peach trees appear to be badly injured and in many cases killed; oats are up and looking well; flax mostly sown; corn being planted; two cold days.

Bourbon.—A small crop of oats but an excellent stand; four-fifths of the corn planted; soil in fine condition; one-fourth of the clover winter-killed; timothy not injured much.

Brown.—Oats coming up; corn-planting begun; stock going on pasture; wheat not much improved.

Chase.—Warm, windy week; some corn coming up; cattle on pasture; apple, peach, and plum trees in full bloom; plowing for cane commenced.

Chautauqua.—Wheat has made phenomenal growth; some early corn being cultivated; much corn yet to plant on low ground; good prospects for all fruits except peaches.

Cherokee.—All farm work suspended latter part of week, too wet to work; flax not half sown; very little corn planted.

Coffey.—A good week for work; plowing well along; half the corn now planted and first plantings coming up, showing good stand; oats up; flax all sown and coming up; apples and cherries in full bloom; grapes doing well.

Crawford.—Ground very wet; but little corn planted, and ground not plowed; wheat, oats, and grass growing rapidly; apple, cherry, and plum trees in full bloom; a few peach blossoms.

Dnoiphon.—But little wheat left and it looks badly; no corn planted yet.

Douglas.—Good growing weather; wheat and grass growing finely; corn-planting progresses slowly, ground too wet and cold; prospects for fruit not very flattering.

Elk.—A fine growing week; corn coming up and some early-planted being cultivated; grass growing well.

Franklin.—A favorable week; corn-planting progressing rapidly; oats and flax coming up nicely and grass growing well.

Greenwood.—Corn coming up nicely; wheat gaining considerably; apples blooming and promise a large crop.

Jefferson.—Farm work progressing slowly in southern part on account of rain, more rapidly in northern; grass growing rapidly; too wet for corn-planting.

Johnson.—Corn-planting hardly begun, too wet; wheat and grass improving; all fruits but peaches doing well.

Labette.—Heavy rains stopped work in southern part of county, conditions more favorable over rest of county; a growing week for grass, oats, corn, and gardens; fruit trees full of bloom; wheat prospects very low; much plowing yet to be done.

Lyon.—Some fields of corn are planted and the corn is coming up, other fields are being plowed; cattle are going on pasture; apple trees are in full bloom.

Marshall.—Oats all in and coming up nicely; great progress made in corn-planting and listing; many wheat fields plowed up and put in oats or corn; grass and small grain have made good growth; trees leafing out and in bloom; everything has started well.

Miami.—Fine growing week, as well as for

work; corn about one-third planted; flax all sown; trees, apples, plums, pears, and cherries in full bloom; peaches killed.

Montgomery.—A warm, growing week; wheat, oats, and grass have improved; stock doing well on pastures; soil too wet for plowing and planting; early-planted corn coming up fairly well.

Morris.—Good week for farm work; corn crop mostly planted; grass and alfalfa growing rapidly; all fruit trees in full bloom, promising a large crop.

Nemaha.—Favorable week; fall wheat materially benefited, showing a better percentage than last week; oats a good stand; corn-planting progressing and a large proportion is in; plum and cherry trees in full bloom; apples promise well; peach trees are sprouting though blossoms are killed.

Osage.—Much farm work this week; planting corn rapidly; grass growing finely; apples promise a full crop; cherries in full bloom; gardens looking well.

Pottawatomie.—A growing week; half the corn ground is planted; apple, plum, and cherry trees in full bloom.

Riley.—A warm, dry week; corn-planting progressing rapidly; apple trees white with blossom; grass growing; rain needed.

Shawnee.—Wheat, clover, and alfalfa showing up well; oats beginning to come up; plums and cherries in full bloom, apples commencing; grass slow.

Wilson.—Good week; wheat improving; fruit trees in full bloom; some corn coming up.

Woodson.—Some early corn up, much yet to plant, some to replant; apple trees in full bloom.

MIDDLE DIVISION.

Wheat is improving, but rain is needed very badly. Corn-planting is general, and the early-planted is coming up as far north as in Reno and Harvey. Grass has improved and in many counties the stock is being turned on pasture. Fruit trees are generally full of bloom except the peach. The hail caused great damage in McPherson.

Barber.—Dry, windy week, greatly retarding vegetation, bad for wheat on light sandy soil; corn slowly coming up; rye, oats, and alfalfa doing fairly well; planting corn and plowing for cane and Kaffir progressing; cattle on range improving.

Barton.—Plowing for millet, Kaffir, and sorghum; barley is up nicely; grass growing very slowly.

Butler.—A growing week; farm work progressing well; corn mostly planted and some coming up; oats up and in good condition; wheat looking well; fruit trees in full bloom and promise a good crop, except peaches; cattle being turned on pasture; many trees in full foliage.

Cloud.—Ground dry, crusted and badly cracked; wheat damaged, its average height in best fields four inches; oats in poor condition; corn-planting well advanced; grass very backward.

Cowley.—Corn coming up and shows a good stand, oats the same; what wheat there is is doing well; apple crop promises to be large; grass about ready for stock.

Dickinson.—Another good week for work; most of the corn is planted; oats are coming up; wheat prospects improving, better south than north of the river; high winds drying top of ground, need rain.

Edwards.—Hard week on grain, too much drying wind; less than half a wheat crop can be expected; grass growing slowly; dry for listing corn; range stock doing fairly well; potatoes are coming up; apples and cherries promise a fair crop.

Harper.—Growing week, but rain is needed to some extent; corn-planting in progress, some up; pastures backward; fruit promises good yield; oats up and growing rapidly.

Harvey.—Corn-planting about finished; pastures supporting stock; an abundance of fruit blooming; everything growing well.

Jewell.—Warm and windy; oats growing nicely; listing corn progressing rapidly; ground still in good condition but will need rain soon.

Kingman.—Favorable for crops; wheat improving; oats in good condition; corn coming up; cherry and apple trees in bloom.

McPherson.—Growing wheat badly cut by hail on 27th over greater part of county and trees stripped of bloom; corn planted; grass growing rapidly.

Marion.—Growing week for wheat and oats; corn-planting progressing rapidly; local rains improved grass lands and plowing; apple, peach, and plum trees in good condition and a good crop is anticipated.

Mitchell.—Good week; corn-planting general; everything doing well.

Osborne.—Warm, windy week; rain badly needed; corn-planting well under way; all fruit trees damaged.

Ottawa.—Fairly warm week but too dry and windy for crops to grow well; wheat, oats, and grass growing slowly; unless very favorable season wheat will not make over half crop; corn-planting general; cher-

ries, plums, and apples full of bloom; cold north wind on 29th.

Pawnee.—Condition of wheat grows worse, no rain and ground getting very dry; apple, plum, cherry, and some pear trees in bloom, promising a good crop until the hurricane wind Sunday (30th) stripped the trees as bare as in January; Sunday's wind also blew away much of the ground as deep as cultivated; damage to crops not known yet.

Phillips.—Wheat being damaged some by dry weather; all small grain is in need of rain; apples, plums, and cherries in bloom.

Reno.—Corn-planting and listing in progress, some corn up; apple, cherry, and plum trees white with blossom; wheat generally looks fair but some fields will be put in other crops; oats up and look well.

Republic.—Corn-planting general; oats mostly up but needing rain; grass fair; wheat fine, prospect good; flying dust bad on crops.

Russell.—Much windy weather; wheat suffering for rain; corn-planting is now general.

Saline.—Wheat and oats needing rain; farmers planting corn rapidly; apple, pear, and cherry trees loaded with blossom.

Sedgwick.—Most of the corn is planted, replacing one-third of the wheat area; apples in full bloom; stock going on pasture.

Stafford.—Wheat, barley, and oats did not advance this week as they should, on account of the high winds, sand storms, and dry weather; the early-listed corn not up yet.

Sumner.—Very heavy winds the past few days, indicating that the wheat will blow out if it does not rain soon.

Washington.—Cherry and plum trees in full blossom; half of the wheat ground has been put in oats and corn, the rest rather thin stand; alfalfa badly injured; much corn has been put in this week.

WESTERN DIVISION.

Corn-planting is general, but on account of the lateness of the season the acreage will be reduced somewhat and a larger acreage devoted to forage crops. Wheat is improving, but needs rain. Cattle are being turned out on the range and are improving, though the grass is quite backward yet. Some frosty nights this week have checked small grains in the northwestern counties. Fruit trees are blooming. Alfalfa, in general, is doing quite well.

Clark.—Still very dry; buffalo grass drying up.

Decatur.—A good week for crops, the heavy shower of the 25th coming in good time; cold, but not freezing, Friday night.

Finney.—Dry and windy; vegetation making good growth; cattle doing well on the range.

Ford.—The wheat prospect is poor, a great deal of the wheat was winter-killed, the acreage is small owing to the early winter; prairie grass is growing very slowly; alfalfa is making a fine showing; peach trees badly injured by severe winter; cherries and plums promise a good crop.

Gove.—A dry week, everything needing rain.

Grant.—Range grass doing finely; range cattle improving rapidly; spring backward and but little plowing yet done.

Gray.—Heavy rain this week in south part of county, very little in central, none in north part; alfalfa fine; good prospect for cherries and plums; most of the wheat is looking well.

Hamilton.—Warm days but cool nights, some cold; dry; wheat at a stand-still; alfalfa is fine; grass doing fairly well; indications are that fruit crop will be short; ground getting too dry to plow; rain needed.

Kearny.—Cool and windy; wheat, barley, oats, and alfalfa looking well; all need rain; some wheat blown out; vegetation growing slowly.

Logan.—Cool, windy week; no winter wheat frozen out except Turkey Red; evening 27th wind changed to north and thin ice formed by morning.

Morton.—High wind, sand, and dust storm afternoon 25-26th; grass growing; cattle doing well on the prairie; apple trees coming into bloom; about 20 per cent of the spring plowing done; rain needed.

Ness.—The dry, windy weather retards plant life, yet crops have made fair progress, considering corn-planting is under way but the acreage will be small this year; a large acreage will be put in forage crops; plums in full bloom; cherries beginning to blossom; in some localities wheat is not damaged as much as was believed, in other places the fields are very spotted and much of the wheat ground is being put in spring crops; potatoes and gardens need rain.

Norton.—Fine rain over the county this week; it was a great help to small grain and grass; corn-planting in full progress; all kinds of stock doing well.

Rawlins.—No spring rain yet; alfalfa not as good growth as usual; pastures very poor; the grains are doing fairly well; farmers listing corn.

Scott.—A dry week, with much wind,



The Miser.

Many a man with his whole soul immersed in business and money-getting is like the miser whose spring door shut to and locked him in forever. Men work and slave and worry and get sick and broken down, forgetting all the time that health is worth more than that a happy, home is rather than great till they hear door of disease.

A sick man cannot be happy; he cannot accomplish the work he has to do in this world; he loses the very money he is striving for; his ambition defeats itself. Any man who discovers that his strength and energy are giving way has an unfailing means of regaining his physical health and stamina in the simple yet all-potent restorative power of that wonderful "Golden Medical Discovery" originated by Dr. R. V. Pierce, of Buffalo, N. Y., the world-famous specialist in diseases of the nutritive organism.

Among the thousands who have consulted him by mail the case of Mr. Newton B. Blake, of Tiptonville, Tipton Co., Miss., as shown in the following letter indicates the remarkable efficacy of his treatment: "In December 1895 my health began to fail, I tried many different kinds of medicines and the more I took the worse the disease grew. Finally in April when I was busy with the farm work my health got so bad that I could not hold out to work one hour. My breath became short and I was weak and nervous, and sometimes would spit blood. I was unable to work. I tried one of the doctors in the vicinity but failed to obtain relief. I seemed to grow worse. My father received a book from Dr. Pierce in which I read of a case similar to mine, and decided to write to Dr. Pierce. He recommended me to take his 'Golden Medical Discovery.' After taking six bottles of this remedy I can recommend it as one of the best medicines to build up the system. I am now enjoying good health."

Torpid liver and constipation are surely and speedily cured by Dr. Pierce's Pleasant Pellets. They never gripe. They regulate, tone up and invigorate the liver, stomach and bowels. No substitute urged by mercenary dealers is as good.

closing cold and blustery; vegetation not making much progress; spring seeding about done except forage crops.

Sheridan.—Crops growing finely; corn-planting general; hail on 25th cut alfalfa badly; apples, plums, and currants budding to bloom.

Thomas.—Much corn planted; frosty nights and windy days have hurt small grain to some extent; grass has started but everything needs rain.

Trego.—Wheat damaged by high winds and dry weather; barley mostly up and looking well; planting corn rapidly.

Wallace.—Tree buds swelling; grass is growing; garden vegetables coming up; alfalfa looking well; rain would be of benefit; a large number of fruit trees are being set out and bees are being brought into the county.

Important to Homesteaders.

The Ute Reservation, located near the southwest corner of State of Colorado, will be opened for settlement May 4, 1899, as per President's proclamation. These lands are subject to entry in compliance with the laws of the United States regarding occupancy of Government land by bona fide settlers.

The Great Rock Island Route runs through cars to Colorado Springs and Denver, and there connection is made with the D. & R. G. for Durango, where the land office is located and adjoins the Reservation. Bear in mind that no lands can be filed upon until after 12 o'clock noon, May 4, but if you desire to secure a quarter section you should be there at that hour.

The Rock Island Route has issued a folder, and you can receive one by requesting it of any representative of the road or address by postal card.

E. W. THOMPSON, A. G. P. A., Topeka, Kans.
JOHN SEBASTIAN, G. P. A., Chicago.

One Fare

for the round trip, via the Union Pacific, to San Francisco, Cal., for National Baptist Societies Anniversaries, May 25, 1899. For dates on which tickets will be sold, limits, and full information, call on F. A. Lewis, City Ticket Agent, or J. C. Fulton, Depot Agent.

Good Meals at Regular Hours

Meals must be satisfactory or traveling is unenjoyable. The Santa Fe Route prides itself on its system of Harvey dining rooms and lunch counters. There are none better. Breakfast, dinner and supper are served at convenient intervals. Ample time given for all meals.

T. L. KING, Agent, Topeka.

HOW TO EXTEND THE GRANGE.

Patrons of the United States:—Permit me to suggest that we make a united effort to extend the order in every State, and permit me further to suggest that you have the secretary of every grange send at once to Alpha Messer, Rochester, Vermont, worthy lecturer of the National Grange, for a good supply of grange literature, and insist on a generous supply of the leaflet entitled "The Work of the Grange," and containing the "Declaration of Purposes" and "Co-operation."

While this literature is coming, have each member take a tablet and write the names of all persons that are eligible, and who reside in the jurisdiction of the grange, and whom he would like to have members. File these lists with the secretary of the grange. The secretary should make a list at once, with the name of each person that is suggested on any of the lists. If every member has made a full list, it is presumable that the secretary's list will have the name of every person that it would be desirable to have join the grange and who lives in its jurisdiction. Have the secretary read these names slowly to the grange, and should anyone be suggested that, for any good reason, any member of the grange would think it best not to have join the grange at that time, let him say so. (But not discuss the fitness or qualification, or give any reason why he thinks it best not to solicit his application at that time.) Strike all names from the list where objection is thus made. This preliminary review of names would probably prevent anyone from being rejected. All the others, it is presumable, would be received as members if application should be made.

Divide the grange into committees of two or four each. In appointing committees, I would suggest that husband and wife be placed on the same committee. When every member of the grange has been placed on a committee, then assign some of the names on the secretary's list to each committee, until all are assigned. In assigning the names, always give such names to the committee that will be most likely to get their applications. Remember, patrons, that all people like to be invited to come into an order; few will solicit you to take their applications. But if they feel and know that the order would be glad to welcome them, they will join with you.

The committees, with a good supply of applications and grange literature, will then call upon these persons and, when possible, spend an evening at their houses. At the proper time, bring up the grange question and say to them: "The members of our grange would be glad to welcome you to membership in our order; they desire the pleasure and benefit of your association and counsel, and have requested us to invite you to join." In a truthful manner, present the advantages of the order; speak of its social, educational and co-operative benefits. In the presence of the husband, wife, and family is the best place to discuss candidly the advantages of the grange and of farmers being organized. Say to them, which is true, that all other business and professions are organized for their mutual interests. Why should not farmers organize? They need it more than any other class, their work is isolated; and as all other classes are organized, they need to organize for self-protection. The wife of the farmer needs the grange for its sociability, for an hour of rest and recreation; she needs the grange to meet with her and spend a social hour. The young men and women need the grange for sociability and education. There is no better school for the young men and women. In the grange, they learn parliamentary law, the rules governing deliberative assemblies, how to present motions and resolutions and how to discuss them, write essays and other literary exercises, interspersed with good and appropriate music. At proper times, other members exchange experiences in various methods of farming, how best to manage the farm, when and how to sell the products of the farm to best advantage and realize the largest profit, how to buy the supplies of the farm and home to best advantage. The wives, mothers, and sisters can profitably discuss the home, its duties, and how to relieve it of as much of the drudgery as possible, and make the home of the farmer as pleasant and as free from irksome cares as any home can be. The entire question of how to add to the pleasures and happiness of life, and the attractions of country, and increase the profits of the farm, add to its value, both as a home to live in and a means of making money—all these and hundreds of other equally interesting and profitable questions are weekly considered by the grange.

Farmers must remember that this is an age of organized effort, an age of rapid changes, and the methods of our fathers, however successful in the past, will not succeed now. New methods, new system, thought, brain culture, must be applied in keeping with the changed conditions, to insure success. What the farmer needs now is not more physical labor, but more



thought. The farmer who expects to keep to the front must do so by the power of knowledge—cultured brain, not muscle. I believe the farmer will succeed best who will spend one-fourth of all the hours he devotes to labor to mental labor and thinking and devising plans for conducting his business. I believe, further, that the farmer who will spend three or four hours each week attending some good grange, and with his mind quickened and sharpened by coming in contact with other minds, will, in the course of the year, make and save more money than the same man will with all his time spent in physical labor, saying nothing of the pleasures of life and our duties to each other as citizens, and the growth of knowledge gained thereby.

The pleasure and profit of being a member of the grange will be very largely increased by an increase of the membership of the order. Larger membership will make the meetings more largely attended and more profitable. With a larger membership, those outside of the order will have a higher opinion of our order, and farming generally. The farmer's influence will be increased, his social, business, and political rights will be more respected. Farmers organized and understanding what laws they need to give them an equal chance in life will command respect and attention. When political conventions are called, party managers will understand that the farmer merits and desires recognition in framing party platforms and in selecting candidates for important positions. In legislatures, state and national, the farmer will be represented by men who understand the wants and needs of agriculture and will have men in position to see that just and equitable laws are enacted and enforced. Then will come a purifying of official management. Men of official life will understand what labor it takes to earn a dollar by the "plain, common people." Trusts and combinations will be unable to influence legislation and bias decisions in courts. The "plain, common people" will have influence in all departments of county, state, and national government. Taxes will be lower and all public moneys will be used to benefit the entire people. Then our government will again approach the simplicity and economy practiced by our forefathers, who established it. Then class-distinction will disappear and men and women will be honored and respected for their moral and mental worth, and not for the dollars that they control.

Patrons, let us co-operate in every State and county and in every grange to build up our order and to improve our business. In counties where new granges are needed, let good, earnest, active committees assist the deputies to enlist the interest of the farmers in the establishment of a good grange. If all our members will do their part, their full duty in this great work, the order will prosper.

Patrons, I mean each individual member, what will you do? Will you do your part, and do it well, and have a share in the honor of helping organize the farmers of our country, in one great national, fraternal, educational, social, and co-operative organization?

Farmers, the world respects and honors those who respect and honor themselves, and work earnestly and honorably to better their condition. AARON JONES, Master of the National Grange, South Bend, Indiana.

The Joint Shorthorn Sale.

The joint combination sale of Shorthorn cattle, held at Kansas City, April 27, by Messrs. Glick, Powell and McCoy, was well attended by the breeders and resulted in a fairly successful sale, especially in view of the fact that many of the animals were thin in flesh and young. Twenty-four bulls brought \$2,730; average \$113.75. Forty-three females brought \$4,625; average \$107.58. Sixty-seven Shorthorns brought \$7,355; average \$109.77.

G. W. Glick & Son sold one bull for \$175 and 22 females for \$2,420, an average of \$110, a general average for 23 head of \$112.52.

John McCoy sold six bulls, at an average of \$152.50, and 15 females at an average of

WE PAY YOU

children to the busy business man. sent on receipt of 5 cents (stamps).

DOUGHERTY'S SCHOOL OF SHORTHAND AND TYPEWRITING, 725-27 Kansas Avenue, Topeka, Kans.

THE SHAWNEE FIRE INSURANCE COMPANY,

.....TOPEKA, KANSAS.....

Insures Against Fire, Lightning, Windstorms, Cyclones and Tornadoes.

The only company in Kansas with a paid-up capital of \$100,000. It writes more business in Kansas than any other company. It has paid losses amounting to \$493,266.63. Call on your home agent or write the company.

DO YOU WANT A FARM

OR A RANCH? 7,000,000 acres Ranch land—1,000,000 acres Farm land, located in NEBRASKA, KANSAS, COLORADO, WYOMING and UTAH. For sale by the UNION PACIFIC RAILROAD COMPANY at greatly REDUCED PRICES on ten years' time and only 6 per cent interest. LIBERAL DISCOUNT FOR CASH. Please refer to this paper when answering advt. B. A. McALLISTER, Land Commissioner, U. P. R. CO., Omaha, Neb.



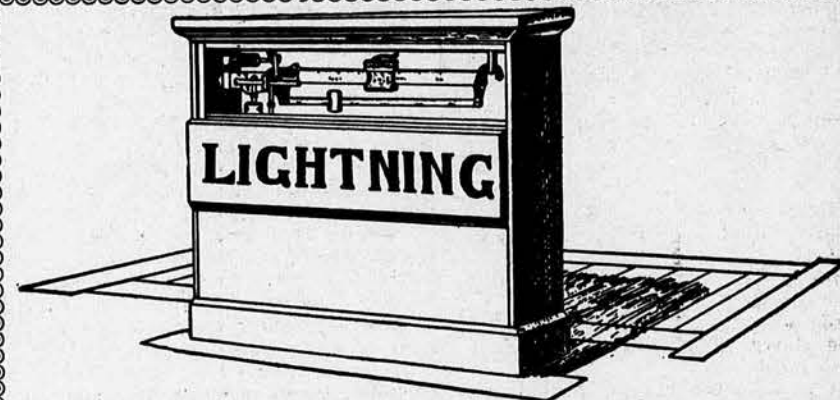
OUR YOKE SAVES LAWSUITS

BRUISED HEADS AND FAMILY FEUDS,

Because

they keep cattle in a wire enclosure where they belong. Price, 75c each; or \$4.50 per dozen. Our Wire Hangers only 20c, and the best appliance for the money that can be purchased anywhere; \$1.20 per dozen. Satisfaction guaranteed.

Address ROGERS MANUFACTURING CO., Harper, Kans.



U. S. STANDARD SCALES.

GUARANTEED ACCURACY, STRENGTH AND DURABILITY.

Compound Beam Furnished on all Scales. No Extra Charge.

Kansas City Hay Press Co., 129 Mill St., Kansas City, Mo.

\$118.33, or a general average for 21 head of \$128.10.

Powell Brothers sold 15 bulls, at an average of \$92.66, and 8 females at an average of \$85, or a general average for 23 head of \$90.

The top price of the sale was \$225 for the Glick Bates cow, Lady Bates of Shannon Hill, bought by B. W. Gowdy, of Garnett, Kans. Hon. S. S. Benedict, Benedict, Kans., secured the straight-bred Cruickshank herd bull, Imperial Knight 119669, of the John McCoy consignment for the low price of \$130, a very great bargain for Mr. Benedict.

The heaviest buyers of choice animals at this sale were, B. W. Gowdy, Garnett, Kans.; C. F. Wolf & Son, Ottawa, Kans.; C. F. Stodder, Burden, Kans.; Ryan Bros., Leavenworth, Kans., and C. N. Whitman, Denver, Col., for his Texas ranch at Taos, N. M.

The other buyers at the sale were as follows: J. H. Miles, Falls City, Nebr.; G. M. Chiles, Buckner, Mo.; J. H. Morehead, Falls City, Nebr.; C. C. Bigler, Hartwick, Iowa; W. A. Forsythe, Pleasant Hill, Mo.; Dr. C. M. Coe, Kansas City, Mo.; H. B. Peairs, Lawrence, Kans.; E. C. Trembly, Comiskey, Kans.; Geo. McCart & Son, Humeston, Iowa; Chas. Chartier, Ames, Kans.; Fred Cowley, Columbus, Kans.; G. D. Stratton, Walton, Kans.; Sam Cox, South Greenfield, Mo.; R. T. Scott, Pawnee City, Nebr.; A. Marsette, Concordia, Kans.; Carl Weidling, Topeka, Kans., and W. N. Winn & Son, Kansas City, Mo.

Excursion Rates to Western Canada

And particulars how to secure 160 acres of the best wheat-growing land on the continent, can be secured on application to the Superintendent of Immigration, Ottawa, Canada, or to the undersigned.

Specially conducted excursions will leave St. Paul, Minn., on the first and third Wednesdays in each month, and specially low rates on all lines of railway are being quoted for excursion leaving St. Paul on April 5 for Manitoba, Assiniboia, Alberta and Saskatchewan.

J. S. CRAWFORD,

214 West Ninth St., Kansas City, Mo., Government Agent.

Where to go on your Vacation.

The summer climate of Southern California is delightful. Go there and see the wonders of the great West en route. Low round-trip rates will be made late in June and early in July by the Santa Fe Route, with liberal privileges, choice of return routes, and long limit. Send for full particulars.

T. L. KING, Agent, Topeka.

THE STRAY LIST.

FOR WEEK ENDING APRIL 27, 1899.

Lincoln County—J. S. Stover, Clerk.

MARE—Taken up by George Keizer, on the 8th day of March, 1899, in Highland tp. (P. O. Willson), one black pony, about 8 years old, weight about 800 pounds; three white feet, star on forehead, white on nose; valued at \$12.

Montgomery County—D. S. James, Clerk.

MARE—Taken up by Fred Ringlisen, in Rutland tp. (P. O. Havana), April 5, 1899, one gray mare, weight 900 pounds, 15 hands high, about 14 years old, roached mane; valued at \$15.

FOR WEEK ENDING MAY 4, 1899.

Pratt County—John Mawdsley, Clerk.

HORSE—Taken up by L. D. Humble, in Faxon tp., March 14, 1899, one black horse, about 4 years old, small star in forehead and small white spot on left side; valued at \$20.

Montgomery County—D. S. James, Clerk.

COW—Taken up by W. I. Long, in Fawn Creek tp. (P. O. Tyro), April 8, 1899, one red cow, 4 or 5 years old, small brand "Y" on right side, crop off each ear. STEER—By same, one red steer, 1 year old, small. CALF—By same, one red steer calf; total value, \$15.

The Home Circle.

THE LOVE THAT REACHES HEAVEN.

The heart that feels for others' woes,
That wipes the tears of sorrow
From weeping eyes, when grief o'erflows,
And brings us bliss to-morrow,
Is the true heart, of priceless worth,
Blest boon to mortals given;
It throbs with pure love here on earth,
And reaches up to heaven.

The voice that soothes us in our pain,
That cheers the hours of sadness,
And brings the sunshine once again
To souls who long for gladness,
Is the kind voice, whose words of cheer
In tried, true friendship's given!
It binds fond hearts with love-links here,
And reaches up to heaven.

The hand that helps us in our need,
That leads us safe through sorrow,
And gives us trust and aid, in deed,
Till dawns the fair to-morrow,
Is the strong hand, so tried, so true,
In friendship's spirit given;
It fills the heart with love anew,
And reaches up to heaven.

The lips that kiss our cares away,
That bring the sunshine brighter,
And fill our home with bliss each day,
And make the heart beat lighter,
Are lips so fond, so pure, so sweet,
In all life's pleasures given,
That oft their touch of love we'd greet,
Which reaches up to heaven.

The love that cheers us on our way,
That fond, sweet, tender token,
Whose ties, grown stronger day by day,
Bind hearts in links unbroken,
Is love so true, of precious worth,
To weary mortals given!
It thrills the hearts of all on earth,
And reaches up to heaven.

Written for Kansas Farmer.

KINDLING A FLAME.

BY PHOEBE FARMALEE.

If you had looked into a certain large kitchen in a certain roomy, old-fashioned house in a town in the Western Reserve, some time in the early 60's, just before dinner one day, you might—and then again you might not—have seen a young woman soberly and patiently trying to build a fire; your imagination must be a factor in the success of my story. Why fire-building in an innocent cook-stove should bring lines of care and anxiety into an otherwise comely face is the task of this pen to make known.

She laid the sticks carefully upon the systematically arranged kindling, and striking a match with the precision of experience, applied it to the waiting shaving. Then she sat back—she had been kneeling as before a shrine. She knew, or thought she did, that the match, the shavings, and the finer and coarser sticks would do their part with no further thought or effort on her part.

Her glance moved listlessly around the room, and this is what she saw. An old spinning wheel in one corner, a modern safe in another; behind the modern stove was a closed, old-fashioned fireplace, and above it a little to one side hung a bellows which had once been a necessity in the art of fire-building. Does she speak? Listen:

"This kitchen is just like Cousin Rachael—odd! I'm another of her notions—and I don't know what I should do if I wasn't. I did hope—but she is good to her third cousin's daughters; she takes good care of her grandmother's spinning wheel, too; and that bellows, now, is real ornamental, but entirely useless."

But while she had been musing the fire had not burned.

"Of all things! There is just a little flame and some charred sticks—I'll blow it a little—I did hope it would go itself—it acts just like everything else now-a-days—but it's got to go!"

She was down on her knees again, and her face was flushed with the exertion of puffing her breath into the sluggish fire.

"It's of no use; I haven't got strength enough—I'll try the old bellows—I'm getting desperate!"

"There now! Who would have thought a blast of cold air could start a fire?" and she worked the old bellows until the sticks began to crackle in the brisk fire; then she hung it up and arose with a glow of cheerful thought in her eyes.

"I wonder," she began, then paused in her filling of the teakettle. "I believe I've learned a lesson of that old bellows—as sure as preaching, I believe I have." She set the kettle upon the rapidly heating stove, and stood straight up with her hands clasped tightly in front of her, her lips parted and her gray eyes shining—you can see that she is pretty even if you imagine her to be nearing twenty-six or twenty-seven.

"I've been gentle and sweet—and maybe a little soft—and, well, the fire hasn't burned and I'm almost afraid it isn't going to. Of course I've got a good home and a kind old cousin; but it isn't, no, it isn't like having a home of one's own with the best man in the world, and being considered the best woman in the world—well, I've thought Nicholas Barnum, at times, looked as if he thought so; but he hasn't said so—he's 'smouldering.'"

"I'll just add some more fuel to this

fire," placing some more wood on the fire, in her neat methodical manner, "and then let's see what we can do with that other case—you and I," and she patted the old bellows lovingly, as she passed it.

She already began to feel a new and surprising independence, which to her seemed to foretell success in her new tactics.

"I might be too busy to take the next buggy ride—or indisposed to go to church next Sunday night—anything to seem cold—I guess I can do it—I must, if I don't want the fire to go out; but what if I extinguish it? then it will be no worse than I fear it is now; and I won't mope, but be bright and independent."

She found herself singing, then laughing, because she felt like singing.

Off in another room Cousin Rachael stopped he knitting and listened: "I believe Diana's singing—open the door, Dick—yes, and whistling. Do you suppose, Dick, that Mr. Barnum has proposed?"

"How can I tell, grandma? I'll go and see if you want me to."

"Never mind, Dick, Diana's a good girl—good enough for Mr. Barnum, even. She'll do well if she gets him. Do heard her sing!"

"I've been thinking, Dick, for some time that perhaps it was my duty to look after her interests a little—my own third cousin's daughter—and to speak to Nicholas Barnum; ask him why he hangs around a young woman for a year—going on two years, now—and she getting on toward thirty, if he doesn't mean anything serious; but now seeing she is singing—and hasn't sung before for I can't tell how long, perhaps I'll wait a spell longer. Diana isn't going to a new home—handed—I could tell him that. What did you say, Dick? There's enough for you both—of the property, I mean."

"I didn't say anything about property; I think as much of Diana as you do; I was thinking she might not like you to interfere. He'd think she was silly to let you, and she might feel silly; and if I were in Mr. Barnum's place I wouldn't think any more of the girl to have a third person try to dispose of her."

"Dick, how you talk! How can a boy of seventeen know anything about such things?"

Dick sauntered out into the kitchen, to see if dinner was in course of preparation.

"In your normal condition, Dick?" queried Diana, cheerfully.

"I believe I have the usual vacuum in the usual place," answered Dick with a tragical gesture, indicative of the place, but with his keen eyes searching for reasons for the return of the long-absent, happy mood now so apparent in Diana.

"Has something good happened?" he finally asked.

His manner was less ambiguous than his words.

"Yes," she quickly retorted, "I've made a declaration of independence, and you don't know how good it feels—Dick, you go for the mail to-night." She had veered from the subject, but Dick understood.

"All right! And you take a walk on past the office—on to see old Mrs. Bidwell or somebody else; and dress up your prettiest and forget to look in and speak to the postmaster (I'll bet by the time you come back he'll be standing outside). Then be thinking of something else when you do have to speak, and—and—Oh I know how such things work!"

"Why, Dick, where did you learn all this wisdom, and why didn't you tell me before?" Diana was actually blushing.

If the postmaster, Nicholas Barnum, was surprised to hear Dick Brown ask for the family mail, it was no more than Dick expected; as he took it he leisurely looked over the letters and papers, smiling knowingly as he flourished the letter addressed to Miss Diana Davis—Dick knew how to take advantage of circumstances.

"Is—Miss Davis well?" stammered the official.

"I guess so"—indifferently. "Yes, there she goes now." But Mr. Barnum did not know that it was no more than Dick expected.

"She usually comes for the mail—and I wondered—I didn't know but—it's going to be a fine evening."

"She had 'other fish to fry,'" replied Dick, still carelessly; and Mr. Barnum wondered whether the remark applied to a possible buggy ride in the pleasant evening.

A half hour later Diana Davis was returning from a pleasant call, and was moving easily and gracefully along, looking her best and really forgetful that she was about to pass Barnum's bookstore, where the post-office was kept, when a familiar voice said, "Miss Davis, aren't you going to speak to your friends?"

"Oh, I beg your pardon—I was thinking of something else!" remarked Diana pleasantly, and was about to pass on, the new-found independence still strong within her.

"But, Miss Davis, the moon is full, now,

AFTERNOONS OFF

Tied down to housework, to the scrubbing brush and bucket, to the dish pan and housecloth, is the condition of the woman who still uses soap in her cleaning. On the other hand the woman who uses Gold Dust has her work all done by noon, does as she pleases in the afternoon. With Gold Dust she does her cleaning with half the effort, in half the time and at half the cost as with soap or any other cleanser. For greatest economy buy our large package.



THE N. K. FAIRBANK COMPANY

Chicago St. Louis New York Boston

and I didn't know but you—I mean I wish you would take a drive this evening."

"Diana was surprised at the note of entreaty, and looked so. She hesitated an instant; then remembering the means of her success with the kitchen fire a few hours before, answered regretfully but firmly, "I am afraid it won't be convenient—it will be a lovely evening."

Mr. Barnum gazed after her until a small boy roused him by asking for half a dozen slate pencils. He did the duties of his shop absently, forgetting to take pay and forgetting to make change. He could only remember the trim figure and fine face of the girl whom he had thought he could have for the asking—until now. And the more he thought about it the finer the face seemed and prouder and more graceful the carriage; and altogether more desirable was the young woman who might not want him, after all.

"I believe I've ratified my independence," declared Diana to herself as she went home. "And I really feel more independent and happy, the more I act so," and she fell to singing again.

Dick, out in the flower beds, smiled. Sunday evening brought a more humble suitor for Miss Diana's favor.

"I was afraid you'd say no again, if I asked if I might come; so I came right along." And he looked so beseeching that Miss Diana smiled at the way the tables had turned, but did not feel called upon to reply.

"Shall we go to meeting, or shall we ride?" Mr. Barnum was turning his hat uneasily in his hands. Miss Diana was unusually cool and collected.

"It makes no difference to me," she answered, with charming indifference.

"Then let's ride—or sit here under the trees; see how the moonlight sifts through the leaves." He had dropped into a sentimental mood, and Diana felt that her independence was coming to an end, and murmured something about the duty of going to church.

The most moonlight fell in a spot secluded from the street and from the windows of the house, and so Mr. Barnum chose to sit there, and Diana yielded gracefully enough. Dick says they sat there until eleven o'clock; and he says, too, that he overheard some of their conversation. Diana says Dick exaggerates—it wasn't nearly so sentimental as he makes out. Of course she acknowledges that then and there she promised to give up her independence—or a part of it; and Mr. Barnum went away feeling proud and happy.

Among the gifts for the new home was an old-fashioned fire bellows—Diana asked for it and Cousin Rachael gave it up cheerfully enough.

"I can't see what you want of it—you will never need to use it; but then it used to belong to your grandmother Atkins' sister—her name was Diana, too; so it seems appropriate that you should have it. I used to think you despised to see such old things cluttering around."

But the old bellows held its place of honor among bric-a-brac of less value if of more attractive form, and received its weekly dusting by the most notable housekeeper in the town—she who was Miss Diana Davis.

Kansas Sea Serpent.

Once there were genuine sea serpents, or at least there were forms of reptile life that might have served every purpose of sea serpents could they have been perpetuated to the present time. Anyone who has doubts on this subject may have his doubts removed by visiting the museum of the University of Iowa, for the Davenport Alumni Association has just presented to this institution one of the most interesting and complete skeletons of these old-fashioned lizard serpents so far discovered. In times

gone by a shallow sea stood over western Kansas, and in this sea numberless lithobodied serpent-like creatures disported themselves or savagely fought each other in the ever-recurring conflicts that animals wage for food. The forms in question had each the elongated, flexible body and the forked, protrusible tongue of the serpent. The body, furthermore, was covered with scales. But unlike serpents, these creatures had limbs. The limbs were too weak to be of use in terrestrial locomotion; but, being modified into paddles, they served effectively as organs of propulsion in the sea. Mosasaurs is the name science gives to these strange reptiles. They are not serpents, but are in reality lizards of snake-like proportions and gigantic size. The larger individuals measured forty-five feet in length, large enough to satisfy the most imaginative dweller at our fashionable seaside summer resorts. The more common dimensions met with, however, range from fifteen to thirty feet. Very seldom are the skeletons perfect. They were usually dismembered, and the bones were more or less scattered by various agents before they were completely covered and protected by the accumulating ooze of the sea bottom. Even after complete imbedding the bones were generally broken or distorted by pressure of the superincumbent sediments. The specimen just received at the University of Iowa is unusually perfect. With the exception of a number of the last caudal vertebrae, every bone is present and is practically free from distortion or crushing. The vertebral column, the head, the limb bones, the ribs, the pelvis—all are present, except as noted above, and all are practically in their normal position and relations to each other. This most unique and valuable specimen, the most perfect, probably, that has ever been recovered from the hardened ooze of the cretaceous sea bottoms, indicates an individual that, when alive, must have measured about twenty-five feet in length.—St. Louis Globe-Democrat.

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Visitor—But the cherry tree story has been proven a myth.

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The Young Folks.

THE STOPPING OF THE CLOCK.

Surprising falls the instantaneous calm,
The sudden silence in my chamber small;
I, starting, lift my head in half alarm—
The clock has stopped—that's all.

The clock has stopped! Yet why have I so
found
An instant feeling almost like dismay?
Why note its silence sooner than its sound?
For it has ticked all day.

So many a life beside my own go on,
And such companionship unheeded keep,
Companionship scarce recognized till gone,
And lost in sudden sleep.

And so the blessings Heaven daily grants
Are in their very commonness forgot;
We little heed what answereth our wants—
Until it answers not.

A strangeness falleth on familiar ways,
As if some pulse were gone beyond re-
call—
Something unthought of linked with all our
days—
Some clock has stopped—that's all.
—George H. Coomer, in Youth's Companion.

Written for Kansas Farmer.

YOUNG FOLKS IN THE OLD COUNTRY.

BY ANNA MARIE NELLIS.

NUMBER 58.

THE KING'S PALACE.

A long while ago I prepared an article descriptive of the various palaces and some of the public buildings of Berlin, but laid it aside for other matters which I have written about from time to time.

At the western terminus of Unter den Linden—usually designated by the last word "for short"—is the Brandenburg Gate. This startling piece of information I think I have mentioned several times before. At the eastern limit of the same street is the "Lustgarten" and the historical and architectural centre of the city of Berlin; here being the Royal Opera House, the University, arsenal, old and new museums, the picture gallery, the palace of Empress Frederick, the King's Palace, and the Schloss, or royal castle, occupied by the present Emperor when he resides in Berlin.

Very near and just behind the Royal Opera House, is the old St. Hedwig's Kirche, the principal Roman Catholic Church in the city. For the inquisitive public who wish to see everything, this locality is especially convenient as so very many interesting objects and buildings are so close together.

Intervening between the Brandenburgerthor and the statue of Frederick the Great, which stands between the University on the north and the King's Palace on the south side of the Linden, are very many fine stores and the buildings of the various embassies. The stores are all quite brilliant with extravagantly fine goods, for which extravagantly fine prices are demanded, because they are offered for sale on the royal street of Germany's capital.

The American embassy, lately removed from Kronen street, is now located in the third block from the gate; but the rooms are neither handsome nor numerous. In order to make a showing with other embassies, in proportion to the greatness of our country, there should be a great big appropriation made by Congress and sent to our Ambassador with instructions to see that no foreigner hides a single feather of the great American eagle.

But the building I want to talk about is the King's Palace, the former home of the "Old Emperor," William I, whom the present Emperor desires his faithful subjects to speak of as "William the Great." This building I see every day from the window at the University, and my view also includes the beautiful statue of the great Frederick, described in my letter number 3. This I see as the good old Emperor saw it every day from his study window directly opposite.

In comparison with some other royal residences, this is a modest and unassuming building. It was occupied by William when he was only Prince of Prussia and heir apparent to the Prussian throne; when he became regent during the mental illness of his brother, Frederick William IV, it remained his home; and when, on January 2, 1861, he became the actual King of Prussia, he thought it yet good enough for him; and in 1871, when he was crowned Emperor of the "Fatherland," he loved it too well to leave it, and in it his eyes last saw human objects, and from it he was borne to the mausoleum in Charlottenburg.

During the life-time of the old Emperor this palace was open for inspection whenever his Majesty was absent from Berlin; and since his death it has been practically a royal museum, or monument to the good old man, and is visited by very many tourists every day of the year, whenever by the royal rules it is open for the public.

Two soldiers are always on guard in front of the main entrance, both day and night; but this is not an unusual thing in Germany, as every royal building in all the cities is equally well guarded. I once asked

an officer why there were always guards at every entrance to the buildings belonging to the crown, and whose only occupation seemed to be to stand like stone statues until an officer or some nobility in uniform passed by; then like automatic machines they salute by holding their guns perpendicular to their noses until they have counted seven slowly. The answer I received was to the effect that the Emperor had so many soldiers he did not exactly know how to employ them in time of peace; but by standing a few thousand on guard at the various palaces, he could thus provide a semblance of work for them.

Not knowing by which entrance our party could gain admittance, I calmly walked up the neatly graded gravel walk to one of the guards and asked him for information. He scowled and told me it was not allowed to come up the gravel walk. I told him I didn't mind except that it was rather hard on shoe-leather, and that my American shoes were on their last road and I could get no others until I sent to America, as I could not wear the express boxes made in Germany for foot gear. He looked at me with speechless astonishment that I should so lightly refer to anything of such importance as that royal walk. He dared not make reply, as guards are not allowed to speak except to give directions. He gave the direction required, in one word, "links" (to the left).

As usual, we found the direction wrong, for the entrance was on the right, but the guard no doubt meant to the left of himself and he was facing the wrong direction for us. We were ushered into a vestibule, where we had to wait for a guide who was piloting another party through the palace. Here we found an officer on duty in the usual spiked helmet and showy uniform.

In our party of fourteen were six Americans, no one of whom could speak German except myself; so I acted as interpreter, our guide being a German, of course. He would speak a sentence in his descriptions slowly and then wait for me to repeat it in English to my foreigners from the United States. He was very patient and went along very slowly; but he wished to please, in anticipation of some fair-sized fees from the liberal Americans. One guide in Potsdam once told me that he would have a poor time of it if Americans should quit coming to Germany.

We were led from the vestibule into a small but handsome salon, the walls of which are decorated with paintings illustrative of the military history of Brandenburg and Prussia. Prominent among these is the famous sledge journey of the "Great Elector" and his troops in mid-winter along the shores of the Havel, which resulted in the routing and retreat of the Swedes from Prussia. Other paintings show many of the principal events in the reign of Frederick the Great, and others depict scenes in the revolution of 1848.

There are also in this salon, ranged on shelves, models of Prussian steel artillery and statuettes of German, French, Russian, and Austrian soldiers; and the window recesses are ornamented with busts of the electors of Brandenburg and kings of Prussia.

We were next shown the "Ministers' room," where the diplomatic representatives of foreign governments used to be received by the old Emperor. Here are several fine paintings by artists, both original and from the masters. At one end of the room is a sort of pyramid, used to receive the flags of guard regiments stationed in Berlin; the flags now there were deposited on the day the Emperor died. Between the two windows looking out on the Linden are some handsome porcelain vases, which were presented to the Emperor by his nephew, the late Czar Alexander of Russia. This room has leather furnishings.

Adjoining the "Ministers' room" is one filled with armor and presents of all shapes and kinds. It is said of Kaiser Wilhelm I that he had every little present as well as the big ones carefully preserved and labelled to tell its origin. The most prominent object in the room is a large relief-plan of the battlefield of Koeniggratz, extending from the heights of Dub, where the King mounted his horse and where the first shots fell, to the fortifications of the town. It shows at a glance the entire space, and the on-looker is enabled to thoroughly realize the movements executed by the King and his army on that eventful day. Around the table in this room are six chairs, in which the members of the Emperor's council used to sit; and the Emperor's chair is higher than these and so arranged that he could see the Koeniggratz battlefield plan, or by turning his view toward the window he would see the beautiful statue of his illustrious predecessor. At this table in 1866 and in 1870, King William signed the orders for mobilizing the Prussian army, which resulted, in the first case, in the humiliation of Austria at Sadowa, and in the other the downfall of Napoleon III and the end of the French empire by the victory of Sedan.

On the wall of the "Color Room" is a

painting representing the ancestral fortress of the Hohenzollerns at Hechingen before it was "restored" and modernized.

The most interesting room in my estimation is the "Study" of the old Emperor; the room is not large and has two windows facing the Linden and two facing the small park between the palace and the opera house. Here are full-length portraits of the old Empress Augusta and the Czar of Russia, and on the shelves are ranged miniatures and photographs of the four generations of Hohenzollern who have lived since 1887.

At one end of the room stands a bronze statue of the gallant Sergeant-Major who planted the Prussian standard on the Duppel redoubt; and around the room are marble busts of Frederick the Great, Frederick William III, the old Empress' sister, the Czarina of Russia, Alexandra Feodorovna, and the Princess Charlotte of Prussia; all of whom have passed the boundary which marks the place of equality of prince and peasant. There are also statuettes of the Czars, Nicholas and Alexander II, in Cosack and Russian uniforms, in the window recesses.

In front of one of the windows overlooking the Linden is the writing desk of Kaiser Wilhelm I, covered with papers, paper weights, knives, ink bottles, and a few small pictures of his Empress when she was very young, pictures of his son, grandson and great grandson. The desk is supposed to be just as the old man used it the last time he wrote. In this room I saw a picture of Queen Victoria as a young girl, of Prince Frederick, her grandson, in his first pair of trousers; but I noticed that there was a scarcity of English pictures and none of the old Emperor's daughter-in-law, the dowager Empress of Germany.

Near the "Study" is the palace library; it is a dark, narrow apartment, with an iron staircase at one end, leading to the rooms formerly occupied by the old Empress Augusta. The library contains, principally, military works with plans and maps of many different countries and cities. It also has the Emperor's manuscripts and several portfolios of engravings, lithographs, photographs and caricatures, among the latter being several hundred of Napoleon III.

It was nearly noon when we stood again in front of the window at which the old Emperor used to stand with his great grandson, now the Crown Prince, to review the guard as it passed by at noon to relieve the morning guards on duty. The picture of those two, representing them at this window, is very often seen in all places in Germany. During the last year of his life, when too feeble to stand out on the balcony, he reviewed the guard from this window and hundreds and even thousands of his faithful subjects would congregate each day at noon to catch a glimpse of their beloved King and Emperor. But one day in March, 1888, he did not greet the people; their city had become a place of mourning for their old friend had reviewed his guard for the last time; he had gone to answer the celestial roll-call and in turn to be reviewed by the Royal Master of all mankind.

It was just 12 o'clock as we stood looking out at the window, when we heard the band and the guard approach. The guide was very particular that we should look out of the balcony window, for no one has been allowed to view the guard from the Linden window since the Emperor's death.

On another floor of the palace are the family apartments—the reception room, dining room, etc.—all facing the Linden and beautifully but rather simply furnished, considering they were the living rooms of the richest sovereigns of Europe, the Czar of Russia excepted. The "Winter Garden" is back of the reception room, the roof and sides of which are all glass, and filled with most beautiful vases and jardinières of all shapes and kinds. Adjoining this is a small ball-room with a large dome in the centre, and it has the acoustic properties possessed by the central dome of the Capitol in Washington. The echoes are something wonderful; for when one talks, whistles, or sings at all loudly, the echoes can be heard for at least a full minute.

Our guide always spoke of the "Old Emperor" as "His Blessed Majesty," Emperor William the Great." Well, he deserves the title, and I trust his title "to mansions in the skies" is equally well founded.

Parts of a Locomotive.

In the formation of a single locomotive engine there are nearly 6,000 pieces to be put together, and these require to be as accurately adjusted as the works of a watch.—Cincinnati Enquirer.

Insure yourself against the attacks of fevers, pneumonia and other serious and prostrating diseases by taking a few bottles of Hood's Sarsaparilla now.

Hood's Pills are the favorite family cathartic. Easy to take, easy to operate.

The Making of a Great Singer.

"I was born at Farmington, Maine. My name was not Nordica, but Norton. Well, my parents believed a musical career to be about as reprehensible as a stage career, and for that they had no tolerance whatever. They did make an exception in favor of church music, else I should never have received the slightest encouragement. They thought music in churches was permissible, perhaps laudable. So when I displayed some natural qualities of voice, I was allowed to use it in behalf of religion, and I did. I devoured church music then, and, indeed, ignored all but that. The money I earned was no object. It seemed sufficient to my parents when I had risen to where I could earn a thousand a year in Boston, but I decided differently. I might have rested upon my oars there, for the distance from singing once a week in a church to singing in grand opera is long. Right there came in the question that confronts every musical aspirant at one time or another: Will he be satisfied with a part or does he want all? Will he, when he has gained a competence, regard it as nothing and work as though he had nothing at all? To go higher means to pay all that you can earn into the pockets of able teachers, and contribute all your strength for study in the bargain. They say Paderewski practiced eighteen hours a day at a silent piano until his muscles would stand no more. I believe it. Professor Tyndall says that he studied eighteen hours a day at Heidelberg for years. I believe that. I have heard dozens of stories of how hard people have worked, year in and year out, and I never doubt them."—Lillian Nordica in Ainslee's Magazine for May.

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KANSAS FARMER

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A QUARTER OF A CENTURY AGO.

It would doubtless be unfair to assume that an agricultural paper of any date fairly represented the thought of the farmers of its State and time. But there is probably no better index of the impulses which throbbed in Kansas twenty-five years ago than may be found in the *Kansas Farmer* of that period. Major—now General—J. K. Hudson had recently bought the Farmer and leaving his hilly Wyandotte County farm, had become its editor. He was then, as now, full of vigor and freighted with, perhaps, an over supply of enthusiasm. He was ready then, as he has been ever since, to fight any kind of a battle that came his way, and was not many years in confirming the full title of "Fighting Joe Hudson," earned during the war of the rebellion. His leading editorial twenty-five years ago tackled no smaller game than the President of the United States. It is not certain that a majority of the farmers of Kansas of that day endorsed the fighting editor's attitude, and it has been frequently noted that some of his later editorials in another journal and some of his later speeches were not in full accord with the editorial in question which was as follows:

"THE PRESIDENT'S VETO.

(From the *Kansas Farmer* of April 29, 1874.)

"President Grant has vetoed the bill for the issue of \$44,000,000 additional currency.

"To the South and West this action of the President is received with surprise, and for the most part with indignation. To the Eastern bankers and bondholders, to the European capitalists who hold our securities, this veto of the President, which increases the value of this property, gives great satisfaction. To the South and West, not yet recovered from the great financial troubles of last year, who are the creditors [sic:] who have these debts to pay, they find themselves without commercial prosperity and without money to pay these obligations to the East. To them the prospect is most discouraging.

"We have no long argument to make to show that our business, and the rapid development of the West, requires a greater volume of currency. To all sane men who are cognizant of affairs in the West, this is only too patent. Monied sharks, east and west, glory over the fact that the pound of flesh will have to be paid in full. The Wall Streets of the country all alike rejoice. The producers of the country, on the other hand, are almost unanimous in their condemnation of the veto.

"The result will be to postpone indefinitely the better times we have hoped for in the West, and politically to raise a troublesome issue in the Republican party—a Banquo's ghost that will not down at the bidding of the party leaders."

Twenty-five years ago was a time of great activity in the organization of the granges of the Patrons of Husbandry. The Farmer of that date contained much about the Grange. A sharp criticism of the general officers for locating the headquarters at Washington, D. C., was written in Mr. Hudson's characteristic vein. The order was feeling its spurs and was tending to the exploit in politics which so crippled its usefulness for years following. That the movement had the sympathy of the fight-

ing editor is manifest from the following editorial from the Major's vigorous pen:

"THE POLITICAL CAMPAIGN OF 1874 IN KANSAS.

(From the *Kansas Farmer* of April 29, 1874.)

"Already the bugles are sounding and the marshaling of forces has begun for the fall political campaign. The various localities are pushing forward candidates, and, as usual, there seems to be no lack of patriots who are willing to be sacrificed for the good of their State.

"We do not pretend to more than average political sagacity, but it seems to us most plain, that the time for the politicians who have heretofore 'run' townships, counties, and the State, agreeing how the offices are to be distributed, who are to run for office this year, and who are to wait for another season, has about come to an end in Kansas.

"Bonds have been plastered over almost every county in the State, and it has been possible to carry almost any local swindling measure where the half dozen leading men in the township or county have been willing. All this sort of thing is passing away and the people are waking up to the realization of the fact that it is about time for them to think and act for themselves.

"The coming election will show, we believe, an independence of opinion upon political affairs, new in Kansas. Whatever may be the results of the new party movement or the action of the old ones, the people at the ballot box will presume to vote for men upon their merits as citizens and individuals more than upon their party affiliations whatever they may be, or may have been. If Kansas is pre-eminent for one thing more than another, it is the high average intelligence and the absence of extraordinary great or brilliant men. The past record of her public men shows nothing more or less than substantial average sense.

"What the people are demanding to-day—is not brilliancy in her statesmen, but sense and integrity, and as to these qualifications, we believe each voter will exercise his independent judgment. The successful party in Kansas this fall, will be that party which puts forward the best men. Ballots this year will be cast for personal worth, integrity, and official qualification for the offices sought for."

It has been forgotten by a great many and may be news to many more that only a few weeks after the last quoted editorial was printed the fighting Major became the candidate of the opposition party in his district for Congress. He made a gallant campaign and accepted defeat as best he could.

There is again a revival of interest in the Grange, but not along political lines. The thoughts of the farmer are now directed to perfecting the processes of his avocation as a productive industry. He is not unmindful of his rights and duties as a citizen, but he is not now expecting a farmers' millennium through political manipulation. Farming is becoming more and more of a science and Kansas is devoting herself to the science and art of this industry with confidence and enthusiasm. A quarter of a century has taken off much of the speculative edge from Kansas affairs and has directed the best thought to other than political channels.

Subsequent political movements in Kansas have abundantly shown that no party can prove a patent right to the farmer vote of this State, that it is liable to be organized rapidly and effectively at any time when the conviction becomes prevalent that farmers' interests are not receiving due consideration, or what radical reforms are needed which existing parties refuse or neglect to secure.

But a bird's-eye view of the events in Kansas during the quarter of a century since General Hudson wrote the above quoted editorials confirms observations often made by careful students of popular movements, that permanent division into political parties is along the lines of difference between Hamilton and Jefferson, and that, whatever passing issues may do to deflect attention, the voters eventually revert to the old parties which represent the fundamental principles of which these two great patriots were the respective exponents.

A correspondent inquires whether all crops of the Gano apple after the first are culls. Secretary Barnes, of the Kansas State Horticultural Society, is authority for the statement that the Gano apple is neither more nor less than a red Ben Davis, and that it is in size, growth, and characteristics of both tree and fruit the same as the Ben Davis, except in the one matter of color. It is no more likely than the Ben Davis to produce culls.

Negotiations were closed last week whereby the Cudahys are to erect a monster packing plant at Kansas City, as fine as any in the United States. It will be erected on the Kingman & Co. site in Ar-

mourdale, Kans. Work will begin at once on the plant which, when completed, will have a capacity of 1,000 cattle and 3,000 hogs daily. The Cudahys already have packing houses at Omaha, Sioux City, Cudahy (Wis.), Nashville, and Louisville, and in California. The Kansas City live stock market will now be greater than ever.

BREEDERS' ANNUAL REPORT.

The Kansas Improved Stock Breeders' Association has just issued from the press of the *Kansas Farmer* its first published Annual Report in book form. It contains an introduction by Secretary Coburn, a history of the live stock organizations in Kansas by Secretary H. A. Heath, the full proceedings of the ninth annual meeting of the Kansas Improved Stock Breeders' Association, and the consolidation of the other live stock organizations of the State with it, together with the addresses, papers, and discussions as to the various branches of the animal industry of Kansas and live stock husbandry in general.

It is the first distinctive live stock report ever issued for Kansas and is a veritable live stock manual for the State. The Report also contains the Association's Kansas Breeders' Directory for 1899. As the association receives no State aid, but is supported entirely by its membership, it has been decided to charge a nominal price for the annual report, as follows: Single copy, 25 cents; 10 copies, \$1.50; or 100 copies, \$10. Address all orders to H. A. Heath, Secretary Kansas Improved Stock Breeders' Association, Topeka, Kans.

DEPENDENT FOR BREAD.

For the years ending June 30, 1897, and June 30, 1898, Great Britain obtained her wheat supplies from the following sources:

	1897.	1898.
America, per cent.....	48.0	55.0
India, per cent.....	00.3	6.5
Home-grown, per cent.....	23.0	22.9
Other, per cent.....	16.0	7.5
Totals, bushels.....	224,720,000	227,640,000

Discussing these figures, the *Millers' Gazette* suggests that it is correct to say that its country is dependent upon America for its daily bread. That paper further says:

"If, and when, America ceases, by reason of her growth of population, or her lack of wheat land, to be able to supply this percentage of our requirements, the price will rise, and with the increase of price will come an increase of the production of wheat in England, where a couple of million acres, capable of producing eight million quarters, could be devoted to wheat growing with but little trouble. This will be a slow process, however, for it will evidently be years before America, under ordinary circumstances, ceases to be the leading provider of wheat for the United Kingdom."

RAPE AS FEED FOR SWINE.

Editor *Kansas Farmer*:—How should rape be planted and harvested for hog pasture or to be fed to them as hay during the winter, and is it valuable? What proportion of protein is contained in the green forage and in the cured hay? C. M.

Rape has been warmly recommended for sheep, and especially for lambs, to be eaten green from the field or to be fed as a soiling crop. It has not been extensively used for hogs, but some carefully conducted experiments with hogs have been made by the Wisconsin Experiment Station. From the 1897 report of that station we get much of the following information:

Rape belongs to the same order of plants as cabbages and turnips. It expends most of its energy in producing an abundant crop of thick leaves which are not well adapted to curing into hay. No one would think of curing cabbage leaves for hay, but this would be about as practicable as to cure rape for hay. Rape is 84.5 per cent water, while green corn fodder contains 79.3 per cent, and green timothy contains only 61.6 per cent of water. Of the dry matter in rape 14.5 per cent is protein, against 9.6 per cent of protein in the dry matter of green alfalfa and 8.7 per cent in the dry matter of green corn fodder. In fattening materials rape is not so rich as either green corn fodder or alfalfa, and, as compared with Indian corn, it is scarcely to be regarded as a fattener.

Nevertheless, rape has proven valuable as a part of the ration for swine. The Wisconsin Experiment Station has reported two trials. In the first trial the hogs were Poland-China grades about eight months old. They were divided into two lots with ten in each. Those in lot I were folded on the rape, and those in lot II were kept in pens, were given no rape but fed the same grain as lot I, but both were given all they would eat. The hogs that were given the rape were fed lightly on grain at first until they began eating the rape. They had no pasture in connection with it, but were given small plots of fresh rape about every third day. The aim was to feed the hogs of both lots liberally on grain and have

them make about the same gains so that the grain feeding in pens might be fairly contrasted with grain feeding on rape. The corn was soaked for twenty-four hours and fed by itself whole; the shorts were fed in slop of medium thickness. The experiment continued for seventy-six days.

First Trial.—Rape for Poland-China Swine.

	Corn.	Shorts.	Rape.	Gain.
	Lbs.	Lbs.	Acres.	Lbs.
Lot I, rape.....	1,386	690	.32	853
Lot II, penned..	2,096	1,042		857
Difference.....	710	352		

The gains were practically the same. It will be seen from this first trial that lot I ate about one-third of an acre of rape and this saved 710 pounds of corn and 352 pounds of shorts, a total of 1,062 pounds of grain. At this rate an acre of rape was equivalent to 3,318 pounds of grain.

Another trial was made a year later with 38 Chester White grades. They were divided into two lots. Those in lot I were pastured on rape and those in lot II were yarded and had no rape. The experiment lasted seven weeks. During that time the 19 on rape ate .6 of an acre. They were given small plots of rape at a time, and were fed liberally on grain.

Second Trial.—Rape for Chester White Swine.

	Corn.	Shorts.	Rape.	Gain.
	Lbs.	Lbs.	Acres.	Lbs.
Lot I, rape.....	2,220.3	1,109	.6	1,066
Lot II, penned..	3,108.5	1,553		1,076
Difference.....	888.2	444		

In this experiment, as in the first, there was practically no difference in the gain. There was a saving of grain on account of the rape consumed. This saving amounted to 1,330.2 pounds. The saving of grain was not as marked as in the first experiment. This may have resulted from some differences in the abilities of the two breeds of swine to use rape to advantage.

The cultivation of rape may be described as follows: Prepare a good seed bed. About two to two and a half pounds of seed per acre may be drilled in rows thirty inches apart. The after cultivation should be such as to keep down weeds and grass and conserve moisture in the soil until the leaves cover the ground. In about two months after seeding the growth should be such as to admit of feeding. The time of seeding should, therefore, be determined at about two months before the time when it is desired to commence feeding the rape. It may be fed either by pasturing or by soiling. When fed to ruminating animals care must be taken to avoid bloat.



COL. O. H. COULTER.

The above is a fair likeness of Col. O. H. Coulter, of Seabrook, Kans., the patriot recently elected G. A. R. commander for the department of Kansas.

National Baptist Anniversaries

Will be held in San Francisco this year. For the first time in the history of this organization these meetings will be held on the Pacific Coast. The Santa Fe will sell round-trip tickets May 15 to 18, inclusive, with limit of July 15, for \$60.00. Liberal stop-overs permitted. Pullman palace and tourist sleepers and free chair cars to California daily. Call on Thos. L. King, Agent, Topeka, for literature and details.

National Educational Association. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY.

In the lovely city of Los Angeles, California, the above named organization will hold its 14th Annual Meeting, July 11th to 14th, 1899.

The Great Rock Island Route has issued a handsome book containing views and necessary information as to trains, rates and routes, and this will be sent to you by addressing with postal card or letter,

E. W. THOMPSON, A. G. P. A.,
Topeka, Kans.
JOHN SEBASTIAN, G. P. A., Chicago.

TO BE A NOTABLE GATHERING.

The tenth session of the Trans-Mississippi Commercial Congress has been called to meet at Wichita, Kansas, May 31 to June 3, 1899.

Each State and Territory lying west of the Mississippi River, and that part of Minnesota and Louisiana east of the river, and the Sandwich Islands are entitled to representation.

The governor of each State and Territory may appoint ten delegates; the mayor of each city may appoint one delegate and one additional delegate for each five thousand inhabitants, provided that no city may have more than ten delegates. The executive officer of each county may appoint one delegate. Each business organization may appoint one delegate for each fifty members, provided that no such organization may have more than ten delegates.

The governors of States and Territories, members of the Congress of the United States and all ex-presidents of the Trans-Mississippi Congress are ex-officio delegates with all privileges except that of voting and election to office.

OBJECTS OF THE CONGRESS.

The object of this congress is to promote the business interests, and develop the resources of the States and Territories entitled to representation, and to increase reciprocal and foreign trade by the discussion of questions pertaining thereto, and to cultivate acquaintance, fraternal feeling, and a hearty co-operation among the various commercial bodies, and thus influence legislation and individual effort and promote the general welfare.

SUBJECTS FOR DISCUSSION.

Discussions will be confined to questions of common interest to the territory represented. Local and political questions will be excluded. Any question germane to the object of the congress may be introduced by the delegates, but the following are suggested by the executive committee after a careful consideration of the many questions submitted by members:

1. Irrigation and the Arid Regions.—(a) "Should Congress Legislate in their Interests?" (b) "What can be Done for this Region by Individual Effort?" (c) "New Plants Adapted to Arid Lands."
2. Improvement of Western Rivers.—(a) "Floods of the Mississippi, Cause and Remedy." (b) "Deep Water at the Mouth of the Mississippi." (c) "Preservation of the Forests."
3. Water Transportation.—(a) "Nicaragua Canal." (b) "Harbors on the Pacific Coast." (c) "Gulf Outlet."
4. Transportation Facilities of the West.—(a) "Equitable Rates to Tide Water."
5. Our Trade and How to Increase It.—(a) "With Mexico, Japan, China, Hawaii, the Philippines and Cuba." (b) "Pacific Coast Cable." (c) "Ship Building on Pacific Coast."
6. Mining in the West.—(a) "Should There be a National Department of Mines?"
7. Agriculture.—(a) "Beet Sugar Industry." (b) "Introduction of our Indian Corn in Europe as a Culinary Article."
8. National Quarantine.
9. Statehood for the Territories.
10. Monroe Doctrine.
11. Homestead Laws.
12. Trusts and Combines.—(a) "Are They Beneficial?"
13. Our Foreign Possessions.
14. United States Senators, Should They be Elected by the People Direct?"
15. Our Representation at the Louisiana Purchase Celebration and the Paris Exposition.

THE BEST TALENT.

The men to whom have been assigned the subjects for discussion, have made national reputations by practical work and laborious study of the several subjects assigned them. It is expected that there will be present, the President of the United States, the governors of the several States and Territories, and many of the members of the National Congress, both Senators and Representatives, as well as some of the leading men from Hawaii. Hon. Hugh Craig, the president of this congress, is ex-president of the Chamber of Commerce of San Francisco, Cal., one of the most influential commercial bodies in the United States. The debates in this congress will be participated in by the most eloquent orators of the West, and a day spent here will be more interesting than a day in the Senate of the United States. This will be a notable gathering of the influential commercial men of the West.

WICHITA.

California, Colorado, Missouri, Nebraska, Louisiana, Texas, and Utah have in turn hospitably entertained the congress. It now falls to the good fortune of Kansas to have the congress at Wichita, a city of twenty-five thousand inhabitants, enjoying the distinction of being a commercial center of the State and the jobbing center of the Southwest. The city, during the spring and summer, is a veritable forest of shade

trees, with beautiful residences and well-kept lawns; it is one of the most inviting cities of the West. Four large trunk railways enter the city from different directions, the Missouri Pacific, the St. Louis & San Francisco, the Atchison, Topeka & Santa Fe, and the Chicago, Rock Island & Pacific. Special rates will be made over all these roads. Ample hotel accommodations can be had at reduced rates. Delegates will be cordially welcomed and the citizens will take special pride in entertaining them.

TRANSPORTATION.

The Western Passenger Association has granted the congress a one and one-third fare for the round trip but an effort is being made to secure a rate of one fare for the round trip on all the railways within the territory embraced by the congress. Specific information may be had on application to the agents of the several railways, or by addressing the secretary of the congress, at Wichita.

RESULTS.

The Trans-Mississippi Commercial Congress has held nine sessions influencing the National Congress to a greater degree than all other bodies in the United States together, among which may be noted the annexation of Hawaii, deep water on the Gulf, reduced railway transportation, the Nicaragua Canal, the bankruptcy law, and a general awakening of the agricultural and commercial interests of the West.

E. R. MOSES, Chairman,
Great Bend, Kans.

J. HUDSON McKNIGHT, Secretary and
Treasurer, Wichita, Kans.

Timber--Hedge.

Editor Kansas Farmer:—As it has been some time since any one has touched up Mr. A. C. Shinn, I will venture to say a little. I have been hoping some one used to writing for the Farmer would make some reply on broader grounds than have yet been taken. I have not now at hand his article which called out former criticisms, and, if I misapprehend any of his ideas, I will beg pardon in advance. If I remember right, his ideas in condensed form were about like this: Not only is the hedge fence a nuisance, but much of the native timber also, as it occupies land that can be put to better use—in cropping, I suppose—and presumed that the timber supply would be equal to the need of it. He referred to the old timber lot on the farm he lived on years ago east of the Mississippi River, that had been so carefully kept that it has more timber on it now than when he left there. Well! I must say, that care speaks well for the foresight and prudence of the present holders of that timber lot. I only wish some of our Kansas woodland owners would be as thoughtful and far-seeing. And this leads me to that broader ground of which I spoke, and which I wish especially to emphasize. It is this: The more our timber is cut away the more are we in danger from flood and drought. Almost every year piles up a terrible array of testimony against the reckless—I might almost say criminal—cutting off of the timber areas of our country. It comes in the way of the destructive floods of our large rivers, whose feeding grounds have been cleared of their timber covering, and no longer hold the rainfall in reserve. So urgent and imperative has the situation become, that, in many places, large tracts of timber are held by state or national legislation untouched by the ax and saw of the lumberman. Even springs that once flourished in countries where timber was plenty, are now dry because the hills which sheltered and fed them are now stripped of their woody covering. Perhaps Mr. Shinn is in a section where there is more timber than is necessary for the present generation. But this will not always be the case, and those who are to come after us are to be thought of. If the western part of Kansas were as well supplied with timber as the eastern part is, I think no one will have the temerity to say that it would be a disadvantage. There would be a cooler, or at least, a milder wind, more rainfall, more springs, and more assured crops, I think. If they can grow hedge successfully there, I know it will go a long way toward solving the problems of fence, posts, fuel, wind-break and landscape.

Now that I have had my say on the timber question, I ask your indulgence for a shot at that hedge law. I do not know who the author of the act is, nor who supported it on its passage, but I will venture this. They were not men who depended on their hedges for their post timber nor for some of their fuel. Hedge posts will rank with woods like catalpa and cedar for durability, and the firewood is, I think, from some experience in its use, better than our best hickory or oak for heating qualities.

Three years ago I cut from my hedge on my road line about 200 posts in 40 rods cutting. None were less than four inches at the butt. The rest were left, and in

the first years of the next century I can cut a good many more. In trimming what I cut down I got a good deal of firewood. This hedge had been trimmed up, a part of the time at least, and has never obstructed travel nor the necessary working of the road. If cut out in this way and trimmed up it is surprising how fast it will grow.

I am no lawyer, Mr. Editor, but it strikes me as a common-sense proposition that if A. can leave his hedge uncultivated to protect his orchard or vineyard and B. can leave 40 rods for a shelter for his feed lot, as embodied in the law, then C. and all the rest of the alphabet are entitled to the same right to shelter what they raise if they so wish, and, as no one is forbidden to cut his hedge, he can cut it if he likes. If there is anything lame in that kind of logic I wish some of those solons who were in favor of that law would just point it out through the columns of the Farmer.

More than this: If the legislature, in its wisdom (?), can say "you shall," then, conversely, it can say, "you shall not," which I, for one, will not deny. Well! suppose that body, in one of its erratic moods, in which it sometimes indulges, should enact that hedge should not be cut less than seven feet (long enough for goods posts) or should not be cut at all, or that no barb wire fence or stone wall should be built along the roadside, I think something or somebody would "drap." There is another point which seems to me to deserve serious consideration and which has not been touched, I think, by any of those who have preceded me on this subject. It is this: The right of the public to the highway. The law gives the public the right to so many feet wide along a given line for the purposes of travel, and the material for necessary repairs, and for these only. If I choose I can cut or feed any crop which may be growing along the roadside and no one can say nay. The road on my front line calls for and takes 30 feet in width for 80 rods, and on this I pay my tax as a part of my farm, and the public has it for use, but as soon as that 30-foot limit is reached I am on my private land, to which the public has no claim, and it seems to me that I have the right to put there for fence whatever I see fit, so it does not interfere with travel. "Oh!" says the five-foot-hedge man, "Your hedge shades the road." Well! the doctor says he likes to drive in its shade on a hot day, and I notice that people out from town for a drive appreciate it in the same way; so does many a camper on his journey. And in the winter it is a wonderful protection against the cutting blasts. "But it piles up the snow in the winter." No more than a five-foot hedge, nor as much as a board fence or stone wall. And, if the objection as to shade holds good, then my neighbor who has a belt of timber on one or both sides of the road is open to the same cause of complaint; yet no one would think of notifying him to cut it down to five feet. I believe if this law could be put on its merits before the courts it would fall through its own weakness, both in principle and construction. But one small farmer can not afford to fight it alone, and unless organized opposition to it is made we must stand it and submit to the (I can give it no milder name) infamous imposition.

Now, kind editor, if what I have written shall set others to thinking or writing, either for or against me, I shall not regret what I have put forth.

Berryton, Kans. L. C. WATERS.

A MONSTER MEETING

Of the Modern Woodmen of America, in the New Convention Hall, Kansas City.

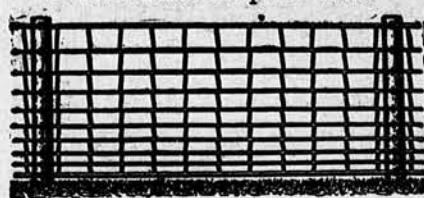
The Head Camp Meeting of the Modern Woodmen of America, during the week beginning June 6, at Kansas City, Mo., promises to be one of the largest attended meetings ever held in the West. The Kansas City committee on arrangements have secured the new Convention Hall with a capacity of twenty thousand people for its sessions. One hundred thousand visitors are expected. Thirty-five bands and seventy-five Forester teams (uniform rank) with fully fifteen thousand marching men will be seen in line Thursday morning, June 8, in the great parade. Band and Forester team contests will extend through the week. The prizes are the largest ever offered. For Forester teams: First prize, \$500; second prize, \$200; third prize, \$100; fourth prize, \$75; fifth, \$50. Local Kansas City teams are excluded. Band prizes: First prize, \$150; second prize, \$100; third prize, \$50. All delegation bands admitted. Special railroad rates to this meeting.

J. H. LYON,

Western Passenger Agent, Missouri Pacific Railway, Kansas City, Mo.

One advantage in keeping the surface level when cultivating is that the cultivation can be repeated as often as may be necessary.

A Farm Fence of Special Merit.



The cut shown herewith is that of the Advance Woven Wire Fence, manufactured by the Company of the same name, at Peoria, Ill. It combines in a high degree all the qualities of a good farm fence. It is strong, handsome, harmless and the way in which it is sold makes it reasonable in price. These people sell direct from the factory to the farmer at practically wholesale prices. They do not allow the dealer to handle it at all, but give you all the profit he would make on its sale. If you need fencing, write them for prices, circulars, etc. Address as follows: Advance Fence Co., 4105 Old St., Peoria, Illinois.

May Notes.

This is a good month to sow millet. Finish the planting as fast as possible. Thinning should be done whenever the fruit has set well. Commence the cultivation as soon as possible after planting. It will prove poor economy to allow weeds to get a good start. Sow a good patch of Kaffir corn or sorghum for a forage crop. See that there is plenty of good water and shade in the pastures. It is a mistake with all cultivated crops to allow them to grow too thick. It is rarely safe to risk going through the summer without a good forage crop. When there are several pastures it is best to allow the sheep to follow the cattle. The best time to change stock from one pasture to another is just after a hard rain. One advantage in pasturing the hogs in the orchard is that they will eat the fallen fruit. The best work in fighting insect pests is done when they make their first appearance.

There is little danger of cultivating too much, especially during the early stages of growth.

If there are ticks on the sheep it will pay to dip them well as soon as the shearing is completed.

It is only in exceptional cases that it is best to allow the work teams to stay in the pastures all night.

Keep well up with the work; better hire a little extra help than to allow the work to get behind at this time.

If the clover that is expected to make seed is being pastured care must be taken not to graze down too close.

With nearly all crops the later the seed is planted the deeper it should be covered, especially if the ground is dry.

Having the soil fine and mellow and stirring frequently will aid materially in retaining the moisture in the soil.

All reasonable care should be taken to have the cultivated crops in the best condition possible before harvesting begins.

At no time, and especially after warm weather sets in, should the milch cows be compelled to go a long way after water.

Continue planting in the garden now to keep the ground occupied and secure a supply of pure vegetables all through the season.

In order to get anything like the full benefit of spraying it will be necessary to repeat three or four times during the season. N. J. SHEPHERD.

Eldon, Mo.

How's This!

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Props.,
Toledo, Ohio.

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation made by the firm.

WEST & TRUAX, Wholesale Druggists,
Toledo, O.

WALDING, KINNAN & MARVIN,
Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all Druggists. Testimonials free.

National Baptist Societies Anniversaries,
Portland, Ore., June 2-5, 1899.

One fare plus \$2.00 for round trip via Union Pacific. For dates on which tickets will be sold, limits, and full information, call on F. A. Lewis, City Ticket Agent, or J. C. Fulton, Depot Agent.

Horticulture.

ODDLING MOTH.

Editor Kansas Farmer:—During the past month there have been several letters addressed to this department, suggesting various means for catching and destroying the codling moth. In all instances the writers evidently believed that the codling moths are attracted by lights. In this they are mistaken. It is the common experience of entomologists that but very few of these moths are attracted by lights; and to use lamps and torches as a means of protecting the orchard from the attack of the codling moth is both a useless and unnecessary expense.

For the past few years there has been quite a little activity in the study of this pest. Several interesting and important facts of the habits and life history of the pest were obtained, but as far as remedies are concerned scarcely anything new of importance was discovered; so for the present we shall have to depend upon the old remedies, paris green and banding, which at their best do not by any means furnish complete protection. Both Slingerland, of Cornell, and Card, of Nebraska, corroborate the statement of Washburn, of Oregon, that the eggs of the codling moth are not always laid in the calyx, the blossom end of the apple, but may be laid anywhere on the surface of the apple. However, upon hatching out, from 75 per cent to 80 per cent of the worms are said to gain entrance into the apple through the calyx. Mr. Card, after a series of careful and extended observations, gives some very practical advice to the fruit growers of his State, and the advice given applies equally well to the horticulturists of this State.

On May 6, 1897, he found that the petals were beginning to fall, and by June 12 he first noticed the appearance of the worms of the codling moth. From 75 per cent to 80 per cent of these worms entered the apple through the calyx. To kill the worms entering at this point, spraying with paris green about one week after the blossoms have fallen, is strongly recommended. The purpose in spraying so long before the appearance of the larvae, is that the calyx cups may be well filled with the poison before they close. Thus when the young larvae hatch out and commence to eat their way in at the calyx, there awaits them in the calyx cups a dose of poison. It is not to be doubted but that in the average spraying many of the calyxes do not receive enough, if any at all, of the poison. The failure to get sufficient poison in the calyx cups is doubtless the cause of many of the failures in spraying for this insect. Card suggests that better results would be obtained if fruit growers would use a coarser spray, applied with a greater force. After spraying the trees thoroughly one week after the blossoms have fallen, the next thing to do is to watch for the eggs. These are small and, to one unacquainted with them, quite difficult to find. They are about one twenty-fifth of an inch in length, white in color, and often with a yellowish tinge. Upon finding eggs a second spraying is advised. About June 1 Prof. Card thinks is the best time to commence the second spraying. The time, though, will vary with the different years, and the proper time must be determined by the fruit grower himself. The laboratory experiments of Card indicate that the use of kerosene emulsion for the second spraying possesses considerable merit. This should be more fully tested before being recommended for general use.

Besides spraying, the use of paper bands is recommended. These should be put on the trees just before the larvae are ready to pupate, probably near the last of June, about one month after the petals have fallen. The rough bark above the bands should be scraped off, so as to provide as few hiding places as possible for the worms. The paper bands should be examined every week for several weeks, and all worms and cocoons found beneath them destroyed.

All windows and doors of the cellars and rooms where apples are stored away should be screened, so as to prevent the escape of moths which have developed from larvae taken in with the apples during the fall.

In the Mesilla Valley, New Mexico, the early apples are comparatively free from attacks of the codling moth, but the late varieties are often very seriously affected. When one considers that there are three generations of worms and a partial fourth one, is it any wonder that the late varieties are wormy?

In the orchard belonging to the Agricultural College of New Mexico, an experiment was commenced last summer to see what influence the picking and destruction of all the apples while young would have upon the numbers of the codling moth for the next season. We await with interest the results of the experiment. But it is very

doubtful if the destruction of the young fruit in one orchard would secure immunity to that orchard from the codling moth for the next season, especially since the owners of neighboring orchards make little or no attempt to control the pest. If all in that vicinity would destroy their fruit for one year, it would seem that the moth would be starved out, since it must have fruit in which to develop, and, as far as is now known, there are no wild rosaceous plants in the neighborhood by which the codling moth could be supported.

One enthusiastic sympathizer of the horticulturists in that country was so enraptured with the idea of the possibility of starving out the moth by this means that he secured the introduction of a bill into the Territorial legislature compelling the destruction of fruit for one year in certain localities. Of course this aroused considerable opposition, and the bill was allowed to die after the first reading.

PERCY J. PARROTT.
Kansas Experiment Station.

Kansas Experience in Orchardling.

From "The Kansas Apple."

David Brown, Richmond, Franklin County: Have lived in Kansas thirty-four years; have an orchard of 2,000 trees, averaging twenty years planted, composed entirely of Ben Davis, Jonathan, and Winesap; have discarded everything else. I would plant on nothing but deep upland soil, planting good yearling trees. I grow no crop in the orchard, and cultivate thoroughly always with plow and harrow. I have quit pruning, as it kills the trees. Never pasture the orchard. I spray with London purple for the cankerworm and codling moth. Borers I cut out. I always sell at wholesale to shippers at about eighty cents per barrel. Never dry any or store any for winter.

Francis Goble, Leavenworth, Leavenworth County: Have been in Kansas over forty-three years. I have 13,000 apple trees, ranging in age from last spring's setting to forty years. For commercial purposes I use Ben Davis, Winesap, Jonathan, Missouri Pippin, Ingram, Maiden's Blush, Grimes' Golden Pippin, and Smith's Cider. For family use I would advise Jonathan, Winesap, Early Harvest, Rambo, and Milan. I have tried and discarded numerous varieties. I prefer medium to high land, with a clay and loam soil on a subsoil of clay and sand; any slope is better than southwest. I have planted trees of all ages, and all look well. I plant thirty-two feet east and west and sixteen feet north and south. I believe in thorough cultivation with plow, harrow, etc., as long as the orchard lives. Sometimes the orchard requires a certain kind of cultivation, at other times a different cultivation. In a young orchard I usually grow corn, potatoes, wheat, melons, or pumpkins. In a bearing orchard I usually grow nothing, though sometimes I take a crop of millet or pumpkins from the ground. I cease cropping entirely at from five to seven years. Wind-breaks are not necessary here; they make their own wind-break if kept thoroughly cultivated and full of life. Thorough protection will largely prevent borers; if any are found in the tree I remove them with a knife and wire. For rabbits I wrap with paper or other material.

I prune with a saw to keep down surplus wood growth and improve the quality of the apples. It is beneficial if carefully done, a little every spring and not much at once. I believe thinning will pay when the trees are abnormally full. Remove as nearly as possible all defective fruit when half grown and what is left will be of higher grade in size, color, and quality. I believe a decomposed stable fertilizer is necessary on some soils. Better not pasture with any stock whatever; I do not think it advisable; I

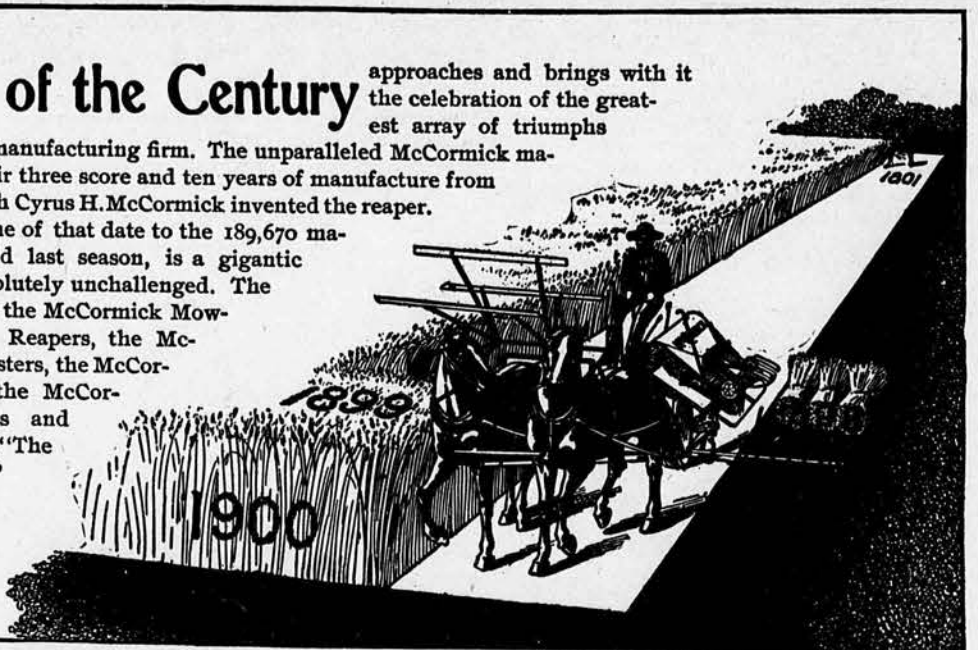
The End of the Century

approaches and brings with it the celebration of the greatest array of triumphs

ever credited to one manufacturing firm. The unparalleled McCormick machines will reach their three score and ten years of manufacture from 1831, the year in which Cyrus H. McCormick invented the reaper.

From the one machine of that date to the 189,670 machines built and sold last season, is a gigantic growth of output absolutely unchallenged. The McCormick Binders, the McCormick Mowers, the McCormick Reapers, the McCormick Corn Harvesters, the McCormick Hay Rakes, the McCormick Corn Huskers and Fodder Shredders are "The Best in The World."

McCormick
Harvesting Machine
Company,
Chicago.



think the profit would be an expensive one. Am troubled somewhat with cankerworm, bud moth, borers, leaf rollers, codling moth, curculio, and gouger. I sprayed one year for insects generally with London purple through the spring season, and do not think it was a success. I pick about as Judge Wellhouse does, and sort into three classes; the best we make firsts, the best half of the balance we call seconds, and the balance are simply culls. We pack in barrels and haul to market with wagons provided with racks holding sixteen barrels each. I sell my best apples at wholesale, but have never sold them in the orchard; the second grade I sell to groceries and peddlers; the culls I sell to anybody, usually in the orchard. I have never tried distant markets. I never dry any. I store for winter in a cold store built for the purpose on my own farm. I have also tried artificial cold storage, and the Jonathans kept well.

E. P. Diehl, Olathe, Johnson County: I have lived in Kansas thirty years; have an apple orchard of 700 trees, twenty inches in diameter, twenty-nine years old. For market I prefer York Imperial, Jonathan, Winesap, and Ben Davis, and for family orchard Early Harvest, Maiden's Blush, Winesap, and York Imperial. Have tried and discarded Redflower, Dominie, Pennsylvania Red Streak, and White Winter Pearmain. I prefer hilltop with a mulatto limestone soil, northeast aspect. Would plant two-year-old trees, forty feet apart. I plant my orchard to corn and potatoes for five years, using a cultivator; cease cropping after six years; plant nothing in a bearing orchard. Wind-breaks are essential; I would make them of trees, planted on the south, west, and north. I prune with a knife and saw; think it beneficial. I thin the fruit on my trees the latter part of May, and think it pays. My trees are in mixed plantings. I fertilize my orchard; think it beneficial and that it pays. Pasture my orchard very little, late in the fall, with horses; think it advisable and that it pays. My trees are troubled with cankerworm, tent caterpillar, bud moth, root aphid, bagworm, flathead borer, roundhead borer, woolly aphid, twig borer, and oystershell bark louse; and my apples with codling moth. I spray with London purple, using a force pump, and think I have reduced the codling moth. Those insects not affected by spraying I dig out with knife and wire. I hand-pick my apples from a stepladder into a sack with a hoop in the mouth. Sort into three classes; first, second, and third; pack by hand in three-bushel barrel, mark with stencil, and ship by rail. I sell my apples in the orchard, wholesale and retail. Sell my best ones to apple dealers. Sell my second and third grade apples at the stores; make vinegar of the culls. I have dried apples with an American dryer with satisfaction; after dry, pack in barrels; we find a ready market for them and think it pays. I store apples for winter in bulk in a cave and am successful; I find York Imperial and Rawle's Janet keep best. We have to repack stored apples before marketing, losing about twenty per cent of them. I do not irrigate. I get six cents per pound for dried apples. I employ men at \$1.25 per day.

In the growing of apples in Kansas many things are to be well considered. That injunction of Davy Crockett must be kept constantly in view to be successful: "Be sure you're right, then go ahead." First, to select varieties that are well adapted to your soil; next, location; last but not least, the preparation of the soil and future care. Many of the varieties that are well adapted to the Eastern States are unprofitable here. Another great mistake is the planting of too many varieties. When I first came to this State thirty years ago, I consulted Col. A. S. Johnson, now of Topeka. From him

I obtained a great deal of valuable information, he having had thirty-six years of Kansas experience. I should, no doubt, have planted many that I did not, owing to the information obtained of him; so it may be seen that, by proper care, experience, and observation, we may be of benefit to the rising generation. Having selected your varieties by consulting the published fruit list of the Kansas State Horticultural Society, next select your location. Select, if you can, the highest northern slope; next east, next west. Put your ground in good order by plowing and subsoiling at least fifteen inches deep. Should there be any tenacious soil or spouty places, tile with four-inch tile, forty feet apart, three feet deep. A great mistake is made by many in planting too closely. I have trees twenty-eight years old, forty feet from tip to tip. Plant to some cultivated crop for six years, then seed to clover; trim your trees each February; keep the borers out, and if they do get into your trees hunt them out; spray your trees frequently at the proper time to prevent the noxious insects from getting the start of you, and when your trees commence to bear commence to fertilize by turning under clover and stable litter. Horace Greeley once said: "You might as well expect milk from a cow tied to a stake as apples from an orchard uncared for."

Drying preparations simply develop dry catarrh; they dry up the secretions which adhere to the membrane and decompose, causing a far more serious trouble than the ordinary form of catarrh. Avoid all drying inhalants, fumes, smokes and snuffs and use that which cleanses, soothes and heals. Ely's Cream Balm is such a remedy and will cure catarrh or cold in the head easily and pleasantly. A trial size will be mailed for 10 cents. All druggists sell the 50 cent size. Ely Brothers, 56 Warren St., N. Y.

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San Francisco, Cal.



In the Dairy.

Conducted by D. H. OTIS, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

EXAMINATION OF PATRONS' CLASS

At Kansas State Dairy Association, November 17, 1898.

Examiner—W. H. Phipps.
Judge—Prof. H. M. Cottrell.

I.—What kind of a cow pays you best?

G. W. Priest—Grade Shorthorn. I have a few grade Holsteins and a few grade Jerseys; one pure-blood Jersey, and one pure-blood Holstein, but I think the Shorthorns are the best.

Question—Why?

Answer—My Grade Shorthorns give as much milk as any other cows that I have, and, while the Jersey milk is better, yet the Jersey don't give as much, and I think that the large amount of good milk given by the Shorthorn is better than the small amount given by the Jersey, and besides we raise better calves from our graded Shorthorns.

D. P. Hollis—The Shorthorn. The reason is that she gives me as much milk as almost any other cow and it is about as rich.

G. W. Stewart—A special-purpose cow. She puts her whole time after she has eaten enough to support her carcass, to making milk. If I would take a beef cow and feed and care for her as I am caring for this cow, she would support the carcass and then lie down and lay on beef, which I don't want, as it is expensive, and then they don't intend to milk as long as a special-purpose cow, and I think, taking the ten months or the ten and a half months that a cow will milk, the cow that is in the business of giving milk will give me more money at the end of the year than any other cow.

Prof. Cottrell—What breed do you prefer?

A.—I am not partial to any special breed. I have had some experience with both Holsteins and Jerseys, and I do not know but that I prefer the Holsteins. I have, at the present time, a special cow and I believe if I were to branch out on only one breed, it would be the Holstein.

J. B. Harmon—The special-purpose cow, because her product is in a more condensed form and it would not cost as much to ship it.

C. W. Filkums—Before I start to answer these questions, I will say that I am an amateur in the business, and consequently my experience is not very large. I started in with graded Shorthorns, but I became satisfied that the Jersey was my cow; consequently, I am changing to the Jersey cow; they are a better-dispositioned cow. While some of them don't give quite

so much milk, yet I believe that in the butter fat they more than make up for the difference.

T. A. Borman—The special-purpose cow pays us best; the cow built for dairying. The reasons are that we are getting more butter fat from the special-purpose cow than from the general-purpose cow. Butter fat is worth more than beef, and we can produce a pound of fifteen-cent butter fat on the same money that you can produce one and a half pounds of five-cent steak.

II.—What feeds are most profitable for you to give milking cows in winter?

G. W. Priest—I think alfalfa is one of the best but I have not been successful in raising it. In the absence of alfalfa I cut up all my poorest corn and feed it in the shock. I raise some sorghum, millet, and Kaffir corn. I usually feed my corn in the shock in the morning and Kaffir corn or millet later in the day. My grain feed is a mixture of bran, corn chop, and a little oil meal or cottonseed meal.

D. P. Hollis—I feed my cows ground corn and ground oats and Kaffir corn hay. I have found out by feeding them two winters that these feeds pay me the best.

Mr. Burtis—What is the proportion of those feeds?

A.—I measure my feed and stir it all up together, and feed so much of ground corn and ground oats and so much bran; say two quarts of corn meal and two quarts of a gallon of bran, and if I find that my cows don't do well, I vary the mixture some, and if they are getting too fat and losing on milk, I take away a little of the feed.

G. W. Stewart—For ground feed I would give two-thirds bran, and the balance, one-third, I would make up of corn and oats, and for roughness I feed corn fodder and alfalfa hay. I only have a little, but that is what I would depend on, principally, for roughness.

J. B. Harmon—I have found that bran and good rations of corn fodder, with grain or clover hay, give the best results of any feed that we have tried.

C. W. Filkums—I have never done much feeding in the winter time except last year, when I fed bran and chop, but I didn't get the returns from it that I should. I guess it was because I didn't understand how to feed.

T. A. Borman—The most profitable feeds probably are those which a farmer can produce himself, and those feeds are alfalfa hay for roughness with Kaffir corn or corn meal as a grain ration, with all the bran that a cow will consume and with one and a half or two pounds of linseed meal; with this feeding you get very satisfactory results.

III.—What do you feed your cows to carry them over the summer drought?

G. W. Priest—Sorghum, Kaffir corn. If the drought don't come too early I have blue grass that usually helps me out in the spring and fall a good deal, so that I don't have to turn onto my prairie grass until later in the season than most farmers.

D. P. Hollis—I fed my cows ground feed and twelve acres of sweet corn.

G. W. Stewart—I don't feed them much of anything. I don't like to if I don't have to. I want my cows, if possible, to be resting during the summer drought. I aim to have my cows come in fresh in the fall, although I was troubled with abortion in my herd last fall, but I aim to have my cows come in during the fall, say September, and I will care for them and stable them during the winter time, giving them the best feed I can find, and when the spring grass comes, I generally aim to give light feed through April, that carries them to grass, and then when the dry spell comes, through July and August, they are dry from six weeks to two months. If possible they ought to be resting through that season.

J. B. Harmon—Nothing except good pasture.

C. W. Filkums—After July of this year, I pastured them almost entirely on clover.

T. A. Borman—We have fed this summer, alfalfa hay, sorghum and Kaffir corn cut green. Fed it night and morning; if fed in the barn they require comparatively a small amount to keep up the milk flow and even make gains; we take great pains with our mangers and troughs, taking care to sweep them out clean with a broom.

IV.—Give best methods of handling milk in summer.

G. W. Priest—If we are getting about four cans of milk at night, I put five cans onto the cart so that none of my cans are clear full, when we are through—our cart stands outside of the shed when we milk in the shed, and just outside of the yard when we milk in the yard. We have a system of emptying our milk. The strainer is put in a can, which is in a certain position on the cart, and when the first pail of milk is ready from the cow, the milker comes to the cart and strains the milk into the first can and then he takes the strainer from the first can and places it in the next can, and the next man brings his pail of milk and repeats the performance, he using the second can and placing the strainer into the third can, and so on until the whole five cans

A Good Cream Separator

THE BEST OF FARM INVESTMENTS.

McEwensville, Pa., Dec. 26, 1898.

"The 'Alpha-Baby' separator which I purchased about two months ago is giving perfect satisfaction. When the agent told me that we were losing a pound of butter to the cow each week by our crock system, I did not believe it. I am now inclined to say, like the Queen of Sheba when she viewed the riches of Solomon, that the half has never been told, for he never told me of one-half the actual benefit which the use of the separator would bring. This I discovered after one week's trial. People would hardly believe me if I were to give the entire truth of what the separator has done for me. I had been selling from 12 to 14 lbs. of butter per week before using the machine. There has not been one week since that I have not sold as much as 25 lbs. My records are very carefully kept and I have the figures to show for it. This certainly goes to show very decidedly that a cream separator is the best paying machine on the farm. It is like money drawing interest; it works rain or shine, Sundays and every other day. It pays a higher rate of interest on money invested than anything else in which a farmer can invest. It gives a clean profit every day in the year, while any other piece of machinery is only used for a couple of days throughout the whole year. It saves time, labor and money. There is no carrying or repeated handling, storing away or replacing of crocks and pans, no long and tedious washing of utensils, no fires to keep up for warming skim-milk for calves, and no sick calves on account of having fed them sour skim-milk. One more point is this, it will soon tell you which cow is a boarder and which is paying for her keep."

Very respectfully,

T. F. MENGES.

Send for new 1899 "Dairy" catalogue.

THE DE LAVAL SEPARATOR CO.

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have each a pail of milk in them, and then we put the strainer in the can with which we first started. The reason we do this is that we have our milk cooling in five cans, and when we get through milking we have none of the five cans full; we always take one more can than we fill, in order to have it cool just as quickly as possible. When we get through milking we push the cart to a large water trough, which I had made out of a cottonwood log. It holds five or six eight-gallon cans. We set the cans in that trough and we pump it full of water. My wife made of very thin muslin a kind of cap—my children call them nightcaps—that we put over those cans at night, drawing them up tight with draw strings.

Q.—How high does the water come up on the cans?

A.—We put it clear up to the necks of the cans.

Q.—Do you cool the morning milk?

A.—No, sir, we haven't had any occasion to do that at all. Our man comes along at about 6 o'clock in the morning, or a little after 6 in the summer time, and it is only four and a half miles to the creamery, and the milk is not very long on the way.

D. P. Hollis—We have long pails that we use for cooling our milk, which we set into a tank and let the windmill pump cold water over them all the time until the milk is ready to empty into the cans and go to the creamery.

Prof. Cottrell—Do you cover the cans or leave the lids off?

A.—We leave them open so that they can have plenty of air. We put a lid over the tank.

G. W. Stewart—The first thing is to have the utensils perfectly clean, and if they are not perfectly clean to start with, you can not handle your milk with any satisfaction. I have a milk house or shed, and on the west of this shed I have a large well, and in that shed I have a large tank. I run the water through the tank from the well and then to the stock, and as soon as I milk the cow, I take the milk in there and have the fresh water running through, and in this manner I am enabled to carry my milk over from Saturday night to Monday morning in first-class shape. I do this, though, by renewing the water and paying

attention to it; you should be sure to have the tank full of fresh water.

Q.—How high upon the cans do you permit the water to rise?

A.—I don't like to fill a can over two-thirds full; that will hold it down in the water in a tank, almost deep enough to cover it and let the water be above the milk pretty well.

J. B. Harmon—The cow's udder and parts should be well cleaned and rubbed with a damp cloth. It is best to milk into a strainer bucket and remove the milk from the barn as soon as practicable and cool by putting it into cold well water, stirring both the milk and the water.

C. W. Filkums—We aim to clean our milk cans thoroughly, and keep them in a cool place over night.

T. A. Borman—We aim to deliver our milk at the creamery in first-class condition; we cool it as soon after milking as possible; that may be done with some of the avirous aerators or coolers which are offered for sale, or it can be very satisfactorily done if an eight-gallon can is filled half or two-thirds full and set in half a barrel of water and stirred three or four times for possibly a half hour after milking, and in that time it will cool to at least

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If you are not using this color, send 4 cents for postage on a free sample, to the manufacturers, WELLS, RICHARDSON & CO., Burlington, Vt.

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That's what dairymen call our light running hand separators, because they increase the yield of butter about 25 per cent. and improve the quality, which means higher prices. We guarantee each and every



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to fulfill every claim we make for them, and give perfect satisfaction to every purchaser, or your money back.

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WHAT THE PRESIDENT SAYS

ABOUT

THE IMPROVED U. S. SEPARATOR.

BRATTLEBORO, VT., Feb. 27th, 1899.

It gives me pleasure to say that the dairy machinery bought of your company two years ago, including a No. 5 Improved U. S. Separator and a Pony Power, is working well and giving entire satisfaction.

The Improved U. S. Separator is doing all and even more than was claimed by your agent. The separation is perfect, it runs easily, without noise or friction, and it is easy to manage and care for. Of all the separators placed upon the market, there is none that excels the Improved U. S. in my opinion.

G. W. PIERCE, President Vt. Dairymen's Ass'n.

Write for our latest Illustrated Catalogues.

VERMONT FARM MACHINE COMPANY,

• Bellows Falls, Vt.



the temperature of water, and our well water is about 54°, and cooling our milk to that temperature has never failed to allow us to deliver it in a very satisfactory condition every day. It was only a few times during the summer that we failed to deliver the Saturday night's milk on Monday morning in a sweet condition.

(To be continued.)

Studying the Cow Machine.

During the summer of 1898 the Kansas Experiment Station started an investigation among the creamery patrons of the Meriden Creamery Company in order to find out what the Kansas dairy cow was producing and to compare these results with those obtained by the college scrub herd. This would enable the station to offer suggestions for improvement.

Realizing the benefit to be derived from keeping in touch with the patrons, the Meriden Creamery Company has recently written for a list of the questions used by the experiment station last summer, with the remark that the company intends to have their skimming station men visit each patron sometime in the next few months. Having three of the graduates of the Kansas Dairy School in its employ, this company will be well able not only to make this investigation but at the same time offer suggestions to the patrons along the line of feed and care of the dairy cow and the handling of milk. The practices of the most successful patrons can be used as object lessons for those less successful. In this way the creamery becomes an educational center where valuable information is received and dispersed.

The effort is certainly a commendable one and should be followed by other creameries. Find out what the cows in your neighborhood are doing, compare them with the standard of what they should do, and then work to improve them. No dairyman should be content to keep a cow that gives less than 5,000 pounds of milk per annum and should not rest satisfied until his best cows yield annually between 8,000 and 10,000 pounds of milk.

The record of the college scrub herd, with cows below the average of Kansas, shows that this can be done. If dairying is to be made more profitable, more attention must be given to studying the cow machine with a view of increasing her efficiency. Any effort put forward along this line will result in profit both to the creamery and to the creamery patron. Now is the time to act.

D. H. O.

The Milk Scales.

Editor Kansas Farmer:—Nothing gives more zest to milking than a pair of milk scales. The milker will take more interest in his work when he can see what each cow is doing. There is always a lively competition between the milkers, each one trying to make his cows give more milk than those of his fellows.

One milker was heard to remark the other day that he could hardly wait to get around to the scales to see how much No. 7 had given. Each one tries to make his cows increase in their yield, or at least hold their own, and so faster and cleaner milking is done.

At the end of each day the man who uses a pair of scales knows just what each cow in the herd has done. If, in addition to this, he keeps an account of what each cow eats for the day, he knows just how much the milk has cost him, and whether it is profitable to keep the cow or not. The successful dairyman, the world over, is the one who knows what each one of his cows is doing, and, if she does not come up to his standard, sells her and gets one that does. The trouble with the Kansas dairyman is, that he is too easily satisfied with his cows; if they give milk, that is all that is necessary. It seems to make little difference to him how much they give or how much it costs.

There is just as much pleasure in milking a good cow as there is in driving a fast horse. The best way to discover these good cows is to have a pair of scales and a Babcock tester. It has been said that a pair of scales will actually make a cow give more milk, and I believe it.

J. A. CONOVER.

State Dairy Association.

The executive committee of the Kansas State Dairy Association have decided to hold the next annual meeting at the Agricultural College, Manhattan, Kans., about the middle of next November. The program is to be arranged with a view of giving special attention to the dairy farmer and how he can increase his supply of milk.

Colorado Springs and Return \$19 via Santa Fe Route.

A low rate for an early vacation. Tickets on sale May 16 and 17, bearing limit of June 15. Particulars may be had on application to T. L. King, Agent, Topeka.

Gossip About Stock.

The Shorthorn cattle sale made by C. C. Bigler, of Hartwick, Iowa, April 26, 1899, made an average of \$241 for 44 head.

Dr. C. M. Coe, Kansas City, Mo., bought of Alex Frazier, the yearling bull, Duke of Laundale 3d, out of Duchess of Laundale 2d, pure Bates by the Cruickshank bull Prince Royal 2d. He also bought a number of very choice bargains at the joint sale last week by Messrs. Glick, McCoy and Powell.

All sheepmen and stock-breeders who have not already secured a copy of "Sheep and Cattle Diseases," are missing a chance to obtain a very useful and helpful little book, free. It tells in a short, practical, and scientific way, the cause and easiest way to treat, cure, and prevent the various diseases to which live stock is constantly subject. A great deal of unnecessary loss can be prevented if every owner of live stock sends for this book, which is sent free upon request by E. Taussig & Co., 25 East 59th St., New York City. A postal card will bring it.

Messrs. Anderson and Findlay, of Lake Forest, Ill., and Allendale, Allen County, Kansas, who are leading breeders of Aberdeen-Angus cattle, have a big shipment on the way to Kansas from Scotland. This importation is from the leading breeders in the north of Scotland, and includes animals of the best blood and individuality, and notable prize winners. Among the recent sales from their main ranch at Allendale, Kansas, are the following: To W. W. Stephenson, Helper, Kans., the following females: Lady 4th of Allendale 24564, Coquette 6th of Allendale 29824, Lady Ideal 15th 29825, Beatrice 5th of Allendale 31043. To Stokes & Dunton, Protection, Kans., the following females: Tansy 3d 23277, Beatrice 3d of Allendale 27587, and the bull Ioland 31943. To L. Tudor, Iowa City, Iowa, the bull Milo, Millstream family. And they recently shipped to the XIT ranch 32 head of yearling pure-bred Aberdeen-Angus bulls.

T. F. B. Sotham, Chillicothe, Mo., writes: "It appears I did not make my meaning clear in what I wrote for your columns recently, in regard to breeding Herefords on shares. I tried to convey the idea that the profits in breeding Herefords on the shares, like taking sheep to double, were largely on the side of the man who furnishes the stock, provided they were properly managed. What I wanted to convey, was, that parties desiring to start a good-sized herd of Herefords on shares, would do better to invest a small sum of money in a pair of Herefords, and own them alone, waiting for the increase. I sighted as an illustration, the experience of Mr. Gibson, of Missouri, who bought and paid for a pair of Herefords three or four years ago, and at present has seventeen head, all his own. The fact is, that every one who has feed enough to winter twenty head of cattle, can sell that feed for cash and invest in a pair of Herefords, and make more money in five or ten years than he can by taking cattle on the shares, even on what might be considered favorable terms."

Messrs. Scott & March held their third annual sale at the farm adjoining Belton, Cass County, Missouri, on April 24. Buyers and visitors were out from ten States and Territories and the 99 head sold went to new homes in Indiana, Illinois, Iowa, Nebraska, Kansas, Colorado, Oklahoma Territory, and Missouri. The offerings consisted of 99 head, 39 bulls and 60 heifers, that averaged about 18 months of age. While no sensational prices were realized the average, \$191.26, ranks it the most successful sale yet made by Messrs. Scott & March. The offerings were in better condition than those offered heretofore, hence more acceptable to the more critical Whiteface breeders. The summary was as follows: Thirty-nine bulls brought \$6,425; average, \$164.74. Sixty cows brought \$12,580; average, \$209.66. Ninety-nine head brought \$19,005; average, \$191.26. The buyers of cows from Kansas were as follows: H. A. Naber, Wallula; C. A. Stannard, Sunny Slope, Emporia; Fred Claus, Bendena; Jones Bros., Comiskey; A. F. McCarty, Humboldt; G. B. Little, Olathe. The Kansas buyers of bulls were: A. T. Watt, Winfield; I. G. Marshall, Ulysses; H. S. Burgess, Olathe; W. P. Goode, Lenexa; A. P. Watt, Grainfield.

H. D. Records, a leading druggist of Kiowa, Kans., has, for a number of years, been putting out a medicine for the treatment of sick hogs, which has been quite successful and met with a large sale. Mr. Record now advertises his prescription for sale, and writes the Farmer as follows: "My medicine has been used with great success by S. K. W. Field, Medicine Lodge, Kans., who will furnish testimonial that since using it he has not lost one hog from cholera for ten years, and that for years before he had lost from \$50 to \$250 every year by cholera or swine plague. He had used other remedies. Wm. Hull, a registered pharmacist of Kansas, took my medi-

Horse Owners! Use

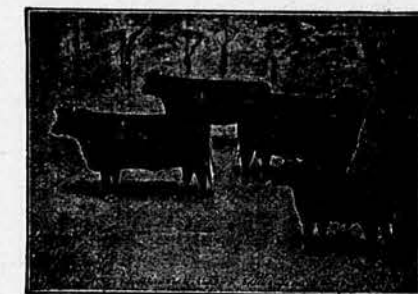
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A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. 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.

cine into a bunch of 700 Arkansas hogs, belonging to a man named Lincoln, at Medicine Lodge, which were dying twenty to thirty a day with cholera. He lost none after the third day's using the medicine. Sparks Bros., eight miles northeast of Medicine Lodge, had a like number of same hogs at same time, dying twenty-five to thirty-five a day. They entirely stopped it in their bunch after three days' treatment. Hogs that were down and past eating or drinking were saved by them by drenching, and Mr. Hull said he would have no fear in going to any bunch of infested hogs and guaranteeing to check the disease in three to five days."



CEDAR HILL FARM.

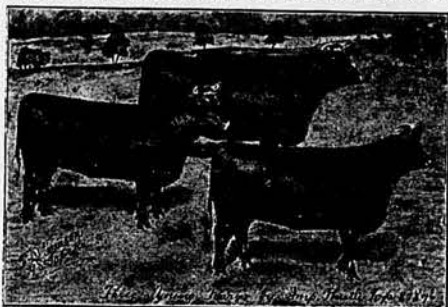
Golden Knight 108086 by Craven Knight, out of Norton's Gold Drop, and Baron Ury 2d by Godoy, out of Mysie 50th, head the herd, which is composed of the leading families. Young bulls of fine quality for sale; also offer a choice lot of grade bull and heifer Shorthorn spring calves. C. W. TAYLOR, PEARL, DICKINSON CO., KANS.



GLENDAL SHORTHORNS, Ottawa, Kans.

Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bulls, Glendon 119370, by Ambassador, dam Galanthus, and Scotland's Charm 127264, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Young bulls for sale. C. F. WOLF & SON, Proprietors.

ELDER LAWN HERD OF SHORTHORNS.



THE HARRIS-BRED BULL, GALLANT KNIGHT 124466, a son of Gallahad, out of 8th Linwood Golden Drop, heads herd. Females by the Cruickshank bulls, Imp. Thistle Top 88676, Earl of Gloster 74523, etc. Size, color, constitution and feeding qualities the standard. A few good cows for sale now bred to Gallant Knight. Address T. K. TOMSON & SONS, DOVER, KANS.



SHORTHORN CATTLE.

I have combined with my herd the Chambers Shorthorns and have the very best blood lines of the Bates and Cruickshank families. Herd headed by Baron Flower 114352 and Kirklevington Duke of Shannon Hill 126104. The Cruickshank Ambassador 110611 lately in service. Best of shipping facilities on the A. T. & S. F. and two branches of the Missouri Pacific Railways. Parties met by appointment. B. W. GOWDY, GARNETT, KANS.



SPRING VALLEY HEREFORDS.

Lincoln 47095 by Beau Real, and Klondike 42001, at the head of the herd. Young stock of fine quality and extra breeding for sale. Personal inspection invited. ALBERT DILLON, HOPE, KANS.

CLOVER CLIFF FARM.

Registered Galloway Cattle. Also German Coach, Saddle and Trotting-bred horses. World's Fair prize Oldenburg Coach stallion, Habbu, and the saddle stallion, Rosewood, a 16-hand, 1,100-pound son of Montrose, in service. Visitors always welcome. Address BLACKSHERE BROS., Elmdale, Chase Co., Kas.

POLAND BREEDERS

CHINA... can secure a sample pair of our

Famous O.I.C. Hogs

ON TIME, and agency if they will write at once. 2 weighed 2806 lbs.

L. B. SILVER CO.

179 Summit Street, Cleveland, Ohio.

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you were going to build? We sell a fence that is equal in quality to the best on the market, direct to the farmer at wholesale prices. All interwoven—no loose ends to unravel or untwist. Cross wires can't slip. Prices low. Special prices and extra discounts to farmers. ADVANCE FENCE CO., 4108 Old St., Peoria, Ill.

PERSONALLY CONDUCTED TOURIST EXCURSIONS

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WEEKLY TO

CHICAGO AND EASTERN POINTS

Accompany these Excursions and SAVE MONEY, for the lowest rate tickets are available in these

Popular Pullman Tourist Cars

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John Sebastian, G. P. A., E. W. Thompson, A. G. P. A., CHICAGO, ILL. TOPEKA, KANS.

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IN 72 Hours to Portland.
74 Hours to San Francisco.

These Cars leave Kansas City every Thursday, 6:40 p. m.

For reservations, tickets, and full information, call on

F. A. LEWIS, City Ticket Agent,
or J. C. FULTON, Depot Agent,
TOPEKA, KANS.

MARKET REPORTS.

Kansas City Live Stock.
Kansas City, May 1.—Cattle—Receipts since Saturday, 4,423; calves, 105; shipped Saturday, 1,132 cattle; 103 calves. The market was slow and weak to 10c lower. The following are representative sales:

DRESSED BEEF AND SHIPPING STEERS.	
No.	Ave. Price.
1.....	1,440 \$4.80
2.....	1,273 4.70
3.....	1,261 4.60
4.....	1,228 4.50

WESTERN STEERS.	
No.	Ave. Price.
1.....	997 \$4.60
2.....	1,177 4.55
3.....	1,178 4.35
4.....	905 4.00

NATIVE HEIFERS.	
No.	Ave. Price.
1.....	810 \$4.70
2.....	530 4.50
3.....	985 4.30
4.....	886 4.00

NATIVE COWS.	
No.	Ave. Price.
1.....	1,280 \$3.85
2.....	1,080 3.65
3.....	1,030 3.50
4.....	805 2.75

NATIVE FEEDERS.	
No.	Ave. Price.
1.....	1,089 \$4.60
2.....	920 4.40
3.....	1,089 4.30

NATIVE STOCKERS.	
No.	Ave. Price.
1.....	555 \$5.25
2.....	566 4.85
3.....	870 4.50
4.....	720 4.30

Hogs—Receipts since Saturday, 9,035; shipped Saturday, 1,278. The market was 5 to 10c lower. The following are representative sales:

84.....	245 \$3.75	71.....	304 \$3.75	57.....	801 \$3.75
85.....	272 3.72½	72.....	258 3.72½	70.....	268 3.72½
86.....	301 3.70	73.....	255 3.70	82.....	284 3.70
87.....	270 3.67½	74.....	282 3.67½	81.....	246 3.67½
88.....	180 3.65	75.....	200 3.65	41.....	287 3.65
89.....	233 3.62½	76.....	228 3.62½	75.....	255 3.62½
90.....	184 3.60	77.....	235 3.60	65.....	219 3.60
91.....	191 3.57½	78.....	209 3.57½	57.....	199 3.57½
92.....	188 3.55	79.....	371 3.55	71.....	215 3.55
93.....	183 3.52½	80.....	221 3.52½	84.....	200 3.52½
94.....	227 3.50	81.....	169 3.50	54.....	250 3.50
95.....	171 3.47½	82.....	192 3.47½	16.....	145 3.45
96.....	187 3.45	9.....	38 3.45	100.....	144 3.45
97.....	130 3.40	18.....	138 3.40	24.....	135 3.40
98.....	272 3.35	29.....	116 3.35	31.....	117 3.35
99.....	111 3.32½	77.....	114 3.30	52.....	137 3.30
100.....	142 3.25	28.....	106 3.17½	21.....	101 3.10
2.....	240 3.00	22.....	90 2.75	14.....	109 2.60

Sheep—Receipts since Saturday, 4,460; shipped Saturday, 847. The market was steady to 10c lower. The following are representative sales:

344 N. M. lbs.	77 \$5.50	118 N. M. lbs.	83 \$5.25
397 W. s. & y. 108	5.30	130 lambs.....	78 5.00
60 clip. W. lb.	84 4.90	445 clip. W. l.	66 4.80
100 clip. sh.....	102 4.50	10 sheep.....	87 3.75

St. Louis Live Stock.

St. Louis, May 1.—Cattle—Receipts, 1,500; market steady to a shade lower; native shipping and export steers, \$4.50@5.00; light steers to dressed beef grades, \$4.00@5.00; stockers and feeders, \$3.25@4.70; cows and heifers, \$2.50@4.00; Texas and Indian steers, \$3.25@4.80.

Hogs—Receipts, 7,500; market 5 to 10c lower; pigs and lights, \$3.70@3.80; packers, 3.70@3.85; butchers, \$3.80@3.95.

Sheep—Receipts, 1,200; market strong; natives, \$3.50@4.85; lambs, \$4.00@5.15; springs, \$6.00@9.00.

Chicago Live Stock.

Chicago, May 1.—Cattle—Receipts, 23,000; market weak, mostly 10c lower; beefs, \$4.25@5.50; cows and heifers, \$1.90@4.75; Texas steers, \$3.50@4.75; stockers and feeders, \$3.50@5.00.

Hogs—Receipts, 43,000; market generally 10c lower; mixed and butchers, \$3.60@3.85; good heavy, \$3.75@3.87½; rough heavy, \$3.55@3.70; light, \$3.60@3.80.

Sheep—Receipts, 20,000; sheep and shorn lambs steady; woolen lambs lower; natives, \$3.50@5.10; lambs, \$4.50@6.00.

Chicago Grain and Provisions.

	May 1.	Opened	High'st	Lowest	Closing
Wht.—May.....	71½	72¼	71½	71½	71½
July.....	73¼	74½	73¼	73¼	73¼
Sept.....	73½	73½	73	73½	73½
Corn—May.....	34	34½	33½	33½	33½
July.....	35½	35½	34½	35	35
Sept.....	35½	36	35½	35½	35½
Oats—May.....	26½	26½	26½	26½	26½
July.....	24½	24½	24½	24½	24½
Sept.....	22½	22½	22½	22½	22½
Pork—May.....	8 87½	8 90	8 82½	8 77½	8 77½
July.....	9 12½	9 15	9 02½	9 05	9 05
Sept.....	9 30	9 30	9 17½	9 20	9 20
Lard—May.....	5 15	5 15	5 12½	5 12½	5 12½
July.....	5 30	5 27½	5 25	5 25	5 25
Sept.....	5 42½	5 12½	5 37½	5 40	5 40
Ribs—May.....	4 65	4 65	4 60	4 60	4 60
July.....	4 82½	4 82½	4 80	4 80	4 80
Sept.....	4 95	4 95	4 92½	4 92½	4 92½

Chicago Cash Grain.

Chicago, May 1.—Wheat—Cash, No. 2 red, 74½@76½c; No. 3 red, 72½@74½c; No. 2 hard, 68½@69c; No. 3 hard, 67@68c; No. 1 northern spring, 72½@73½c; No. 2 northern spring, 72½@72c; No. 3 northern spring, 68½@72c.

Corn—Cash, No. 2, 34c; No. 3, 33c.

Oats—Cash, No. 2, 28½c; track, 29@29½c; No. 2 white, 31@31½c.

St. Louis Cash Grain.

St. Louis, May 1.—Wheat—Cash, No. 2 red, elevator, 77c; track 78½c; No. 2 hard, 70c bld. Corn—Cash, No. 2, 34½c; track, 35½c.

Oats—Cash, No. 2, 28½c; track, 29@29½c; No. 2 white, 31@31½c.

Kansas City Grain.

Kansas City, May 1.—Wheat—Receipts here to-day were 87 cars; a week ago, 108 cars; a year ago, 259 cars. Sales by sample on track: Hard, No. 2, 66½@69c; No. 3 hard, 64@67c; No. 4 hard, 61½@63½c. Soft, No. 2 red, nominally 80@82c; No. 3 red, nominally 75@79c; No. 4 red, 68c. Spring, No. 2, 66½c; No. 3 spring, 62@65c.

Corn—Receipts here to-day were 101 cars; a week ago, 51 cars; a year ago, 94 cars. Sales by sample on track: Mixed, No. 2, 32½@32c; No. 3 mixed, 32@32½c; No. 4 mixed, 31c; no grade, nominally 30½@31c. White, No. 2, 34c; No. 3 white, 32½@33½c; No. 4 white, nominally 32½c.

Oats—Receipts here to-day were 23 cars; a week ago, 19 cars; a year ago, 12 cars. Sales by sample on track: Mixed, No. 2, 28c; No. 3 mixed, 27c; No. 4 mixed, 26½c. White, No. 2, 29@29½c; No. 3 white, 28½c; No. 4 white, nominally 27c.

Rye—No. 2, nominally 54½c; No. 3, 54c; No. 4, 53c.

May—Receipts here to-day were 70 cars; a week ago, 27 cars; a year ago, 47 cars. Quotations are: Choice prairie, \$7.50@7.75; No. 1, \$6.75@7.00. Timothy, choice, \$8.75@9.25. Clover, pure, \$6.75@7.50. Alfalfa, \$7.00@8.00.

Kansas City Produce.

Kansas City, May 1.—Eggs—Strictly fresh, 10½c per doz.

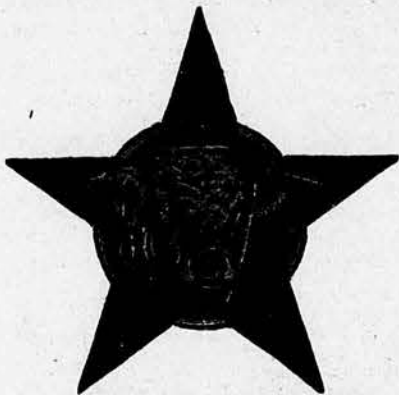
Butter—Extra fancy separator, 17c; firsts, 15c; seconds, 13c; dairy fancy, 14c; country roll, 11@12½c; store packed, 11@12c; packing stock, 9@10c.

Poultry—Hens, 7½c; springs, 10c; old roosters, 15c each; young roosters, 20c; ducks, 7c; geese, 5c; turkeys, hens, 8c; young toms, 7c; old toms, 7c; pigeons, \$1.00 per doz.

Vegetables—Navy beans, \$1.35 per bu. Lima beans, 4½c per lb. Onions, red globe, 50@75c per bu.; white globe, 50@75c per bu. Beets, northern, \$3.00 per bbl. Turnips, home grown, 15@25c per bu. Lettuce, home grown, 90c@1.00 per bu. Pieplant, 20@30c per doz. bunches. Parsnips, 65@75c per bu. Spinach, home grown, 60@75c per bu.

Potatoes—Home grown, 60@65c per bu. Sweet potatoes, 50@60c per bu.

WEAVERGRACE



"THE HOME OF THE CORRECTORS."

Breeder, Commissioner, Exporter and Importer

—OF—

HEREFORD CATTLE.

We feel our obligation to the entire Hereford fraternity for appreciation expressed March 1 for our work and herd which encourages and enables us to expend greater effort in behalf of the peerless Hereford. We are not pricing Weavergrace-bred Herefords, though we will try to meet the views of customers who cannot attend our annual auction, when they make acceptable offers. No corrector females for sale at any price for two years.

COMMISSIONS.

Pure-bred Herefords. So many orders constantly being placed with us to purchase Herefords, we feel it would be wrong to have our own stock on price. Farmers and ranchmen requiring bulls will find it to their interest to entrust their orders to us. We give the benefit of our experience and will save buyers ten times what we charge in fees. We make a specialty of foundation stock for herds. Fees \$5 per head and railway fare.

Grade Herefords. No grade bulls handled on any terms. Grade Hereford steers and heifers bought on commission. Fees, \$1 per head and railway fare. Steers that can top the market our special pride. We will not touch inferior stock.

Buying orders wanted for the 8,000 top steer calves of America for delivery at Kansas City, October 25-28, during the Hereford show.

No Commissions Accepted From Sellers.

The buyer pays us. Sellers will confer a favor by listing saleable stock with us. We desire to locate all unsold Herefords and this does not prevent the seller from selling elsewhere.

Order blanks and blanks for listing sale stock. Colortype of Corrector (16x22) suitable for framing. New General Weavergrace Catalogue and Star List (June 1). Hereford tract giving history and characteristics of the breed. Address

T. B. F. SOUTHAM,
Chillicothe, Mo.

NO DRUGS. NO MEDICINE.

Cures every known disease, without medicine or knife. Hundreds willingly add their testimony.



Prof. Axtell heals all manner of diseases, and teaches this art to others.

He grants to all men the power he claims for himself. The reason why he can heal without medicine is because he knows how; he not only cures all manner of diseases in his office but HE CURES AT A DISTANCE WITH EQUAL EFFICACY. Circulars of many prominent people—who sign their names and recommend his treatment—mailed on application.

Prof. Axtell is endorsed by the leading business men of this city. Address all communications to

PROF. S. W. AXTELL,

200 W. 3d St., Sedalia, Mo.

Chichester's English Diamond Brand.

PENNYROYAL PILLS

Original and Only Genuine.

SAFE, always reliable. LADIES ask Druggist for Chichester's English Diamond Brand in Red and Gold metal boxes, sealed with blue ribbon. Take no other. Refuse dangerous substitutes and imitations. At Druggists, or send 4c. in stamps for particulars, testimonials and "Relief for Ladies" in letter, by return mail. 10,000 Testimonials. Name Paper.

Chichester Chemical Co., Madison Square, N.Y.

Sold by all Local Druggists.

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WHAT YOU GET FOR YOUR WOOL

Will depend largely upon who handles it.

If you send it to somebody who peddles it out in small dribs you may expect a low price. If you send it to us, it will be stored in our lofts with millions of pounds of other wool of the same grade and texture. When the manufacturer comes to buy, he buys the lot, and your wool goes with the rest at a good price.

We Handle 15,000,000 lbs. of Wool Annually.

We make liberal advances on consignments at the low rate of 5 per cent. per annum for the money thus used. We supply all our shippers with free wool sacks and sewing twine. We send our Circular Letter to all who ask for it. It keeps you informed on the wool situation and wool prices. Write for it to-day. Address,

SILBERMAN BROTHERS,
122-124-126-128 Michigan St. CHICAGO, ILL.

WOOL WANTED!

500,000 Pounds of Wool,

For which we will pay the highest market price in cash. Send us sample, giving number of fleeces. Place your name on sample, and on receipt of same we will quote you prices. For small lots you can send sample by mail. Address Oakland, Kans.; or you may ship direct to us and we will allow you all it is worth. For large clips send three or four fleeces by freight or express. We will furnish sacks or wool twine if desired. Address TOPEKA WOOLEN MILL, Topeka, Kans.

THE AMERICAN GALLOWAY BREEDERS' ASSOCIATION

Has just issued an interesting pamphlet containing some well-written articles, which will be of interest to every stockman. They are for free distribution and you can get a copy by writing to

FRANK B. HEARNE, Secretary, Independence, Mo.

Higgins' Hope Herd Registered Poland-China Hogs.

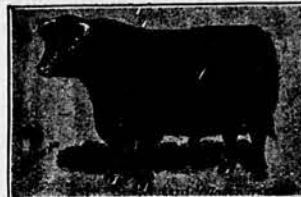
I am now offering a Choice Lot of Gilts and Sows bred to my Herd Boar, Eberley's Model 20854. If you are looking for the right kind, drop me a line and get my list before buying.

J. W. Higgins, Jr., Hope, Kans.

VALLEY GROVE SHORT-HORNS.

THE SCOTCH BRED BULLS

Lord Mayor 112727 and
Laird of Linwood 127149
HEAD OF THE HERD.



LORD MAJOR was by the Baron Victor bull Baron Lavender 2d, out of Imp. Lady of the Meadow and is one of the greatest breeding bulls of the age. Laird of Linwood was by Gallahad out of 11th Linwood Golden Drop. Lord Mayor heifers bred to Laird of Linwood for sale. Also breed Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.

Address T. P. BABST, PROP., DOVER, SHAWNEE CO., KAS.

DON'T BE A— MIGHT HAVE BEEN,



But buy some Good Young B.-eeding Stock now—while prices are reasonable and opportunities great.

For 25 Years the Leading Western

Breeder of Percheron and
Coach Horses.

I have now the finest collection of young Home-Bred Stallions and Mares ever owned in the State. Correspondence solicited. Visitors welcome

HENRY AVERY,
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Nelson & Doyle

Room 220, Stock-Yards Exchange Building, KANSAS CITY, MO.,

Have for sale at all times, singly or in car lots... **Registered Herefords and Short-horns,** Cross-bred Hereford Short-horns and grades of other breeds. Bulls and females of all ages

Stock on Sale at Stock Yards Sale Barn, Also at Farm Adjoining City.

N. B.—We have secured the services of John Gosling, well and favorably known as a practical and expert judge of beef cattle, who will in the future assist us in this branch of our business.

THE KANSAS CITY STOCK YARDS

Are the Finest Equipped, Most Modern in Construction and afford the Best Facilities for the handling of Live Stock of any in the World. The Kansas City Market, owing to its Central Location, its Immense Railroad System and its Financial Resources, offers greater advantages than any other. It is the Largest Stocker and Feeder Market in the World, while buyers for the great packing houses and export trade make Kansas City a market second to no other for every class of live stock.

	Cattle and Calves.	Hogs.	Sheep.
Official Receipts for 1898	1,846,233	3,672,909	980,303
Sold in Kansas City 1898	1,757,163	3,596,828	815,580

C. F. MORSE, Vice Pres. and Gen. Mgr. E. E. RICHARDSON, Secy and Treas. H. P. CHILD, Asst. Gen. Mgr. EUGENE RUST, Traffic Manager

The Poultry Yard

Conducted by C. B. TUTTLE, Excelsior Farm, Topeka, Kans., to whom all inquiries should be addressed. We cordially invite our readers to consult us on any point pertaining to the poultry industry on which they may desire fuller information, especially as to the diseases and their symptoms which poultry is heir to, and thus assist in making this one of the most interesting and beneficial departments of the KANSAS FARMER. All replies through this column are free. In writing be as explicit as possible, and if in regard to diseases, give symptoms in full, treatment, if any, to date, manner of caring for the flock, etc. Full name and postoffice address must be given in each instance to secure recognition.

The Farmer's Poultry.

"What breed of chickens is the most profitable for the farmer? Is the pure-bred poultry practically as good for the farmer as the mixed breeds?"

This question can be answered two ways, either yes or no. It depends entirely on what the above query means. I presume that the meaning intended is, which is the more preferable for the farmer, the flock of mixed breeds or one where the flock is kept pure by sticking strictly to one variety of a certain breed? It could still be taken another way, does it mean one breed, or a mixture of several of the several varieties of the breed?

I believe, all things considered, that the flock of pure-bred poultry is generally the more satisfactory to the average farmer; but as to whether a flock of Barred Plymouth Rocks, for instance, would be of more practical value than a flock of Plymouth Rocks, instead of being made up of a single pure variety, composed of a crossing of the half dozen varieties of the Plymouth Rock breed is a question. Arguing on the theory that crossing varieties produces stronger and more vigorous progeny generally, the latter flock would be the most satisfactory generally. On the other hand, accepting the ideas of the pure-bred breeder, the pure variety would be the one most liable to be the more practical from a money-making standpoint. Personally, I much prefer the pure-bred variety. I believe in the end they will be found just as practical in every respect as any crossing could possibly be. This is a matter, however, that will not stand in all cases; it depends directly on how the flock is kept up. If the owner is careful to introduce new blood each year that is vigorous there will be no trouble; but on the other hand, if he is inclined to inbreed closely, no one will care to vouch for the results.

In a pure-bred flock the owner has one result that he can not possibly secure in a mongrel mess of breeding, and this is uniformity of color, size, temperament, and general requirements. The fact that the best possible records have been secured from

the strictly pure-bred fowls is evidence that they are superior to the cross-bred breed in practically every position that they can be placed.

The pure breed often is handicapped by the fact that the owner expects that the fowls are better able to care for themselves; or, in other words, that they are bound up in some peculiar circumstance and are bound to do better. This theory is entirely wrong; the pure-bred fowl is no more capable of doing and producing superior poultry results than any other of the domestic animals. At the very best they are all machines, and the results that they produce depend entirely on what they are engineered to do; or, in other words, the fowl will do as it is able, according to its surroundings.

Sometimes it is a fact that a breed is entirely condemned simply because the owner has selected a fowl that is not suited to his wants. The breed should be something that is to be consistent with the conditions to which it is to be subjected. As a rule, never buy Leghorns for marketable fowls; nor a Brahma for eggs. If one wants a general-purpose fowl do not take either, try the Plymouth Rock or Wyandotte.—C. P. Reynolds, in Farmer's Guide.

The Brooder, the Breed, or the Management, Which?

In the Country Gentleman, C. S. Valentine says: "Artificial brooding has shown itself a most pronounced failure. When the long line of waiting candidates enter upon their duties, how shall it be to them? In order to help decide the question before they have wasted their substance in the trial, it may be good common sense to inquire where the trouble chiefly lies. Is it in the breed selected? Is it in the machines used? Or is it in the operators themselves?"

The correspondent proceeds to give records proving that the trouble is not in the brooder, and shows also that it is not in the breed, although his experiments seem to indicate that Leghorns succeed rather better than most other breeds, and that the Asiatics are the most liable to leg weakness. He then raises the question:

"If the reasons for success or failure do not lie with the brooder, or in the breed, where are they, if not in the keeper himself?"

But Mr. Valentine having set out scientifically, on a quest of causes, and having shown that there is often appalling mortality in all sorts of breeds, should have subjected the poultry keepers themselves to the same scientific searchlight, and dividing them into three kinds, good, bad, and indifferent, he would have found that chick mortality appears in the brooder

A Fiendish Reminder.

The Efforts of Fiends to Tear Out a Man's Stomach—the Fearful Experience of George F. Reynolds Graphically Described—He Lives to Tell the Tale.

From the Herald, Durango, Colo.

It is not often that a newspaper man feels impelled by a sense of duty to his fellows to exploit the cures effected by a proprietary medicine; but when a marked case of benefit from the use of a remedy comes under his observation in such a way as to challenge his attention and convince him of the remedy's curative powers, he is justified in giving the story publicity.

The following is such a case. Mr. George F. Reynolds, who is well known in Durango, Colo., is the subject, and his story of long suffering and final cure follows in his own words:

"I am 52 years old," said Mr. Reynolds, in answer to the reporter's query, "and for twenty years I have been a constant sufferer from catarrh of the stomach. I was in perfect misery all the time. I can only liken the pain which I endured to the efforts of fiends to tear my stomach from its place in my body."

"I was restless and unfit for work and so emaciated that I was little better than a living skeleton. I consulted physicians regarding my ailment and they pronounced it catarrh of the stomach, and prescribed medicines for my relief, but with no effect, or at the most, only a temporary relief of my sufferings. I tried various preparations of a proprietary nature, without experiencing the slightest relief."

"One day about a year ago, while reading The Herald, I noticed an article regarding Dr. Williams' Pink Pills for Pale People, which induced me to give the remedy a trial. I bought a box of the pills at Walls' drug store, and took them according to directions, and, much to my surprise and delight, felt some degree of relief. I took two more boxes and to-day am a perfectly well man,

not having felt a twinge of the old disorder since."

"My wife was complaining of pains in her stomach, and I procured two boxes of Dr. Williams' Pink Pills for her and she was cured by them."

"So thoroughly convinced am I of the efficiency of the pills, that I have recommended them to others whom I knew to be suffering from various complaints, and I can call to mind several who have been benefited or cured by their use."

"A boon has been conferred upon humanity by the general introduction of these pills and their use in cases such as mine, where unmistakable relief was experienced, convinces one of their sterling value; and people who are suffering and finding no relief, should throw aside prejudice and give the pills a fair trial."

"I believe that they are efficient in such cases as mine and that of my wife, and friends to whom I have recommended them share my belief."

"The pills are pleasant to take, do not physic, but simply work on the system without the slightest injurious effect."

Mr. Reynolds is anxious that all should know of his wonderful cure.

GEO. N. RAYMOND

Editor Herald, Durango, Colo.

Subscribed and sworn to before me this 9th day of August, 1897.

HENRY J. ARNOLD, Notary Public.

These pills are manufactured by the Dr. Williams' Medicine Company, Schenectady, N. Y., and are sold in boxes bearing the firm's trade mark and wrapper, at 50 cents a box or six boxes for \$2.50, and are never sold in bulk. They may be had of all druggists or direct by mail from Dr. Williams' Medicine Company. The price at which these pills are sold makes a course of treatment inexpensive as compared with other remedies.

houses of all these classes of operators. True, a careful, vigilant keeper will not lose as many birds as a slothful, incompetent attendant will; but the death rate is sometimes fearful even under the best of care. All sorts of brooders, all breeds, and all sorts of operators fail if the little active subjects of artificial chicken raising do not have exercise.

A Correction.

The article by Mrs. Voss, on "Poultry on the Farm," in issue of April 20, should have been credited as clipped from the Western Poultry Journal, but by some oversight it appeared as if written for the Kansas Farmer. It is hoped that the Western Poultry Journal will not accuse us too strongly of "swiping," when this correction is made.

Just an Ordinary Old Coin.

"Say!" said the street car conductor to a mild-mannered man who was deeply engrossed in his newspaper. "Say, young fellow, I don't want this quarter. I can't use it." The mild-mannered man continued to hold out his hand for his change, but paid no other attention to the conductor.

"See here!" yelled the conductor, getting red in the face, "you can't pass no quarter like that on me. It's slick. I can't take it for more than 20 cents."

The mild man looked up and said: "I'm sorry, because you gave me that very quarter yourself last night, and I've been laying for you since. Well, give it here." He took the quarter and gave the conductor a nickel. As he took the quarter from the conductor he suddenly dropped his newspaper and gave a chuckle.

"Well, well," he exclaimed, "here's luck. Bless me, if that isn't an 1832 quarter with fourteen stars and an arrow. It's worth \$3.82. He slipped it into his pocket with evidence of much satisfaction."

A hungry-eyed man in the corner, who had overheard the conversation, jumped up and said to the conductor:

"Isn't that the very quarter I gave you yesterday morning? I missed that quarter. It was a pocket piece and a valuable coin. I remember now that I gave it to you. I demand it!" he said, looking fiercely at the mild man. "If you are a gentleman you will give it to me."

"It isn't yours. You never gave it to me. My wife gave me that coin by mistake; it's part of a collection that's been in the family since 1827!" yelled the conductor.

"I tell you it's mine," said the hungry-eyed man. Thus they wrangled and quarreled all the way down town.

"No," said the mild man to a neighbor, as he stepped from the car. "It's only a

plain, ordinary old shiny quarter that I've been trying to pass off for a week. We were all lying. It's worth about 22 cents."—Chicago Inter Ocean.

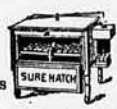
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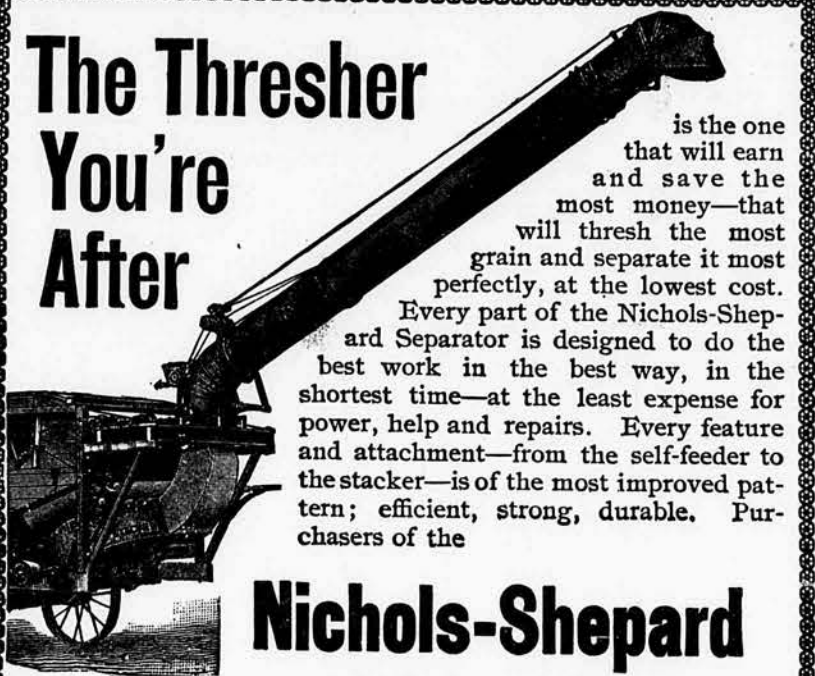
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The Apiary.

Conducted by A. H. DUFF, Larned, Kas., to whom inquiries relating to this department should be addressed.

Weak Colonies.

The condition of bees at the present time is by no means flattering for an extensive honey crop. This condition is not confined to certain States or localities, but is general throughout the whole of the States, even to the extreme South. Bees have fared badly in the Southern States where no extra protection is used in winter, and where it has heretofore not been considered necessary. The outcome is, that many colonies have been lost outright, and almost all remaining are left in a weak condition; which means either that the honey crop must be a short one, or that an unusual good honey season of a prolonged nature is in store for the apiarist that the deficiency may be made up.

A corresponding loss of valuable property in the way of empty combs, hives, etc., usually follows from discouragement and carelessness, more especially so with the farmer and small beekeeper who keeps bees as a side issue. Such do not seem to think or know that a hive of empty combs is of fully half the value of a good colony in again stocking up with bees. A hive of empty comb may sit and remain in good condition unoccupied by bees a short time during the spring months, but it is the exception and not the rule, and when we come to locate swarms of bees in them at swarming time we are likely to be disappointed in finding them either destroyed by moth worms, or eaten up by mice, or in many other ways injured.

A swarm of bees worth \$5, hived upon a good set of combs in a good movable frame hive, at once increases its value to \$10, the latter half of the value being much the best investment. Bees begin to swarm during the beginning of the principal honey flow of the season, providing they are strong and in first-class condition. If they are weak, or just medium in strength, it is usually far on in the honey season before they swarm, and, as the principal honey season is of rather short duration—say two weeks, or four weeks at farthest—it can easily be seen what a colony of bees would do if they had to construct their own comb. A swarm of bees hived upon a full set of combs at the opening of the honey season will fill their hive full in one week, and are then ready for the surplus boxes. But if a colony had to build all their own comb, it would take them fully two weeks, and more often three weeks to fill the brood chamber, and then they would lack in the number of young bees produced almost one-third, the queen not having laying space for want of combs when first hived.

The only method of bringing weak colonies up to anything near standard requirements is by stimulative feeding. They will not reach the desired condition without it, even if they have an abundant supply of honey in the hive. We receive the most benefit by feeding as early as possible, that is after the weather has become warm and the bees are flying frequently, and should thus continue to feed up to the principal honey flow of the season. At intervals when the bees are gathering honey from early flowers, such as fruit bloom, or from any other source, the feeding may be discontinued until this flow ceases, when it should again be taken up.

Every empty hive of combs should be at once taken up, and those that the bees have died upon may be cleaned as much possible, but not to such extent as to bruise or damage the combs, as the bees will clean them thoroughly when they receive them. The combs will preserve nicely in the hives if left in them, and the hives set away in some building, and thoroughly closed up to exclude mice and insects. If they are kept well on into the summer they should be examined for moth worms, and, if they appear, the combs should be subjected to the fumes of burning sulphur. These combs may be kept from one year to another in perfect condition if they get proper attention.

A set of combs may be thoroughly cleaned and put in first-class condition by setting the hive containing them on a strong colony of bees for a few days. This may be done after the honey season and such combs may be left with the bees during the remainder of the season.

A \$5 Genuine Meerschaum or French Briar Pipe for 15 Cents.

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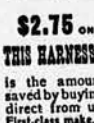
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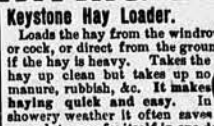
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Keystone Side-Delivery Rake means "Quick Haying, Quality Prime." Turns the hay completely and leaves it in a light, loose windrow ready for loader. Its use means air-cured, not sun bleached hay. Better than a Sulky Rake and saves use of tedder. Takes up no trash, that means clean hay.



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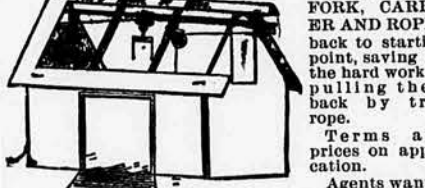
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