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KANSAS FARMER.

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It is reported that thousands of acres of Colorado alfalfa will be plowed up and the land will be planted to sugar-beets. It is perhaps fortunate for the Colorado farmers that they know how to quickly return to alfalfa when the sugar excitement subsides.

In answer to inquiries the editor desires that it be understood that Secretary F. D. Coburn's latest report, "Kansas Wheat-growing," is not furnished from the KANSAS FARMER office, but may be had by applying to Hon. F. D. Coburn, Topeka, Kans. Every reader ought to have a copy.

The annual convention of the State Temperance Union will be held in Topeka next week, May 8 and 9. The officers of the union have taken especial pains to insure an interesting and enthusiastic gathering. Among the notable features will be the address on Friday evening by Rev. Wm. A. Quayle, D. D., of Kansas City, on "What an ex-Kansan Thinks of Prohibition." Dr. Quayle is an unusually gifted orator. He always draws a crowd. Friday morning Rev. Charles M. Sheldon, author of "In His Steps," will introduce a discussion on "How Shall Christian People Get Together Politically in Municipal Affairs?" The railroads have granted a one and a third open rate from all points in the State to Topeka and return, good from the 7th to the 10th. The Topeka hotels will accommodate guests at reduced rates. All sessions of the convention will be held in the Auditorium, which seats four thousand people.

ADAPTATION AND IMPROVEMENT OF WHEAT.

The Nebraska Experiment Station has just issued a bulletin giving the results of five years' experiments with winter wheat. The aims of the experiments have been to secure the varieties of wheat that are hardy and prolific, and that have the ability to adapt themselves to new environments, thus admitting of a gradual extension of the winter wheat growing area in the State; also to improve the quality and yield of grain by the selection of seed. Of the 118 varieties of winter wheat tested during the last five years, Turkish Red and Big Frame have—hardiness and yield considered—been the best.

In 194 tests of these two varieties during 1900-1901 in counties north of the Platte River or west of the 100th meridian, Turkish Red yielded better, but Big Frame proved to be somewhat hardier.

Of the 194 tests in the region above described, there were nineteen cases of complete loss by winter-killing.

Some Russian varieties of wheat tested indicate great hardiness, and promise well for the northern portion of the State, especially if they can be made to mature earlier. The selection of large, heavy kernels for seed resulted, on the whole, in increasing substantially the yield over seed-wheat not so selected.

Wheats of the same variety, but grown in different portions of the country, when grown side by side showed much difference in their habits of growth, which were greatly to the disadvantage of the seed grown east of the Missouri River.

The tendency shown by these alien wheats to adapt themselves to local conditions when grown here for a number of years, encourages the hope that Nebraska-grown seed may become

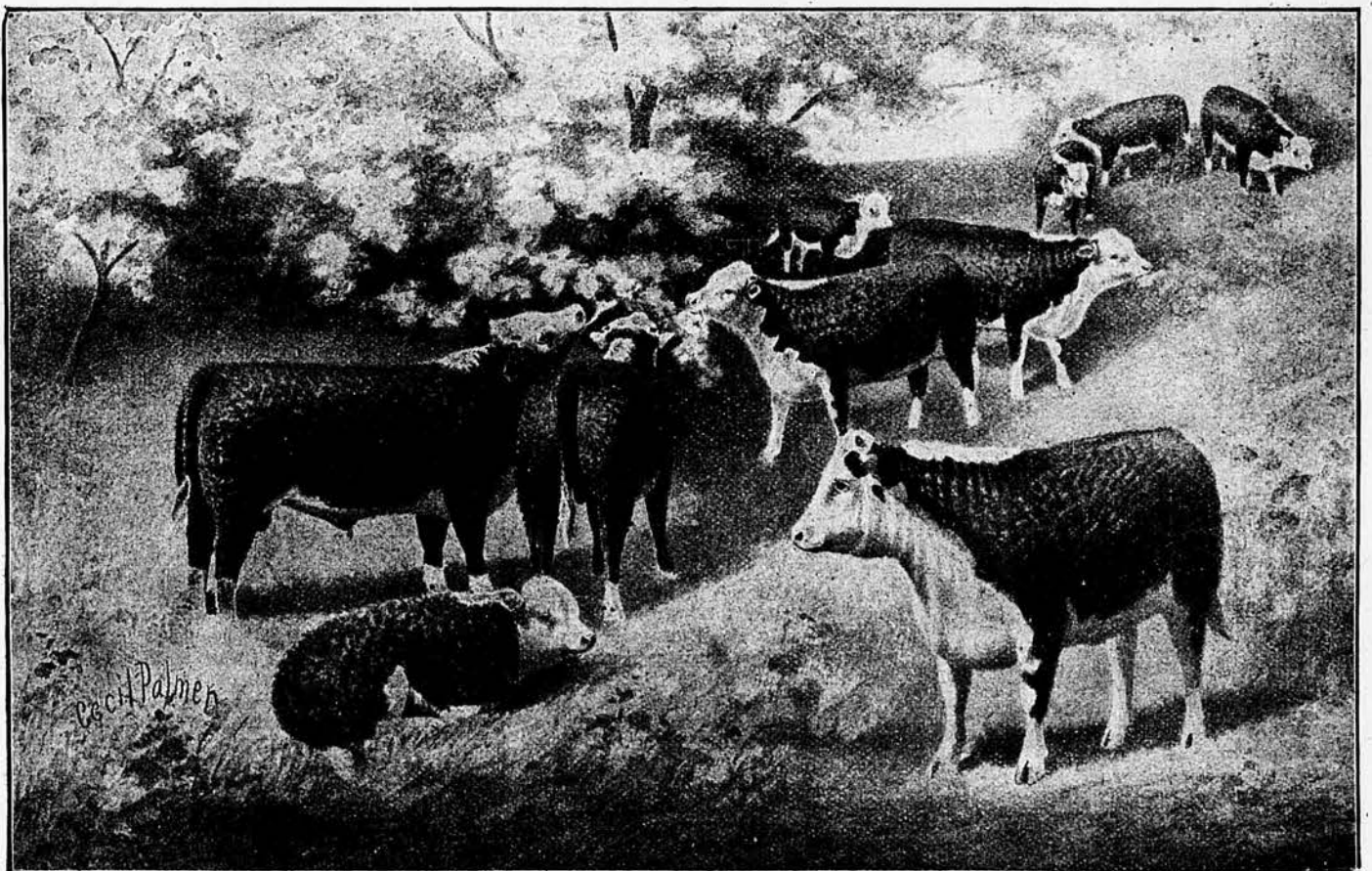
adapted to all arable portions of the State. The yields of these wheats were nearly proportional to their tendency to early maturity. Kansas-grown seed matured earliest and yielded best, but entirely winter-killed when Nebraska- and Iowa-grown seed of the same variety passed the winter successfully.

THE ADVANCING PRICES OF MEATS.

The advances in the prices of meats are attracting the attention of consumers and of Statesmen. The prevailing impression is that a combination of the great packing-houses is forcing the public to pay artificially high prices. That the packers are making large profits is probably true. That they use their power to crush the independent butcher is not questioned. It is stated, however, that if a packing-house should save no more of the animal than is saved by the small butcher, the packer would speedily go into bankruptcy. Stated otherwise, it is claimed that the packer's profits are found in the savings which his large establishment and complete organization enable him to make. That the packer pockets these profits is not surprising. If by combination with other packers he forces prices above

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Group of San Rafael Hereford calves, bred and owned by Mr. Colin Cameron, Lochiel, Arizona.

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advocates of the Siberian millet claim that the straw is an evergreen, but this is the way mine has been for me. The seed stools so, that only from one peck to one and one-half pecks per acre of seed is sown. It takes sixty days from seeding until it ripens when all conditions are favorable.

It is a good plan to double-row in cow-peas along beside the wheat-fields where the bugs are liable to travel out and injure crops, and plow the cow-peas under about a month after wheat harvest, then thoroughly compress the soil and sow to the new Siberian millet. If sown by August 1 it will be ripe by October 1 and the stubble will be in the very acme of condition to drill in wheat with a disk drill and the cow-peas ought to serve in place of any form of fertilization.

I am of the opinion that this new millet will completely solve the alfalfa problem in eastern Kansas as the crop of millet can be sowed in May or June,

fa or wheat in the millet stubble with no further preparation than the use of a good disk-press drill.

It has been said that flax made itself in fifty days, that is, that the most important part of its life extended over a period of fifty days, in its ninety days of growth, and no one thinks of plowing for flax. It is put in with the disk harrow generally, thus there is obtained a firm and compact soil under the seeds. Now, if this is necessary with flax in ninety days of growth, how much more particular should we be with this new Siberian millet with its sixty days of growth from the seeding.

J. CLARENCE NORTON.

Moran, Kans.

Let the Truth be Told.

EDITOR KANSAS FARMER:—From the standpoint of a farmer, I have a kick coming against the newspapers of the State. I am not sure but that I should have registered it with the Mail and Breeze in their contest of knockers a few weeks ago, but as the farmers are interested in this subject more than any other class, it will reach more of them through the KANSAS FARMER than any other paper.

What I refer to is the eternal flow of brag that fills every sheet, from the little patent inside to the metropolitan daily. All vie with each other to see how much they can brag up their respective localities as to what large crops of wheat they raise, as to what amount of money the farmers are making, and are depositing in their banks, etc., etc., ad infinitum.



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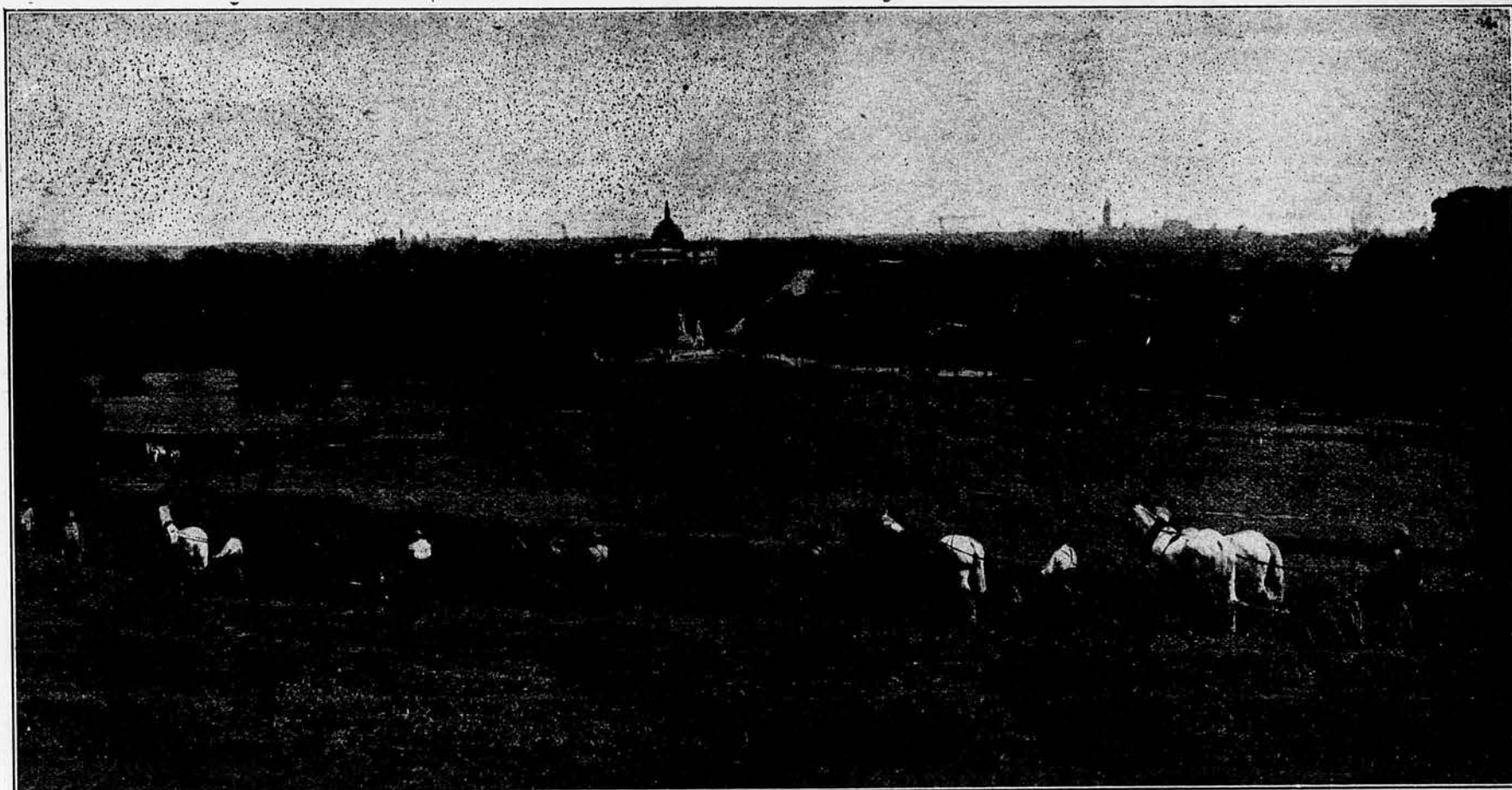
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patch. How many of them are bankers and know nothing of conditions but what the man who wants to borrow a little on his patch tells him? How many are real estate agents, who are in the boom business to induce Easterners to come out here and buy some? How

the estimate of the wheat condition of Kansas, by Mr. Parker, of McPherson, published in last week's McPherson Republican? Watch! Farmers would be justified in letting the newspapers make their living out of those who they benefit. We feel safe in



A View of McCormick Mowers at Work in Fairmount Park.

cut in July or August, and the alfalfa drilled in the millet stubble in August, and the stubble will furnish the best of winter protection to the young alfalfa.

A foul piece of land can be allowed to grow weeds until June 1, or wheat, rye, or cow-peas can be plowed under about June 1, the millet raised and alfalfa drilled in the stubble.

Now, don't let any man deceive himself into the belief that a success can be made of this new millet in the summer time with only sixty days from seeding to maturity, unless all the soil conditions are favorable. This can not be too strongly emphasized, and where a man fails with this new millet it is because the soil was not fitted for so rapid a growth of crop. It has been proven that where soil conditions were favorable, the great drought of last year did not prevent this new millet maturing a good crop when put in as late as August.

The ground must be well plowed, well harrowed, and thoroughly compacted, so that all surplus air is out of the soil and the conditions for root-growth are perfect. To plow in June or July and follow with a harrow and seeder will never do at all. If no sub-packer is at hand, then the soil must be repeatedly rolled and harrowed until it is positively firm and compacted, and where it is compressed enough to grow a crop of the new Siberian millet it is also in first-class condition to grow either alfalfa

Now, the average farmer is not blowing about what he is making unless it be one of those lopsided political farmers, who takes every opportunity to get himself interviewed and his name into print, in hopes that lightning might hit him sometime by an appointment. What is the use of heralding to the outside world such exaggerated reports of our crops? Who does it help but the boards of trade, who use it to bear the prices of our commodities down? The farmer it damages more ways than one. It induces the timid ones to sell on an overloaded market and thereby help to depress it still further.

These sheets, continually bragging, make the people actually believe that such conditions exist. If not, why do we get such unreliable crop reports of crop conditions, notably the reports as to conditions of wheat in Kansas this spring?

If reports made to Mr. Coburn as to the condition of wheat in the other counties are as inaccurate as they are in returns from this county (McPherson), they are not of much account.

Any old farmer who goes to town once a week and whose vision does not require a ten horse-power pair of spectacles can assure Mr. Coburn that if he would cut off 15 to 25 per cent more he would be much nearer the actual condition of things.

It would be interesting to know how many of those, from whom he gets his reports in the different localities, really know a wheat field from a cabbage

many of them are actually working farmers, who examine their own and their neighbor's fields, and can make a report that is within a mile of the facts? We know of men that are doing crop-reporting that years ago probably knew something about it, but who now never go ten steps from their own door-yard; one old gentleman especially, whose eyes are so dim he can not tell a tree from a hay stack, and gets help to put the figures down.

This newspaper bragging raised a crop of wheat in this State of ninety million of bushels, and we only lied about fifteen to twenty million, as an examination of the assessors' books now show that that great reserve was principally wind. Where is the balance of it all gone? Where is Northrup going to get his great blockade of wheat to inspect? We guess he will have to work overtime.

This bragging assumes all sorts of forms. In the winter, if we have a white frost, some special correspondent to the "Capital" from Salina telegraphs, "A fine sow. Farmers are satisfied that the wheat is saved." Let a good dew fall and these special men in Abilene, Larned, and Wichita will immediately get in their work and the daily appears with bold-face long primer head-lines, "Wheat saved. Heavy rains all along the Union Pacific and Santa Fe roads," and lo and behold the farmers' "big reserve" immediately drops 2 cents.

Now, how many of them will display on the first page, double leaded,

saying that this will meet the approbation of nine-tenths of the farmers of the State.

Now we expect that several little pencil-pushers will get up on their hind legs and say something caustic in reply. But go ahead; we have "set our take," and are as ever,

A MCPHERSON FARMER.

Harrowed His Wheat.

I accepted your advice to harrow the wheat. I harrowed ninety acres, having the teeth of the harrow slightly slanting. All thin places I harrowed twice. If appearance counts for anything your advice is good. I am sure many farmers would be glad to know just what benefit it is.

Wheat in this neighborhood generally looks well from the road, but on close inspection it is found that many of the fields lack much of being a good stand. (There is no sign of the Hessian fly as yet in this part of "the strip.") We have had plenty of gentle showers. The alfalfa looks well.

Can any of your many excellent correspondents tell me how to overcome the habit of a cow's holding her milk? Newkirk, Okla. JOHN LOVE.

Prickly Ash Bitters cures the kidneys, regulates the liver, tones up the stomach and purifies the bowels.

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Horticulture.

Stone Fruits.

WILLIAM CUTTER, JUNCTION CITY, KANS.

The nectarine is the most unimportant of all stone fruits. It is about as hardy in tree and bud as the peach, but its smooth skin and soft pulp are so tempting to the curculio and its kindred, the gouger, that we rarely find a ripe specimen without a puncture. It should only be planted as a doubtful experiment. The apricot is also a rather unprofitable tree to plant, although it sometimes gives us a good crop. It is about as hardy in tree and bud as the peach or plum, but its habit of blooming so very early usually makes it an easy victim to a belated spring frost. The tree agents have invented a late-blooming variety that they sell upon their honor. The Russian varieties possess no advantage over the older and better kinds. Every one should plant a few trees. He who plants it for profit is making a mistake. The plum is of more value than the two preceding fruits, but there is so much "chaff among the wheat" that it takes an expert to sift it out.

There are three distinct classes of the plum largely planted in this State. The European, the Japan, and the native. I will not attempt any scientific classification, as I think you understand me; they are so distinct that each requires separate consideration. Our native, or American type, the Wild Goose, Miner, etc., while perhaps the poorest in quality, are the most hardy in tree and bud, and adapted to a greater variation of soil and climate, less subject to attacks of insects, and, to shorten a long story, they are worth more to us than all others combined. They thrive upon almost any soil; still a sandy one suits them best. The European sorts, as Lombard, the Gages, etc., are much the better in flavor, and sometimes produce a good crop, but are so generally destroyed by insects or rot that their cultivation is not profitable. Always plant a few trees of them, and when they do bear the satisfaction will pay you for all they have cost. A clay subsoil is best for them. The Japan plum is of comparative recent introduction, and, with its California and other seedlings, has about driven all others out of the South and far Western portions of this country. Its area of success is well defined; but unfortunately we are too far north. It is displayed in all our markets. Its large size and fine appearance always attract attention, which, with the volumes of praise that people read, has created a demand for the trees far north of its line of successful culture.

In the cherry we have the surest tree to grow and bear that we know of. Still it is a lamentable fact that not one farmer in ten grows an adequate supply for his own family use. It is at home upon all soils; it is longer lived and perhaps more productive upon a clay subsoil. We have nearly all of us given up the idea of growing sweet cherries, but still many of the Germans and down-easters are anxious to give them one more trial. The Early Richmond, Montmorency and English Morello are the three best varieties known. The Dyehouse is so near like the Richmond that it is always getting nurserymen into trouble. The fruit always sells at paying prices, and I have never seen a market oversupplied.

The location for a peach orchard is of great importance, and while we have and still do advocate planting upon the highest spot, especially if adjacent to a deep ravine or other low land, we have found out by experience that this site is not always the best. Cold weather is the greater, yet we need not think it the only cause of failure in this latitude. But failure comes in so many different ways and at different seasons that there is no infallible rule for success. Our buds are killed more frequently by a cold, still night in midwinter than by any other cause; and it is upon such occasions that our highest sites assert their superiority, and even a slight elevation will often prove of great advantage. A striking case was demonstrated last year in my own orchard. I have five-year-old peach-trees in rows, thirty-five rods long, on second bottom running to a hill facing the north; there is an elevation of twenty-four feet in these rows, and last year there was twice the fruit set on the trees at the upper ends than there was on the lower; and still lower, on the first bottom, there was hardly a peach to be found.

Two years ago our peaches were hurt much worse than they were last, and in exactly the opposite way from last year. They came through the winter with hardly the loss of a bud until in April, and when they were nearly in bloom we were struck by a cold wave that began with rain, and we had a cold, stormy

night, the mercury going to three or four below freezing. This storm destroyed the greater portion of the crop upon high land, excepting where sheltered from the wind; while on the low land, where we failed last year, we obtained our best fruit. These partial failures have suggested some things that are worthy of the peach-grower's attention, especially if it was dry in July and August, which is no uncommon thing in this country. Of five rows running to the hill before mentioned, the Elberta and Salway were damaged at the lower ends of the rows by birds, while the Greensboro, Captain Ede, and Triumph, after losing the greater portion of their buds at the lower ends of the rows, still produced a much more valuable crop than at the other ends, where the trees were overloaded. Another suggestion: there is hardly an orchard of any extent that some portion of it is not more favorably situated than others; so, plant Elberta, Heath Cling, Salway, and other varieties that seldom overbear on the most favorable part of the orchard; and plant Crosby, Triumph, Early Barnard, etc., upon the most unfavorable. They will bear heavier crops than the other list will upon the more favorable part. While the habit of extra productiveness is sought for by the average planter it is a great nuisance to the commercial fruit-grower. Not only was the fruit on my Triumph and Early Barnard (where they overbore), worthless, but a large portion of the trees are dead.

It would hardly be using the Greensboro right to pass it without special mention. It is the nearest drouth-proof of any peach known. My trees were loaded to the last twig, and every peach grew a fair marketable size. It was worth more than double that of any other variety ripening in July. The drouth of July and August damaged the Elberta and all that ripened before it. We have known the same thing to occur before, and advise planting more late-bearing trees. We seldom fail to receive good rains by the last of August or the first of September, which insures us good late fruit, after the products of the principal peach districts are out of the market; and if we grew such fruit in marketable quantities I believe we would find a ready market for it, both north and south. Some may ask what I mean by marketable quantities; I will explain. We have heretofore received good prices at our local markets. Such prices can not continue much longer. There will soon be too many grown for our nearby markets to consume, and then, if we are not prepared to ship in car lots, the expressmen will hardly leave enough to satisfy the commissionmen. Long before the end of the next decade, if we succeed as we have in the past, we ought to be shipping peaches by car- or train-loads from every county-seat in this part of Kansas.

But we will never get out of the woods and must keep a lookout for new pests. This year, for the first, leaf-curl did us considerable damage. It was particularly bad on Captain Ede, Elberta, and the Crawfords, destroying much of the fruit and small twigs on the inside of the trees. We must get after it with our sprayers and a solution of sulphur, lime, and salt before the leaves start. The best information upon the subject is to be found in a book issued by the United States Agricultural Department. But of all the enemies to the peach, or fruit-culture in general, no culture, or even poor culture, is the worst. When the growth of either tree or fruit is checked by neglect, drouth, or any other cause, it is at the mercy of its enemies, while a thrifty tree or fruit is either not attacked, or it has the power to resist it. In answer to any who may say we have no control over the weather, I will say, from my own experience and observation, I know that had we kept our extension disk moving early in the season, the damage by drouth in July and August would have been reduced to a minimum.

Commercial Peach-Growing.

A. CHANDLER, ARGENTINE, KANS.

The peach is to-day receiving more attention from fruit men than any other fruit, with the possible exception of the apple. I will treat my subject under the following heads: Location, varieties, planting, cultivation, spraying, commissionmen, packing, and markets.

It is desirable to secure the most elevated location possible, in the States of Kansas and Missouri. A north or east slope is to be preferred; soil should be a sandy loam, and well drained. Land liable to wash should be avoided.

Varieties will claim close attention. We have too many varieties; many of them undesirable. Some new ones are heralded with great praise, which, after a year or more fruiting, are found wanting. We have found the early peaches lacking in quality; they are also liable to rot. Then, too, they are



Mrs. Mamie Herbert, 56 Elmwood Ave., Buffalo, N. Y., Treasurer Empire State Fortnightly, Buffalo, N. Y., After Eight Years' Suffering Cured by Lydia E. Pinkham's Vegetable Compound.

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\$5000 FORFEIT IF THE ABOVE LETTER IS NOT GENUINE.

When women are troubled with irregular, suppressed or painful menstruation, weakness, leucorrhœa, displacement or ulceration of the womb, that bearing-down feeling, inflammation of the ovaries, backache, bloating (or flatulence), general debility, indigestion, and nervous prostration, or are beset with such symptoms as dizziness, faintness, lassitude, excitability, irritability, nervousness, sleeplessness, melancholy, "all-gone" and "want-to-be-left-alone" feelings, blues and hopelessness, they should remember there is one tried and true remedy. Lydia E. Pinkham's Vegetable Compound at once removes such troubles. Refuse to buy any other medicine, for you need the best.

Mrs. Pinkham invites all sick women to write her for advice. She has guided thousands to health. Address, Lynn, Mass.

placed upon the market beside better peaches grown South. These facts effectively bar them from profitable cultivation. It is not possible to name a list suitable for all seasons and locations. From a thorough trial, we have found the following very desirable and best suitable to our market, namely: Triumph, Greensboro, Mountain Rose, Family Favorite, Champion, Elberta, Old Mixon Free, Smock, Salway, Heath Cling, and Wilken's Cling. The following new varieties are gaining in favor each year, viz.: Fitzgerald, Captain Ede, Carmen, Matthew's Beauty, and Emma.

In this latitude we prefer to plant in the spring, after having prepared the land the previous season. We plant 180 trees to the acre, in rows both ways. Cultivation to some extent will be governed by circumstances. The newly-planted tree will require close attention; in fact, it will respond to good care, the same as a hill of corn. Borers can be partially controlled by mounding the tree about ten inches high. This will also hold the tree in its proper place in case of a severe storm. One-third of each year's growth should be cut away, which will add greatly to the beauty of the tree and also enhance the future value of the orchard. We recommend thorough and clean cultivation, continuing until August 10, especially in crop years; running lightly with the disk harrow, with the extension provided for running under the tree, will be found to be both safe and expeditious.

Spraying with poison for the destruction of insects has not been satisfactory, but for leaf-curl, a parasitic fungus, the Bordeaux mixture is invaluable; (for a special treatise on this subject see Pierce, published by the Department of Agriculture). Leaf-curl can be controlled and finally eradicated. The curculio yearly destroys thousands of dollars' worth of peaches. A description of its work is too familiar to recite here. The old-time method of jarring them upon a sheet is not to be lost sight of. Clean cultivation, and the destruc-

tion of all trash, leaves, etc., will secure partial immunity from this pest.

The commercial grower should make some provision for canning; this would greatly relieve a full market. A lack of proper organization and the excessive duty on tin are serious barriers to this industry. A few ringing resolutions placed in the hands of our Congressmen might be productive of good.

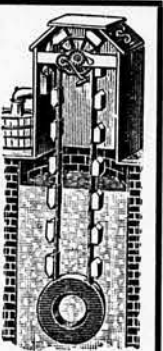
With all the facilities afforded by our railroads, we lack thorough methods in distribution. Much of our surplus would be used if it could be placed where it is most wanted. Too much emphasis can not be placed upon proper grading and packing. There is no excuse for placing upon the market imperfect, wormy, or over-ripe peaches. It destroys the confidence and respect of our customers, and in the end will destroy the market. In a period covering fifteen years, we have noticed that fancy peaches have always brought good prices; the market has not had too many of them. We can not censure certain practices of the commissionman too severely. One sure step toward reform is for the planter to grow salable fruit and for the handler to do honest packing. A good example is a powerful teacher. In closing, we say that commercial peach orcharding up to this date has been profitable.

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The simplest device for raising water. Easily adjusted to any well or cistern. Can be erected in 15 minutes. Steel chain and buckets galvanized after construction. Works easily; never freezes, takes air into the water, keeping it pure and sweet. Has every desirable feature. Lasts a lifetime. Thousands in general use. Price \$6, freight prepaid for complete pump for 10 ft. well or cistern. Add 30 cents for every additional foot in depth. Send for Free Catalog.

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PILES NO MONEY TILL CURED. 25 YEARS ESTABLISHED. We send FREE and postpaid a 200 page treatise on Piles, Fistula and Diseases of the Rectum; also 100 page illus. treatise on Diseases of Women. Of the thousands cured by our mild method, none paid a cent till cured—we furnish their names on application. **DRS. THORNTON & MINOR, 1007 Oak St., Kansas City, Mo.**

The Stock Interest.

THOROUGHbred STOCK SALES.

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

May 7 and 8, 1902—Colin Cameron, Kansas City, Arizona Herefords.
 May 25-27, 1902—National Hereford Exchange, Omaha, Neb. (Sotham management.)
 November 18-19, 1902—Marshall County Hereford Breeders' Association Sale, Blue Rapids, Kans.
 December 16, 1902—Gifford Bros., Manhattan, Kans., Shorthorns.

What is a Maintenance Ration for a Horse?

PRESS BULLETIN, WYOMING EXPERIMENT STATION.

In order to determine how much hay is required to maintain the university horses in winter, the following trials of feeding and weighing the horses were made. These horses are ordinarily fed no grain. The stable feed is alfalfa hay. They are occasionally harnessed, but not worked much. They have been running out and have had free access to water and to a straw pile.

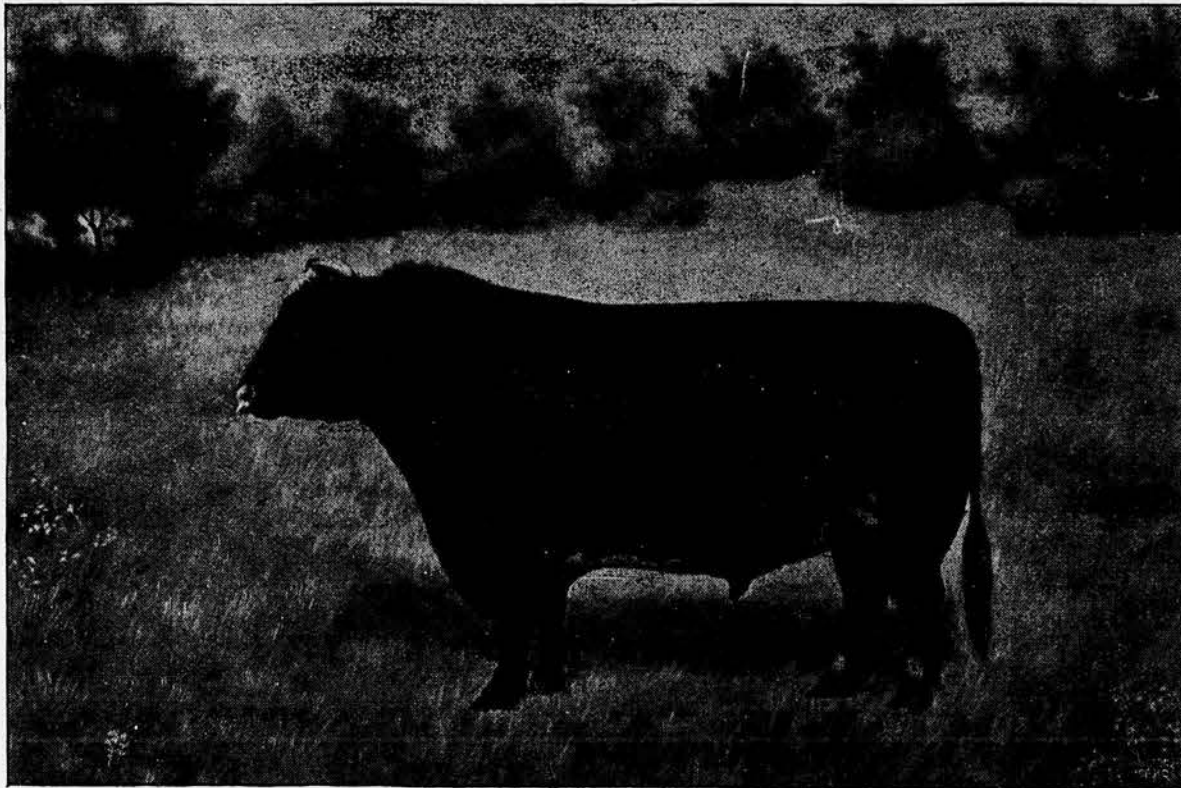
Under these circumstances the gray pair, Ben and Doc, were fed in the stable twice daily all the hay they would take. The hay was weighed for thirty days, January 7 to February 7, both dates included, but excluding two days, January 23 and 24, on which they were doing light work at the university. The hay consumed was, for Ben, 493 pounds, and for Doc, 443 pounds.

Ben and Doc, we prefer to use the first and last weights. In the above case, if the middle weights are included, the weights of hay per 1,000 pounds live weight would be increased by one-tenth of one pound. We are inclined to think the horses were maintaining, or gaining, weight under this feeding and that to ignore the lower weights gives the closer results. Dropping the middle weights, the hay consumed per thousand pounds, live weight, was, for Bill, 13.65 and Nell, 12.303, when these horses ate 479½ and 492¼ pounds, each, in thirty days. Therefore, these four horses, when given their freedom most of the time, with liberty to eat at a straw stack whenever they chose to do so, and with scarcely no work, consumed an average of 13.5 pounds of good alfalfa hay per day.

Doc ate 12.85 pounds of alfalfa hay and 2.28 pounds of oat straw per 1,000 pounds of live weight. The average for the two was 13.76 pounds of hay and 2.25 pounds of straw per 1,000 pounds live weight, or, we may put it, 13¾ pounds hay and 2¼ pounds of straw.

While Ben and Doc were receiving straw, Bill and Nell were fed only the alfalfa hay in the barn and were out where they had the regular access to the straw pile. Two mornings and one night feeds were omitted necessarily and the night feed for the following night has been omitted. The horses strayed away; thus, ten days are given for this comparative period, with the three average weights of both at the beginning and end. The weights are always before feed or water is given in the morning.

Each horse ate 160 pounds of alfalfa



Herd-bull at the head of Neosho Valley Herd of Shorthorns owned by D. P. Norton, Dunlap, Morris County, Kansas.

Both horses were weighed January 7, 8, and 9, also on January 16, 17, and 18, and 28, 29, and 30. Ben was out weight on the 16th and 18th. His average was, at beginning, 1,093½, middle weight 1,060, and near the close of this trial 1,110 pounds. The average of the three weights is 1,088, but we choose to use the two averages, leaving out the lighter weights, and these give 1,101½ pounds. Doc weighed 1,080 on seven of the nine times weighed, and on the two other dates was five and three pounds lighter. This gives 1,079 pounds as an average weight.

Taking the weight of either horse in the proportion: Weight of horse is to 1,000 as the weight of hay eaten per day is to X—gives for Ben, from a consumption of 16.43 pounds per day, 14.92 pounds of hay eaten per 1,000 pounds of live weight. Doc ate 14.76 pounds of hay per day, which amounts to 13.68 pounds per 1,000 pounds live weight. The average for both horses was 14.3 pounds of alfalfa hay per day per 1,000 pounds live weight.

The bay team, Bill and Nell, were also fed and weighed the same as were Ben and Doc. Weights were taken on the same dates. These weights show that both were off weight during the middle of the feeding, but that both gained during the period. The average of the three weights taken on the last of the three dates was for each one of the pair:

	Bill.	Nell.
	Lbs.	Lbs.
January 9.....	1,155	1,385
January 18.....	1,180	1,253
January 30.....	1,187	1,385

In making an average as above for

STRAW REQUIRED TO BALANCE AN ALFALFA HAY RATION.

The horses ate straw very regularly during the above feeding trials and it seems that they needed more carbohydrates than alfalfa hay furnishes for a maintenance diet where the ratio of carbohydrates should be not far from 7 or 8 to 1 of protein, while the ratio in alfalfa hay is little more than 3 to 1. Ben and Doc were accordingly put in the stable and fed alfalfa hay morning and evening and were given an ad libitum feed of straw during the day.

We take twelve days of this feeding with alfalfa hay and oat straw, since from the effect of the season the grain did not fill well, hence, doubtless, more of the material gathered to fill the kernel must have been left in the straw. The weights of the horses were:

	Ben.	Doc.
	Lbs.	Lbs.
February 13.....	1,090	1,075
February 14.....	1,080	1,077½
February 15.....	1,070	1,075
	1,080	1,076
February 23.....	1,120	1,080
February 24.....	1,125	1,082½
February 25.....	1,120	1,077½
	1,122	1,080

These horses consumed the amounts of hay and straw as follows:

Alfalfa hay eaten in twelve days..	194	166½
Alfalfa hay eaten per day.....	16 1-6	13 7-8
Oat straw eaten in twelve days...	29½	29½
Oat straw eaten per day.....	2.46	2.46

Here we find that Ben ate 14.63 pounds of hay and 2.23 pounds of straw per 1,000 pounds of live weight, and that he gained 44 pounds in weight during the twelve days. During this period,

hay in the ten days taken. The average weight of each was:

	Bill.	Nell.
	Lbs.	Lbs.
February 13 to 15.....	1,166½	1,316½
February 23 to 25.....	1,174	1,325
Average for this period.....	1,170	1,321
Average hay eaten per day....	16	16
Average hay eaten per day per 1,000 pounds weight.....	13.68	11.81

The average amount of hay eaten was 12.74, or 12¾ pounds per day per 1,000 pounds live weight. Straw was eaten at will during every day. Calculating the ration of straw and alfalfa eaten when the gray horses were fed all they would consume in the stable, we have compared it with the standard as laid down in standard books for light work. These horses were practically at rest. They were led out to be weighed and watered. We can not doubt but that when running out with access to the straw pile much more straw was consumed by each horse than was used in the trial above recorded. The standard and average ration consumed as given above are compared in the table below. The feeding and weighing of horses was done by Superintendent of Farm E. E. Sigman:

	Total dry matter lbs.	Protein lbs.	Carbohydrates (N-free extr't) lbs.	Fat, Ether extract lbs.	Nutritive substance lbs.	Ratio 1:
Standard ration for light work for horse of 1,000 pounds weight.....	20	1.50	9.50	.40	11.4	7
Ration						
Of alfalfa, 13¾ pounds.....	12.54	1.82	5.40	.122		
Oat straw, 2¼ pounds.....	2.04	.027	.87	.018		
	14.58	1.85	6.27	.14	8.26	3.5

The horses have maintained their weights on the rations given above and with what exercise they were inclined to take, when not lightly worked or shut

Feed Your Cattle Right

It pays to feed a variety of feeds. Make a grain ration of ground corn with

Gluten Feed and Germ Oil Meal

These digestible feeds are nutritious, easily assimilated and cattle, hogs, calves, etc. eat them with a relish. Write for samples and letters of recommendation, addressing Department K F.

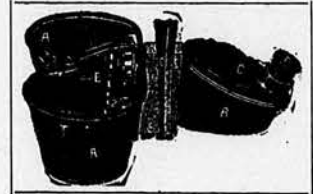
The Glucose Sugar Refining Co.,
The Rookery, Chicago.

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CURES Mange and Itch; KILLS Lice, Ticks and Sore-worms; HEALS Cuts, Wounds, Galls and all Sores.
GUARANTEED to do the work without injury to eyes or other parts of animal.
 At dealers or by express, prepaid, \$1.50 per gallon. 25 cent cans—dealers only. Special price in quantities. Write to-day for book and free trial Car-Sul. Address
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Buy the Double Dewey Hog Waterer

from your dealer or write us. We Guarantee Every Fountain. If not satisfactory return and get another, or your money back. We make this guarantee to every dealer.
VERY CHEAP THIS YEAR.



The B-B Mfg. Co., Davenport, Iowa
 Mention the Kansas Farmer.

in barn with gray team, while feeding on this calculated ration with straw. The ration of alfalfa hay and straw is probably better than it looks in the table. Practically, we have found it a good

maintenance ration and sufficient for light work.
 In digestion experiments at the North Carolina station, it was found that there

Gossip About Stock.

Australian sheep-growers are buying pure-bred rams in the United States with which to improve their flocks, and they have gone all the way to Vermont to find them. A lot of sixty Merinos were purchased in Addison County at a cost of \$10,000, and shipment was made to Sydney, accompanied by P. V. Norton, the man who bred them. This is Norton's seventh trip to Australia, and he claims to be the only breeder of Merinos in America who has a trade with Australia.

The Shorthorn breeders of Kansas will feel special interest in the second annual sale of Shorthorn cattle to be held at Columbia, Mo., on May 9, 1902, at which time sixty-five head of Scotch topped and American Shorthorns will be sold at auction under the auspices of the Boone County Shorthorn Breeders' Association. The offering is a grand lot of all-purpose useful cattle, mostly young stock, which will give good satisfaction to purchasers. Many of the cows have calves at foot and all heifers old enough to be bred are safe in calf. There is a strong contingent of young Marys in the female offering. There are four Scotch bulls, two by Godoy, Harner's celebrated herd-bull. Buyers who may desire a car lot will have the same delivered in Kansas City, Sedalia, or St. Louis by the consignors. A great many Kansas breeders have been desirous of visiting the numerous Shorthorn breeders' establishments in Boone County and this will afford them the desired opportunity, besides the chance to visit the great university town of Missouri and the Agricultural College and Experiment Station, see the butter-making, college barns, new stock-judging pavilion, in which the sale

nearly approaches his ideal of what a Shorthorn ought to be. No breeder can attain success without an ideal for which he is striving, and the roan heifer, Iridescent, by Baron Ury of Inglesfield 131581, out of Strawberry 15th, may be taken as the ideal type for the Inglesfield herd. She is a beautiful, rich roan, with short, broad head; broad and well rounded brisket; wide, roomy barrel; broad, level back and with extra good, well filled crop and loins. She has large heart girth with long, deep hind quarters, and well sprung ribs; a good, straggling underline, with deep, full flanks, and a fine "feel" that does a feeder's heart good. She is a very even animal with good lines all over, and stands so low on the ground that "you can not roll a keg of nails under her." As an evidence of her feeding ability it may be stated that owing to the scarcity of corn the Doctor has kept his entire herd very largely upon alfalfa during the season, and yet this heifer would need but little grain to put her in show-ring condition. The Doctor is a good feeder and, being a doctor, looks after the sanitary as well as the allmentary needs of his cattle. The three young bulls which he is now advertising for sale are of the same breeding, practically, as Baron Ury of Inglesfield is the sire of all, and the bulls have Strawberry 15th, Udora 11th, and Rose Louis for their dams. The Doctor is a mighty pleasant man and his farm is only five minutes walk from the depot so that it will not cost much time and will afford a good deal of pleasure to visit his farm and see his cattle, especially the young bulls, which are for sale. Notice his advertisement in another column.

Herewith we print a picture of the biggest Shorthorn bull in Kansas and one

get of Royal Bates. As Mr. Hothan is an excellent feeder, his cattle are all a credit to both himself and the blood lines which they represent. He now has, at the head of his herd, Rosebuds Prince 168748, by Prince Wild Eyes 149987, out of Rosebud E. Vol. 39, and while he may not reach the size and weight attained by Royal Bates, he will very nearly do so, and now has the quality and finish which makes him a worthy successor to that great herd-bull. Rosebuds Prince will undoubtedly appear in the show-ring this fall, where he will make a warm competitor even among such animals as were shown in the American Royal of 1901. Mr. Hothan has been preparing himself to sell his young stock in car-load lots, and he can now furnish both bulls and heifers ready for service and in good condition to any who desire to obtain car-load lots of the excellent breeding and quality which are maintained in the Carbondale herd. See Mr. Hothan's advertisement on page 501, and write him for prices or go and see his stock, and you will be sure to be pleased.

Get ready for the great Scotch Shorthorn sale of W. T. & H. R. Clay, to be held at Kansas City Stock Yards on May 14. It will be an event in Shorthorn circles and everybody will be there. W. T. Clay has bred the best of Shorthorns for thirty years and this will be a dispersion sale for his herd. His cattle are all pure Scotch or Scotch topped, and, as he has been selling off the culls from his herd for some time past, the sale offering will consist of only the choicest of the herd. H. R. Clay will still remain in the business and only contributes twenty head to this sale, but they are of the same excellence and breeding. The great Cruickshank Orange Blossom blood is very strong

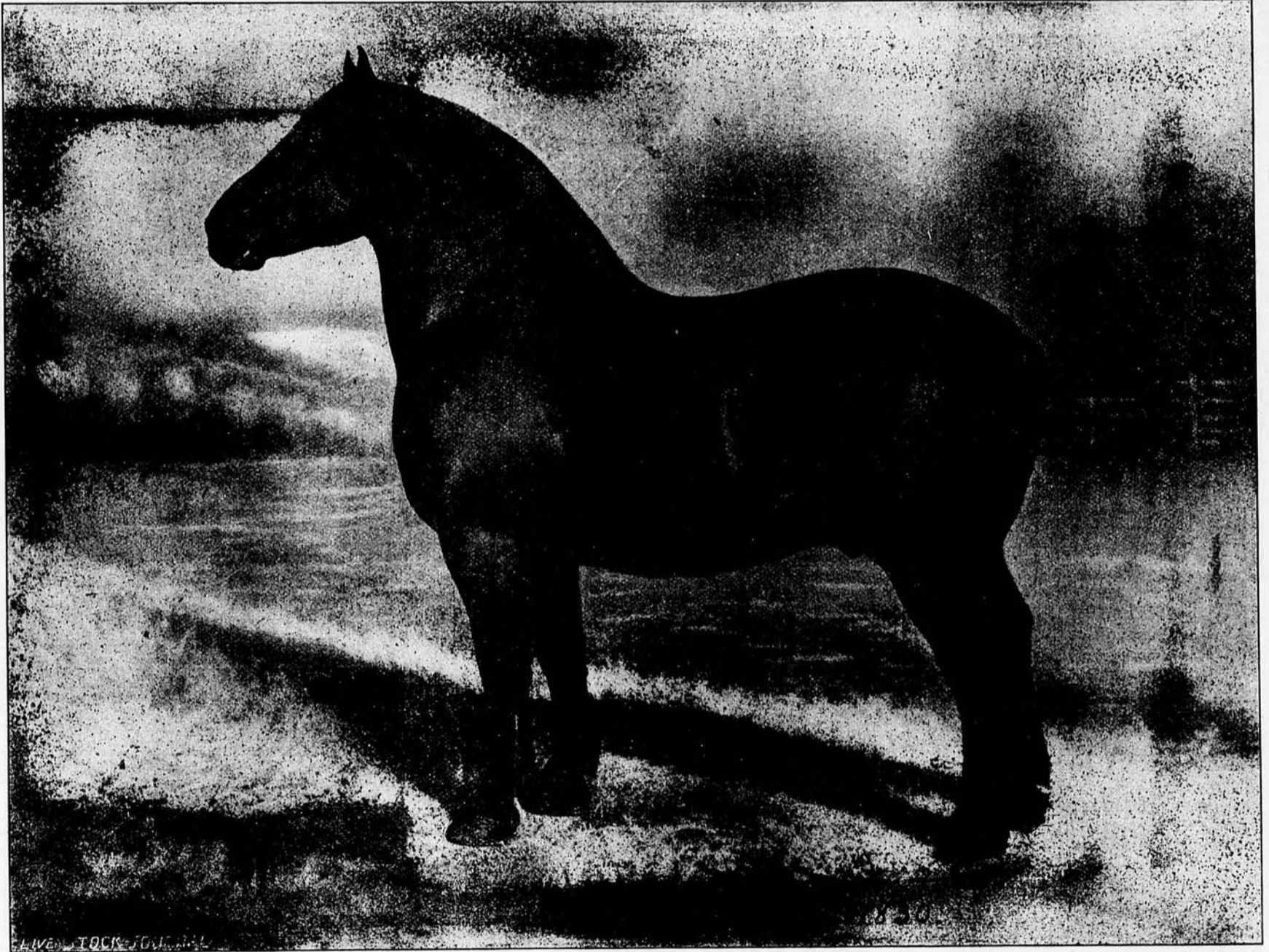
Rain and sweat have no effect on harness treated with Eureka Harness Oil. It resists the damp, keeps the leather soft and pliable. Stitches do not break. No rough surface to chafe and cut. The harness not only keeps looking like new, but wears twice as long by the use of Eureka Harness Oil.



EUREKA HARNESS OIL

Sold everywhere in cans—all sizes. Made by Standard Oil Company

stock yards company will furnish a suitable tent with 500 pens eight by eight feet and also an additional tent eighty by one hundred and twenty-five feet for the show and sale-ring with all necessary facilities for the care of the animals and their prop-



AT THE HEAD OF WHITEWATER FALLS STOCK FARM, PERCHERONS, OWNED BY J. W. & J. C. ROBISON, TOWANDA, KANS. SEE PAGE 484.

will be held, and also visit the manual training shops, and the fine new hospital now in operation. All trains will be met and visitors shown the city and its numerous attractions free. We trust that there will be a large attendance of Oklahoma and Kansas Shorthorn breeders who will enjoy the trip and have an opportunity to buy cattle well worth the money. See advertisement on page 496.

That corn crop failure last year was more disastrous to the farmers and feeders of the corn States than even they have yet realized. It forced the rangemen to make a discovery, and that is that they can feed their own cattle at home and make more money than they could selling feeders and at the same time make themselves independent of corn crop failure. For a number of years past the condition of the corn crop has governed the price of cattle in the West, in fact all over the country. Rangemen have rebelled, but until last winter they were helpless, or thought they were, which is the same thing. Now they are discovering all kinds of ways to make beef without corn, if necessary, and they have also discovered that the high, dry climate of the West is ideal for beef-making.—Denver Record-Stockman.

Dr. H. G. Slavers, of Neosho Falls, Kans., has a type of Shorthorns that very

of the most famous sires of the breed, Royal Bates 123675, which was bred by Ex-Governor Glick, and when in service weighed 2830 pounds. He was by Winsome Duke 11th, out of Second Lady Bates of Shannon Hill, and was regarded by experts as one of the greatest sires of the breed to be found in Kansas. The cut shows this great bull being led by the little son of Mr. Louis Hothan, proprietor of Carbondale Shorthorn Stock Farm. Mr. Hothan has gathered about him a large and representative herd of Shorthorn cat-



tle that are bred in the purple. His cows and heifers are mostly pure Bates or Bates with Cruickshank tops and are largely the

here, as it traces direct to Colonel Harris' Imp. Baron Victor. These cattle are all in excellent condition, and are fit to go in anybody's herd. Read their advertisement on page 496 and write for a catalogue to W. T. & H. R. Clay, Plattsburg, Mo. Mention the Kansas Farmer.

One of the events of most vital importance to breeders of all classes of purebred stock is the great American Royal Cattle Show, which is held in Kansas City in October of each year. Those interested in the different breeds have succeeded in enlarging and expanding the American Royal so as to include other breeds of animals as well. Mr. H. M. Kirkpatrick, of Wolcott, Kans., who was appointed by the Kansas breeders as Executive Committeeman to secure a place for the pure-bred hog interests in the American Royal, writes that he has secured from the Kansas City Stock Yards Company an offer of \$1,000 in cash premiums to be divided equally between the Poland-Chinas, Berkshires, Duroc Jerseys, and Chester Whites on condition that each association representing these several breeds shall contribute a like amount for general premiums without any reference to such special premiums. This offer is made on condition that at least two of these associations shall contribute and make exhibits, and on the further condition that if any one of the four associations should fail to accept and make an exhibit then the cash is to be divided between those who do accept, provided that at least two breeds are represented. The

er display in show and sale. The stock yards company will receive \$3 for each pen furnished and 50 cents per head for the animals sold; the company to furnish all bedding and corn at regular stock yards rates, if requested to do so by the exhibitors, but the exhibitors may furnish any other feed they may desire. It is understood that the Poland-China and Berkshire Associations have accepted this proposition and are now planning to have one of the greatest shows and sales ever held of these two breeds. At last accounts, Mr. Kirkpatrick was unable to state what action had been taken by the Chester White association. The Duroc Jersey association did not feel warranted in accepting their share of the proposition, and he is now unable to announce that they will be represented. Here is an opportunity such as has not come to the swine breeders adjacent to Kansas City before, and all breeders of pure-bred hogs should begin at once to get ready to make an exhibit and a sale, if desirable, in connection with the American Royal Show. Breeders of cattle who have exhibited in this show in the past have acquired a prestige and reputation such as would have been impossible in any other way in the same length of time. The exhibit of cattle was one of the finest ever made in the world, and any exhibitor who failed to get "inside the money" in such hot competition had no reason to feel ashamed. In fact, it was a credit to any man to be able to exhibit in such a company. What was then true

(Continued on page 490.)

to-day, it behooves me to say that while they may be in the dark in the sight of some they have not taken a back seat in any case. The Kansas butter-maker will be prepared to show the material of which he is made as soon as opportunity offers, and I believe that time to be not far distant. It must be remembered that, in comparison, as a dairy State, Kansas is yet in her infancy; but rapid strides are being made continually to reach a position unequalled by any State in the Union, though this can not be expected without encouragement and ample financial and personal aid through the medium of the State Legislature. In the meantime the butter-maker must battle for the "superiority of the inevitable" with the crowning glory of certain success, always keeping in mind that "In declination there is weakness," "In knowledge there is power," and "In union there is strength."

The occupation is one which of necessity requires men of extraordinary ambition, intelligence, and perseverance; and just such men must be born, raised, taught, and trained to the peculiarities of the business every day, and we find them, too, without going outside the borders of our own great State, and all that remains to be done is to keep ever-

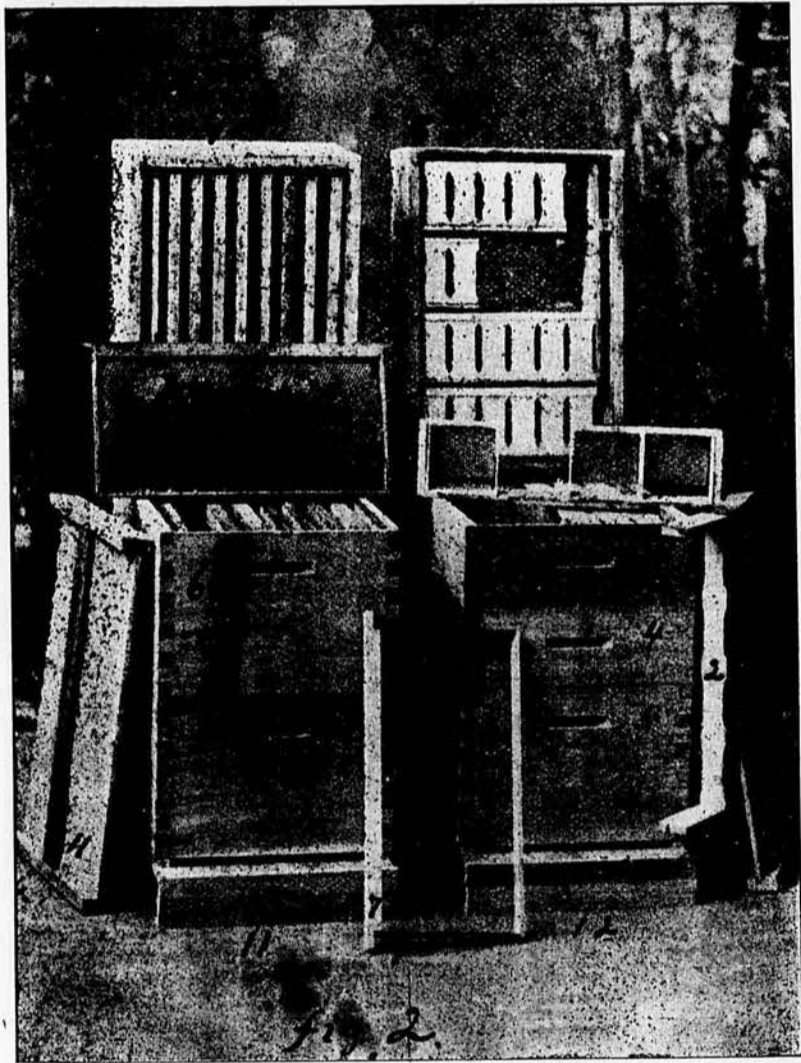
good flow of milk. They were running on the grass and when it became too dry for them, we turned them in the sorghum field. We also had a field of clover and timothy, which we let them graze on a while each day. I can not say that the drouth affected the flow of milk very much. Everything moved along nicely; in fact, I would hardly have realized that we had such a severe drouth had it not been for some provisions a had made for feed for the winter. If it had not rained last fall we could have wintered our fifty-five head of cows and seven horses without disposing of any of them.

The Apiary.

Conducted by A. H. Duff, Larned, Kans., to whom all inquiries concerning this department should be addressed.

Beehives.

In the illustration here given we show two hives as well equipped with the different parts as can be shown in a picture. One of the hives is equipped for comb-honey production, and the other for extracting. No. 11 is the hive arranged



Bee-hives, Equipped for Production and Extracting.

lastingly at it and Kansas, as a dairy State, will be a "winner," as she has shown or proven herself to be along certain other business lines.

M. H. MATTS, Dairy Student, 1901. Homewood, Kans.

Testing Milk at Low and High Temperatures.

An experiment made in testing whole milk at different temperatures has shown the following results: The first test with milk at 40 degrees F. gave 4.1 per cent butter-fat; second test of the same milk at 60 degrees, 4.1 per cent; third test at 80 degrees, 4.1 per cent; fourth test at 120 degrees, two of the bottles showed 4.1 per cent, and the other two of the four showed 4.2 per cent; fifth test at 140 degrees tested 4.2 per cent.

With each test we used four bottles. The only variation appeared with the very high temperatures. We obtained a clear reading each time, but with the high temperatures a dark colored fat.

L. E. JOBB,

H. P. GOODELL,

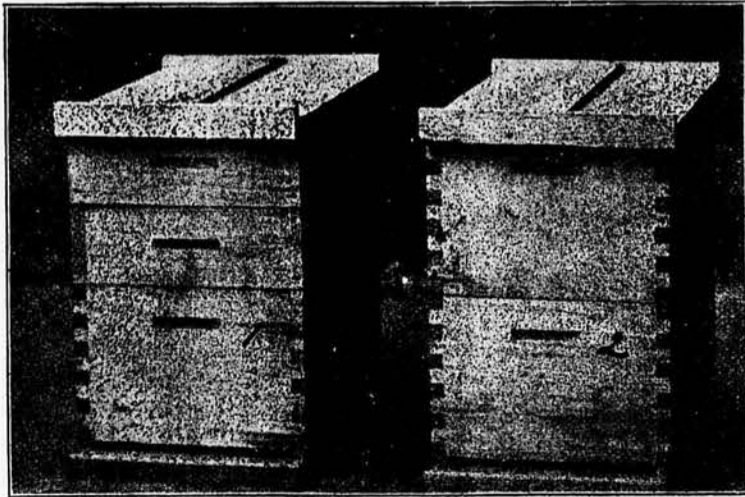
Dairy Students K. S. A. C., 1902.

Being Prepared for Emergencies.

F. F. FAIRCHILD, BEFORE THE TONGANOXIE FARMERS' INSTITUTE.

We can not let each week or month provide for itself when it comes, but we have to look ahead and provide for drouths whether we have them or not. We must plant or sow something that will take our cows through a long dry spell. Last year when the drouth came we had fifty-five head of cows giving a

for extracting. It is a two-story hive, the upper story and lower story of the brood department being the same in every way. Each contain eight frames of comb. No. 7, leaning against the front of the hive, is an empty frame, and No. 10, resting on top of the upper story, is a frame of comb. No. 11, leaning against



Bee-hives Closed.

the side of the hive, is the lid for the same and the upright box, No. 9, is simply a hive with the bottom part or side facing, which shows how regularly the bottom of the frames should be spaced to insure good and straight comb-building and good manipulation of the frames.

the double starter. These hives are used either with one, two, or more supers of boxes, but usually not more than two.

There are many large hive manufacturers in this country and these hives are cut out very accurately and sold

Write to

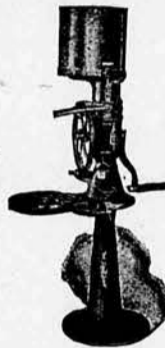


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I'm in Demand Because

BUTTER FAT IS 28 CENTS A POUND



Creamery Company.

Get Me and Do Your Own Shipping.

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THE U. S. CREAM SEPARATOR

HOLDS

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RECORD

FIFTY CONSECUTIVE RUNS

At the Pan-American Model Dairy

AVERAGE TEST } OF SKIM MILK } .0138

No other Separator has ever been able to approach this record

Send for Free Pamphlets

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

S U S U S U S

No. 12 shows a hive equipped for comb-honey with two supers containing twenty-four section boxes each added to the brood-chamber and numbered 3, 4, and 5. No. 2 is a section-holder, which holds in place four one-pound sections, as shown on top of the super with one section out of place. Six of these section-holders occupy one super, keeping in place twenty-four sections. Other styles of supers are also used for keeping the sections in place, and one is shown standing on end with some of the sections out of place. The three sections resting on the super are filled with foundation-comb, which may be seen, the one on the left being fitted up with

very cheaply. They are usually shipped in the flat, as in this manner the freight is low. It is an easy matter for any one to nail them together and have the latest and best hives, and they will cost them less than if made at home. It requires not only a mechanic, but one who understands bees to make a good hive.

B

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Books 1/2 Cts. Each

The following books, each containing a complete novel by a popular author, are published in neat pamphlet form, wire stitched and well printed: *The Gable-Roofed House at Snodden*, by Mrs. Mary J. Holmes; *The Crime and the Curse*, by Mrs. Southworth; *Hilton Hall*, by Mrs. May Agnes Fleming; *The Surgeon of Gaster Fell*, by A. Conan Doyle; *The Wife's Victory*, by Mrs. Southworth; *Lady Guendoline's Dream*, by Charlotte M. Braemo; *Ada Harcourt*, by Mrs. Mary J. Holmes; *The Little Rough-Out House*, by Mrs. Southworth; *The Kidnapped Heiress*, by Emerson Bennett; *The Cedar Swamp Mystery*, by Mrs. Jane G. Austin; *Cora Hastings*, by Mary Kyle Dallas; *The Old Red House Among the Mountains*, by Mrs. Mary J. Holmes; *Our Jonesville Folks*, by Josiah Allen's Wife; *The Midnight Marriage*, by Emerson Bennett; *The Lawyer's Ward*, by Mary Kyle Dallas; *Cortie*, by Charlotte M. Braemo; *A Maiden All Forlorn*, by "The Duchess"; *The Bride of an Hour*, by Mrs. Ann S. Stephens; *The Great Hampton Bank Robbery*, by Mary R. P. Hatch; *The Tragedy of a Quiet Life*, by Mrs. Frances Hodgson Burnett; *Godfrey Jannifer's Heirs*, by Mrs. Jane G. Austin; *Farmer Holt's Daughter*, by Charles Garvice. We will send any two of the above-named books by mail post-paid upon receipt of **Three Cents**; any seven for **Ten Cents**; any fifteen for **Twenty Cents**; the whole list (22 books) for **Thirty Cents**. Satisfaction guaranteed or money refunded. This is a special offer, made to introduce our publications, and is good only until October 1st, 1902. Address: **F. M. LUPTON, Publisher, 23, 25, 27 City Hall Place, New York.**

THE MARKETS.

Last Week's Grain Market Review.

Topeka, Kans., April 28, 1902. Prices on grain were strong throughout the week and especially in good milling wheat in much demand.

As a result of the week's shipments and exports of wheat the visible supply decreased 3,192,000 bushels and is now down to 41,053,000 bushels.

For weeks past an increase in the movement has been looked for, but this increase in wheat movement is like prospective rains, it does not come.

The corn situation is hardly as strong as it was a few days ago; to be accounted for by alleged rain all over the corn belt east of the Missouri River.

The visible supply of corn is now down to a little less than 7,000,000 bushels and total exports have been only 26,000,000 since last July.

Consumption of corn is cut off all around and it looks as though corn was much too high.

Markets closed as follows to-day: Chicago.—No. 2 red wheat, 83 1/2 to 84c; No. 2 hard wheat, 77 to 79c; No. 2 corn, 63c; No. 2 oats, 43 1/2c.

F. W. FRASIUS.

Kansas City Grain Markets.

Kansas City, April 28, 1902. Medium to common beefs and feeding cattle declined heavily here the past week, the weakening market almost amounting to demoralization in certain branches.

keting-it. The expense will be met by the additional prices the fat stock commands. Hog receipts were light at this point at 35,300 head, a shortage of 53 per cent from a year ago.

Sheep arrivals were light at 14,200 head, and included a heavy supply of Texas muttons. The remainder of the offerings ran to Colorado stock, with a sprinkling of native Kansans.

Horses of the better grades sold strong all week, but medium chunks and drivers were off \$5 to \$10. Extra expressors sold as high as \$210 and \$225 per head.

H. A. POWELL.

Elgin Butter Market.

Elgin, Ill., April 28, 1902. The quotation committee announce butter 22c.

Shakespeare Never Wrote Macbeth.

We can state this as a positive fact, because the poet lived in a time when the lamp-chimneys made by Macbeth were unknown.

If Shakespeare had lived in our day, he would have written Macbeth, Pittsburgh, that "pearl top" or "pear glass" lamp-chimneys never break unless you hit them.

Macbeth's name is known wherever lamp-chimneys are used. If the "best" means anything it spells "Macbeth."

European tourists and others destined to Eastern points, will find the low rates applying over the Nickel Plate Road to New York, New England, and other Eastern destinations, especially attractive.

The Pump That Pumps SPRAY PUMPS Double-acting, Lift, Tank and Spray PUMPS Store Ladders, Etc. HAYTOOLS of all kinds. Write for Circulars and Prices. MYERS STAYON Flexible Door Hangers with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—"Stayon." Has no equal. Thousands sold. Ask your dealer or write us for descriptive circular D.

SIXTY-FIVE SHORTHORNS

(Scotch, Scotch-topped, and American Families) AT AUCTION AT Columbia, Mo., Friday, May 9, 1902



25 Young Cows and 40 Strong Young Bulls Consigned by the Boone County Shorthorn Breeders' Association.

For Catalogue, address FARMERS BANK Columbia, Mo. Auctioneers: Cols. Woods, Sparks, and Harriman For any special information, address..... J. C. HALL, Hallsville, Mo.

SHORTHORNS AT AUCTION!

Platte's Sale Stables, Chillicothe, Mo ...THURSDAY, MAY 15, 1902...

60 Head--31 Bulls and 29 Females. A Chance for All Classes of Buyers to Secure Just What They Need.

Cows with calves at foot, and bred again, heifers safe in calf, and young bulls bred well enough to head any herd, from such families as Young Phyllis, Young Mary, Arabella, Rosemary, Lady Barrington, Rose of Sharon, Sanspareil, Desdemond, Victoria, and Caroline.

CONTRIBUTORS: Purdy Bros., George Bothwell, C. W. Thomas, J. F. Finley, Jno. Morris, Joe Bezell, Phelps & Trimble, R. V. McGuire, and G. W. Good. FOR CATALOGUES, ADDRESS COL. HARRY GRAHAM, CHILLICOTHE, MO. GEO. BOTHWELL, Mgr. AUCTIONEERS: COLS. SPARKS, GRAHAM, AND SLIFER. Mention THE KANSAS FARMER.

SHORTHORNS AT AUCTION



W. T. & H. R. CLAY, of Plattsburg, Mo., WILL OFFER AT KANSAS CITY, MISSOURI, WEDNESDAY, MAY 14, 1902 75--SCOTCH, SCOTCH-TOPPED, AND BATES SHORTHORNS--75

Consisting of Butterflies, Secrets, Orange Blossoms, March Violets, Lady Gunters, Young Marys, Phyllises, Rubys, and Rose of Sharon. The offering embraces a select draft of 20 head from H. R. Clay's herd, and the entire herd--55 head, of W. T. Clay, including 41 cows, 8 to 8 years old, some with calves at foot; six 2-year-old heifers, bred, 12 heifers 7 to 20 months old, and 18 bulls 12 to 24 months old.

A Grand Lot of Highly Bred Shorthorns of Great Quality from the Oldest Herds in Missouri. EVERYBODY INVITED.

For Catalogue, Now Ready, and Other Information, Address W. T. & H. R. CLAY, PLATTSBURG, MO.

Do You Feed ENSILAGE ? If not, write us and we will tell you why you should.

ROSS ENSILAGE CUTTERS

The E. W. Ross Co., Springfield, O. Our Illustrated Catalogue No. 49 is Free.



WE ONLY CLAIM for PAGE FENCE that it is more practical and economical and that it lasts the longest.

BALES 15 Tons a Day HAY The Gem Full-Circle Baler, lightest, strongest, cheapest baler.

THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY in America. We have been making it for 20 years.

DRILLING MACHINERY FOR WATER, GAS and MINERAL PROSPECTING Steam or Horse Power.

This Tubular Fence Post made of Galvanized Metal and Vitriol-ized Shale base.

The "HOOVER" Potato Digger Rapid, Clean and Satisfactory work guaranteed.

PUMP WATER With the New Stickney Junior The only guaranteed 3-horse power Gasoline Engine ever offered at \$110.00 Complete.

\$8.95 EIGHT DOLLARS AND NINETY-FIVE CENTS Buy the celebrated, high grade, new 1902 Model EDGEMERE BICYCLE.

Catalogue Free. FROM MANUFACTURER DIRECT TO USER Road Wagons, \$24.25; Top Buggies, \$30.25; Harness, \$4.80; Saddles, \$2.65; Farm Wagons, \$55.00.

GALVANIZED WIRE AT BARGAIN PRICES. Fifty car loads of new galvanized wire, in short lengths.

NO SPAVINS The worst possible spavin can be cured in 45 minutes. Ringbones, Curbs and Splints just as quick.

GAS RELEASING BIT FOR PREVENTING B-OAT IN DAIRY COWS AND other stock while feeding on alfalfa & clover.

NOXEM PREVENTS HORNS Perfect, Practical, Powerful Paste Enough for 25 calves, per tube 50 cts.

Paint Your Roofs WITH DONKEY PAINT One Coat will last 5 Years on metal, wood or felt.

Special Machine Designers and Builders THE BLUE VALLEY MFG. CO., MANUFACTURERS OF

The B. V. Sweep and Power Feed Mills; The Imp. B. V. Safety Corn Harvesters, Oak Stoves, and Stove Repairs.

Some People Call It Luck The successful farmer says it is modern methods that grows big crops of corn every season.



The New Way of Smoking Meat. No fire, fuel or smoke-house. Apply WRIGHT'S CONDENSED SMOKE with a brush, giving meat two coats a week apart.

29 YEARS SELLING DIRECT. We are the largest manufacturers of vehicles and harness in the world selling to consumers, and we have been doing business in this way for 29 years.

YOUR MILL IS A FAILURE? Then We Call Your Attention to the NEW WOLCOTT WINDMILL. Fifteen years actual test without a failure.

Will Plow Anything Anywhere The Hapgood-Hancock Disc Sulky and Gang Plows as great an improvement over the Mold-Board Plow as that plow was over the Crooked Stick.

ECONOMY PITLESS WAGON SCALES STEEL JOISTS METAL FRAME SCALE COMPLETE EXCEPT THE SEVEN PLANK FOR FLOORING.

Has More Humps Than the "Campbell." 175 Have needed them this spring, already. Write for Prices and Circulars TOPEKA FOUNDRY, Topeka, Kans.

KANSAS CITY'S ONLY ABERDEEN-ANGUS AUCTION OF == THE == SEASON

AT THE FINE STOCK SALE PAVILION, STOCK YARDS, KANSAS CITY, MO.,
TUESDAY, MAY 6, 1902.

50 HEAD==35 BULLS AND 15 FEMALES

FROM THE HERDS OF

W. J. Turbin, Carrollton, Mo.; J. H. Rea & Son, Carrollton, Mo.; Berry Lucas, Hamilton, Mo.; N. R. Tracy, Trenton, Mo.; H. H. Anderson, Laredo, Mo.; W. M. England, Callao, Mo.; J. B. Withers, Missouri City, Mo.; John B. Blackwell, Fayette, Mo.; Marion C. Stone, Milan, Mo.; J. F. Hanna, Tarkio, Mo.; I. B. Webster, Pleasant Hill, Ill.; O. A. Bridgford, Joy, Ill.; and W. W. Massie, Paris, Ky.



The offering is a good, useful one, combining individual merit with choice blood lines and affords the only opportunity that has been, or likely will be presented this spring to secure at Kansas City serviceable bulls and breeding females of this great market-topping breed at public valuation. Do not miss it. . . .

FOR CATALOGUE, ADDRESS

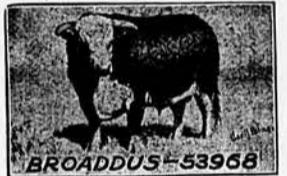
W. C. MCGAVOCK, MANAGER, - - - MT. PULASKI, ILLINOIS.

Auctioneers: Col. F. M. Woods and Assistants.



Third Annual Sale

of the



San Rafael Herefords

COLIN CAMERON, Lohlel, Arizona, will sell at Public Auction, in the Fine Stock Pavilion, Kansas City, Missouri, on

WEDNESDAY AND THURSDAY, MAY 7 AND 8, 1902.

90 HEAD OF REGISTERED HEREFORDS. 78 Cows--Nearly all of them in calf or with calves at foot. 12 Bulls--Strong, lusty fellows ready for immediate use.

A selected draft from an old established herd of 1,000 head.



The San Rafael Herefords are Arizona range bred, raised on native grasses in fenced pastures, are in perfect health, have strong constitutions, and are in every way a desirable and profitable kind of cattle to handle. Bulls strong in the best blood of the breed have been used in this herd for 20 years. The opportunity is unequalled for breeders, and especially for beginners, to secure strictly well-bred cattle at their own prices.

For Catalogues address..... C. R. THOMAS, 225 West 12th Street, KANSAS CITY, MISSOURI.



MAINS' HERD OF POLAND-CHINAS.

Pigs by Anderson's Perfect, Harris' Black U. S. (the champion sweepstakes boar at the Iowa State Fair of 1900), Kemp's Perfection (the highest priced pig by Chief Perfection 2d sold last year). Stock of all ages for sale, including three yearling boars.

JAMES MAINS Oskaloosa, Kansas.

ROME PARK STOCK FARM.

T. A. HUBBARD, Rome, Kans.,

...BREEDER OF...

Poland-Chinas and Large English Berkshires.

FOR SALE--12 Berkshire boars and 20 bred sows and gilts, 20 Poland-China boars, and 50 bred sows and gilts

20 Shorthorn Bulls For Sale.

Three of them, 8 years old, balance 10 to 20 months, in good, serviceable condition, by Cruickshank and Scotch-topped sires. This is the best and evenest lot of bulls we ever raised. Prices moderate. A. B. & F. A. HEATH, Republican, Neb.

H. O. TUDOR, HOLTON, KANSAS.

BILL BROOK BREEDING FARM,
(REGISTERED SHORTHORNS),

Comprising cattle from the following well-known families, (topped with the best Scotch and Bates blood): Rose of Sharon, Zella, Belina, Ruby. This is a select draft from my herd and will constitute one of the best offerings of the year 1902. Also breeds registered and high-grade Angora goats.