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KANSAS FARMER.

Established in 1863.

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KANSAS FARMER CO., - - TOPEKA, KANSAS

E. B. COWGILL.....President
J. B. McAFEE.....Vice President
D. C. NELLIS.....Secretary and Treasurer

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Display advertising, 15 cents per line, agate (fourteen lines to the inch). Continuous orders, run of the paper, \$1.54 per inch per week.

Special reading notices, 25 cents per line. Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.

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

KANSAS FARMER CO.,
116 West Sixth Ave., Topeka, Kans.

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During the electric storm in Rooks County last week lightning struck the barn of Elie Saindon, of Zurich, who had the misfortune to lose as a result of the storm 8 head of horses, 2 colts, 3 calves, 6 hogs, all his harnesses, also a cart and wagon. The same night his 18-year-old son, who was in the hospital at Kansas City, died.

It would be difficult to find a greater amount of useful statistical information compressed into 42 pages than is contained in the "Cincinnati Price Current Statistical Annual for 1903." It deals with crops, annual production, prices, and exportation. For anyone desiring a convenient, ready reference, the 25 cents asked for the annual is not to be considered.

The spring quarterly report of the Kansas State Board of Agriculture fully sustains the reputation established by this State for maintaining its place at the head of the class. The pamphlet is made up chiefly of the papers read at the late meeting of the Board. Readers of the KANSAS FARMER have had most of this matter, but in the form of the official report it is convenient for reference.

BLOCKS OF TWO.

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

OUR POPULATION AND MONEY.

The official estimate of the population of the United States on April 1, 1903, was 80,142,000; of money in circulation per capita, \$29.34. The estimates for May 1 are, population, 80,257,000; circulation per capita, \$29.58. If the attention of the old-fashioned Greenbacker were directed to the fact that this increase of money in circulation per capita has continued for several years, he would say that the prosperity of the country is, to a considerable extent, the result of this increase. If asked how long prosperity is to continue, the old-fashioned Greenbacker would reply, "As long as the increase in the per capita circulation shall be continued."

The greater part of the increase in the money in circulation during the last month is in gold certificates. These are issued for gold deposited in the Treasury. This kind of money is not

likely, in case of panic, to disappear and thereby augment the panic. In this respect, it is about on a par with United States notes, or greenbacks, and is much less liable to retirement in panicky times than National bank notes.

A COOL SPRING—FROST.

The effects of last week's cold weather and frosts are variously estimated. The best detailed accounts from localities all over Kansas are found in Mr. Jennings' official report in this paper. It will probably be found as the season advances that the damage to wheat is of comparatively insignificant amount; that the damage to corn will be mended by a little replanting; that the small acreage of oats that will be plowed up will be planted to corn; that the damage to alfalfa will simply make the first cutting a few days later. The effect upon apples will be to thin the crop—possibly to make it so thin as to leave a light crop in some localities. Peaches were not promising much in Kansas even before the freeze. Grapes will be put back by the killing of the shoots. Some experts claim that new shoots will be produced and that these will bear fruit. Pears are reported badly damaged. Berries have suffered variously from little damage to half killed and to complete loss. Tender vegetables were of course killed and will have to be replanted.

The largest fruit and vegetable plantations are in the eastern part of the State. The frosts were very severe in this section as is shown by a letter to the KANSAS FARMER from the veteran berry-grower, Mr. B. F. Smith, of Lawrence. He says: "I have made a close examination of strawberries, raspberries, currants, gooseberries, and cherries. There is one live bloom in ten of strawberries, one in three of raspberries, probably one in four of gooseberries and currants. Cherries are all killed, apples seriously injured. Of pears there were but few left after the winter freezing and they are all gone except the Seckel, and only a few dozens of these on the trees."

Secretary Barnes of the State Horticultural Society, is more optimistic. He says:

"I have been talking with Judge Wellhouse and some of the other big apple-growers, and they all agree that the apples are all right. I have had a good many inquiries about the grapes, and some letters from grape owners, asking what they had better do. The best way is to do nothing at all, but just let nature take its course. I think that the grape-vines will all send out new shoots, and that there will be a very good yield of grapes. There will only be one or two bunches on the new shoots, where the average on the first shoots is three, or sometimes even five, but the chances are that they will be large and well developed. This will, of course, make them later coming on, and in some parts of the State, where

it is likely to be drouthy later in the season, that may have a bad effect. The fact that some of the cherries have been dropping off has led people to believe that the frost was the cause of it. It is always the case, however, that both cherries and apples drop off in considerable numbers, as there are always more of them set than could possibly develop properly."

With the possible exception of a few fruit-growers and market gardeners, Kansans will scarcely know that they suffer any loss from the unseasonable weather.

The western part of the State was visited by copious rains, during the week covered by Mr. Jennings' reports. Eastern Kansas got a thorough soaking during the early part of the present week.

The continued cool weather does not bring crops forward as rapidly as they usually grow at this time of year in Kansas, but cool, moist weather during the growing period is good wheat weather.

IMPRESSIONS OF THE PRESIDENT.

The President of the United States visited Kansas a few days ago. His principal address in this State was delivered before the international convention of the railroad branch of the Young Men's Christian Association, at its annual session, which was this year held at Topeka. He also laid the corner-stone of the new railroad Y. M. C. A. building, now in course of erection in this city.

Wherever any President of the United States has ever gone, great throngs of people have crowded to see him. The fact that three Presidents have been victims of assassins' bullets makes necessary certain precautions for the safety of the chief executive which are disagreeably out of harmony with our doctrines of freedom and equality. To be constantly surrounded by secret service men, every one of whom is noted as a dead shot, and every one of whom keeps his hand constantly on the handle of a death-dealing revolver is manifestly distasteful to a fearless, independent man like Roosevelt. But he has been convinced that he must submit to it.

The writer, who sat on the platform from which the President delivered his address to 5,000 people in the Topeka Auditorium, had a good view of the man. He came in so rapidly that he almost seemed to run, much like an enthusiastic boy who knows there is a good time ahead. The secret service men had to be alert to keep up with him. He shook hands with the chairman of the meeting and then stood during the brief introduction. He launched with genuine glee into telling the Y. M. C. A. members how pleased he had been to get their invitation to talk to them and how glad he was to stand before them and address them. After the rapid pace at which he

(Continued on page 518.)

Agricultural Matters.

Our Foreign Trade in Agricultural Products, 1902.

FROM THE OFFICIAL REPORT.

Now that the completed returns of our foreign trade for the fiscal year 1902 are available, it is possible to determine with accuracy the extent to which products of agriculture contributed to our imports and our exports.

The total imports of all kinds of merchandise during the year mentioned amounted in value to \$903,000,000, and of this sum \$414,000,000, or about 46 per cent, represented the value of imported products of agriculture. Compared with our agricultural imports for 1901, which had a value of \$392,000,000, the figures just quoted show a considerable increase, although by no means of exceptional size when contrasted with the records of some of the years preceding.

Of the domestic exports for 1902, amounting in value to \$1,355,000,000, about 63 per cent consisted of farm produce, the shipments of such produce having a value of \$857,000,000. While these figures are greatly above the average of the past decade, they exhibit a marked falling off in comparison with the record-breaking exports of 1901, which were valued at \$952,000,000.

LEADING AGRICULTURAL IMPORTS.

Ranked according to value, the leading items in our agricultural import trade for 1902 were as follows: Coffee, animal fibers, hides and skins, sugar, vegetable fibers, fruits and nuts, alcoholic liquors, tobacco, tea, vegetable oils, cocoa and chocolate, and vegetables. These twelve items had a combined value of \$372,000,000, comprising about 90 per cent of all the products of foreign agriculture imported during the year under consideration.

COFFEE.

Our imports of coffee during 1902 were decidedly the largest ever recorded, the shipments received aggregating 1,091,004,252 pounds. They exceeded the exceptionally large imports of the year before by 236,132,942 pounds. Owing to a decline in the average import price, however, the value, amounting to \$70,982,155, does not show a proportionate gain. The increase over the record for 1901 was only \$8,120,756. In 1902 the import price of coffee averaged 6.5 cents per pound, as against 7.4 cents per pound in the preceding year.

ANIMAL FIBERS.

During 1902 we paid \$60,347,139 for imports of the animal fibers—silk and wool—this sum representing an increase of \$17,765,893 when compared with our purchases for 1901. Silk.—Of silk 14,234,826 pounds, worth \$42,635,351, were imported. These figures show a gain of 3,829,271 pounds in quantity and \$12,583,986 in value over the imports of the year before. The average import price advanced during the two years from \$2.89 to \$3 per pound. The imports of silk, like those of coffee, were the largest on record.

Wool.—In the amount of wool received from abroad, there was an increase last year of 62,993,461 pounds, accompanied by a gain of \$5,181,907 in value. The annual import record shows total receipts amounting to 166,576,966 pounds and valued at \$17,711,788. The import price was somewhat lower than in the preceding year, the rate for 1902 averaging only 10.6 cents per pound, as against 12.1 cents per pound in 1901.

HIDES AND SKINS.

Hides and skins were imported to the value of \$58,006,618 in 1902, exceeding the importation of the year before by \$9,786,605.

Goatskins.—Of goatskins, the United States received imports amounting to 88,038,516 pounds and having a value of \$25,478,179. In this item a marked increase occurred over the import trade of 1901. The gain in quantity amounted to 14,292,920 pounds and the gain in value to \$4,901,146. During 1901 the average import price per pound was 27.9 cents; in 1902 it was 28.9 cents.

Cattle hides.—The import trade in cattle hides also increased considerably during 1902. The quantity received was 148,627,907 pounds, and the value \$17,474,039. Compared with the records for 1901, these figures show a gain of 19,453,283 pounds in quantity and \$2,826,626 in value. The import price of cattle hides, like that of goatskins, advanced somewhat during the two years. The rate for 1901 was 11.3

cents and that for 1902 11.8 cents per pound.

SUGAR.

In sugar importation, there was a very marked falling off last year. This was probably due chiefly to the fact that very large quantities of sugar were held back awaiting possible tariff changes favorable to importation. The amount of sugar imported from the various sources of supply, except Hawaii and Porto Rico, was 3,031,915,875 pounds, valued at \$55,061,097. With the exception of the imports for 1898, when the Spanish-American war was in active progress, these were the smallest sugar imports recorded since 1890. As compared with the importations of 1901 they show a falling off in quantity of 943,089,965 pounds and a loss of \$35,426,703 in value. The average import price per pound declined from 2.3 to 1.8 cents in 1902.

VEGETABLE FIBERS.

In the importation of vegetable fibers, a marked increase occurred during 1902. The value of these imports rose in that year to \$43,258,132, showing a gain of \$13,537,798 over the record for 1901.

Sisal grass.—Among the vegetable fibers procured from foreign sources, sisal grass was the most important, amounting in value to \$11,961,213. The quantity received was 89,583 tons. Compared with the imports of the year before, there was a gain of 19,507 tons in quantity and \$3,988,649 in value. The increase in value was all the more marked because of a decided advance in the average import price, which rose from \$114 a ton in 1901 to \$134 a ton in 1902.

Cotton.—Next to sisal grass, the principal import under the head of vegetable fibers during 1902 was cotton, of which product 98,715,630 pounds, worth \$11,712,170, came to us from foreign countries. In quantity these imports were more than double those of the year before, showing a gain of 52,084,397 pounds. Owing to a drop from 14.6 to 11.9 cents per pound in the annual import price, however, the advance in value was less pronounced, amounting to only \$4,924,342.

Manila hemp.—Manila hemp was another fiber the imports of which increased to a marked extent in 1902. The returns for that year show an importation of 56,453 tons, worth \$10,555,272. The gain in quantity amounted to 12,718 tons and that in value to \$3,439,826. An advance from \$163 to \$187 per ton in the annual import price was a partial cause of the largely increased value.

Jute.—Still another fiber imported more extensively last year than in 1901 was jute. Our purchases of jute and jute butts during 1902 amounted to 128,963 tons and had a value in \$4,447,987. In the quantity imported there was an increase of 25,823 tons. The gain in value, however, was only \$35,505, owing to the fact that the annual import price fell during the two years from \$43 to \$34 per ton.

FRUITS AND NUTS.

There was a considerable increase during 1902 in our importations of fruits and nuts. The products comprising this item had an aggregate value for the year mentioned of \$21,480,525, showing a gain of \$1,893,822 over the record of 1901. The value of the fruits imported was \$17,436,184, and that of the nuts \$4,044,341. Among the fruits bananas and lemons were the principal articles.

Bananas.—Bananas were imported in 1902 to the value of \$7,307,437, these figures indicating a gain of \$757,251 over the record of 1901.

Lemons.—Our import trade in lemons also increased. The receipts of this fruit in 1902 amounted to 164,075,309 pounds, or 15,560,695 pounds in excess of the imports for 1901. There was a considerable drop, however, in the annual import price, which fell during the two years from 2.4 to 2 cents per pound. As a result of this decline in price the value of the imports for 1902, amounting to \$3,320,359, was less by \$196,497 than the preceding year's record.

ALCOHOLIC LIQUORS.

Alcoholic liquors were imported in 1902 to the value of \$15,246,640, or \$980,040 in excess of the sum paid for imports under this head in 1901.

Wines.—Wines formed the principal item, having an import value of \$8,921,138. The increase over 1901 was \$701,902.

Distilled spirits.—Of distilled spirits there were imports worth \$4,445,154. In this item the past year witnessed a gain of \$283,005.

TOBACCO.

Receipts of tobacco for 1902 showed

an increase in quantity and a falling off in value as compared with the returns of the year before. The amount imported was recorded at 29,428,837 pounds, with a value of \$15,211,671. The increase in quantity amounted to 2,577,584 pounds, and the decline in value to \$1,078,716. In the annual import price per pound a marked falling off occurred, the rate for 1902 averaging only 51.7 cents, as against 60.7 cents in 1901.

TEA.

The import trade in tea was much smaller than in 1901; showing a decline of 14,227,328 pounds in quantity and \$1,627,748 in value. Our importations for 1902 amounted to only 75,579,125 pounds, with a value of \$9,390,128. The annual import price per pound averaged 12.3 cents for 1901 and 12.4 cents for 1902.

VEGETABLE OILS.

During 1902, the United States expended \$8,718,591 in the importation of vegetable oils, this sum exceeding the import value of the year before by \$2,070,733.

COCOA AND CHOCOLATE.

According to the returns for 1902, our imports of cocoa, including chocolate, had a value of \$7,053,961, the quantity received amounting to 52,878,587 pounds. A comparison of these figures with those for the year before shows an increase of 5,258,383 pounds in quantity and \$10,400 in value. The average import price per pound was only 13.3 cents for 1902, as against 14.5 cents for 1901.

VEGETABLES.

An exceptionally large increase occurred during 1902 in the importation of vegetables. For this item a value of \$7,039,835 was returned, showing a gain of \$3,320,156 over the record for 1901. The principal part of this increase resulted from the unusually heavy imports of potatoes necessitated by a shortage in the domestic crop.

LEADING AGRICULTURAL EXPORTS.

In 1902, as in the year before, cotton stood foremost among the agricultural exports of the United States. Grain and grain products formed the second item in importance, followed closely by meat and meat products. These three great items, cotton, grain, and meat, with an aggregate value of \$700,000,000, comprised the bulk of our export trade in products of the farm. In addition to these leading exports there were several other items of considerable importance, as follows: Live animals, tobacco, oil cake and oil-cake meal, vegetable oils, fruits and nuts, seeds, and dairy products.

The ten items enumerated above comprised in value over 95 per cent of our total agricultural exports for 1902.

COTTON.

While the exports of cotton were considerably larger last year than during 1901, a decided drop in price caused a rather marked falling off in the total value of the shipments. According to the returns for 1902 our cotton exports for that year amounted to 3,528,974,636 pounds, but they were worth only \$291,598,356. Notwithstanding a gain of 169,912,276 pounds in quantity, there was a loss of \$23,506,691 in value. The annual export price for 1902 averaged only 8.3 cents per pound, as against 9.4 cents per pound in 1901.

GRAIN AND GRAIN PRODUCTS.

During 1902, the United States sent to foreign markets shipments of grain and grain products worth in the aggregate \$213,401,238. When compared with the export record of the year before, these figures disclose a decidedly large falling off, the loss in value amounting to \$62,443,479.

The items that contributed most to this loss were corn, oats, and wheat flour. In the exportation of wheat, barley, and rye, considerable gains were made over the records of 1901.

Wheat.—Last year, the United States sold to foreign countries 154,856,102 bushels of wheat, receiving in payment \$112,875,222. These sales were 22,795,435 bushels larger and \$16,103,479 more valuable than the shipments for 1901. Little variation occurred in the annual export prices of the two years, that for 1901 averaging 73.3 cents per bushel and that for 1902, 72.9 cents per bushel.

Wheat flour.—Our exports of wheat flour for 1902 had an aggregate value of \$65,661,974, the shipments amounting to 17,759,203 barrels. In the exportation of this product there was a falling off during the year of 891,776 barrels, with a loss in value of \$3,797,322. The annual export price averaged \$3.72 per barrel in 1901 and \$3.70 per barrel



ELECTRIC Handy Farm Wagons
make the work easier for both the man and team. The three being wide they do not sink into the ground, the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 40 inches. With heavy axles, steel fenders. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free. ELECTRIC WHEEL CO., BOX 46, QUINCY, ILL.

in 1902, showing little change during the two years.

The flour exported during 1902, if converted into its equivalent in grain, would amount to 79,916,414 bushels of wheat. The combined shipments of wheat and wheat flour for that year were therefore equal to 234,772,516 bushels of grain, or 18,782,443 bushels in excess of the exportation of these two products in 1901, which amounted to only 215,990,073 bushels. Taken together, our wheat and wheat flour exports had a value of \$178,537,196 in 1902, as compared with only \$166,231,039 in 1901. These figures show a gain last year of \$12,306,157.

Corn.—Owing to the shortage in the domestic corn crop of 1901, our exports of this grain during the past year were exceptionally small. According to the official statistics of shipment, only 26,636,552 bushels, worth \$16,185,673, were sent abroad. These were the smallest exports since 1888. Compared with the shipments of 1901, they show a remarkable falling off, the loss in quantity amounting to 151,181,413 bushels and that in value to \$66,342,310. The average export price per bushel rose from 46.4 cents in 1901 to 60.8 cents in 1902.

Oats.—In the exportation of oats, as in that of corn, there was a decided falling off during 1902. The shipments for that year amounted to only 9,971,139 bushels, valued at \$4,153,238. There was a loss of 27,175,673 bushels in quantity and \$7,612,092 in value. The annual export price of oats, like that of corn, was considerably higher last year than in 1901. It rose during the two years from 31.7 to 41.6 cents per bushel.

Barley.—Our exports of barley during 1902, although decidedly smaller than the shipments made several years ago, showed a considerable increase over the trade of 1901. The exports last year amounted to 8,714,268 bushels, and had a value of \$3,995,303. In comparison with the records of 1901, there was a gain of 2,421,061 bushels in quantity and \$1,111,738 in value. The export price for 1902 averaged 45.8 cents per bushel, showing no change from the rate of the year before.

Rye.—Rye is another grain that was exported more extensively several years ago than at present. Although not nearly so large as some annual shipments, the exportation of last year, amounting to 2,697,863 bushels, worth \$1,581,491, exceeded by 370,981 bushels in quantity and \$259,512 in value the consignments for 1901, which were the smallest since 1896. The annual export price advanced during the past two years from 56.8 to 58.6 cents per bushel.

MEAT AND MEAT PRODUCTS.

It will be recalled that during 1901 our exports under the head of meat and meat products were the largest up to that time recorded. The returns for 1902 show a still further increase in the value of this item, the record for that year being \$195,896,862, or \$4,303,948 greater than the figures of 1901. The growth of the past year is traceable chiefly to the increased value of certain of the meat products, the gain in the exportation of meats proper, as measured in value, being inconsiderable. The meat product that contributed most largely to the increase was lard. Under the head of meats, the principal gain occurred in the exportation of hams. Our shipments of bacon and of fresh beef were considerably smaller in 1902 than the year before. In the case of salted or pickled pork, which is another important item among our meat exports, there was a falling off in quantity, accompanied by a slight increase in value.

The total value of meats of all kinds exported during 1902 was \$117,492,216, or \$116,625 in excess of the record for 1901. Meat products were marketed abroad to the value of \$78,404,646, showing a gain of \$4,187,323.

Bacon.—Among the meat exports, bacon is at present the principal item. The shipments of this product in 1902

(Continued on page 517.)

Farmer Fredricks:
"Well, there she is, all
safe and sound; won-
der if I got what I
ordered."

Who pays the freight?



Montgomery Ward & Co. Michigan Ave. Chicago
& Madison St.

Now is the Time to Think
about Mowers, Hay Rakes and Feeders, Sickle Sharp-
eners, Hay Carriers and Stackers, Waterproof Canvas
Covers for Haystacks, Implements, etc., Wagons, Cam-
eras, Groceries, etc. Don't wait until the last minute.
Think what you will need soon, and write us TODAY. If
you will tell us what you want to buy we will send you a
special catalogue on that article or articles free of charge.

You do and always will. Every article brought into your town has had the freight on it paid by somebody so if you don't pay it who does? Goods sent "prepaid" or sold in your home town have the freight charges and a profit on the same included in the price to you. When you buy your supplies from us you pay but one small profit. We save you the profits of the agent, jobber and dealer. You pay the freight and get the lowest rates.

SEND FOR CATALOGUE No. 71

Containing 1100 pages with pictures and wholesale prices on practically every-
thing you eat, wear or use. Send 15c to partly pay postage (the book itself is free.)
Write name and address on slip at
the right and send to us today.

Watch this space next month and see
if Farmer Fredricks was disappointed.

CUT OUT THIS COUPON
Send for Catalogue TODAY and save money on your supplies.
Montgomery Ward & Co., Chicago.
Enclosed find 15 cents, for which please send me Catalogue No. 71

Name _____ Write very plain.
Express Office _____ Post Office _____
County _____ State _____

REPLIES FROM THE AGRICULTURIST OF THE KANSAS EXPERIMENT STATION.

Cow-peas and Soy-beans.

Will you kindly inform men where to send for cow-peas and soy-beans, how much it would take to plant an acre and how much the seed is likely to cost me. MRS. M. E. FISHER. McPherson County.

I presume that E. Annibal & Co., McPherson, Kans., can supply you with cow-peas or soy-beans for seed, although I do not notice any announcement in their catalogue. You can secure seed from F. Barteldes Seed Company, Lawrence, Kans., or from any of the leading seedsmen whose advertisements you find in the agricultural papers. The "Whippoorwill" variety of cow-peas, which is one of the best for this State, is quoted at \$2.50 per bushel. The "Early Yellow" soy-beans, which have given the best satisfaction at this station, are quoted at \$3 per bushel.

If you plant peas or beans in rows two to two and one-half feet apart, it may be done with the grain drill by stopping up part of the seed cups, and it will require from three to four pecks of seed per acre. If the peas or beans are sown broadcast or drilled in, it will require five or six pecks per acre. If you intend to harvest the crop for the peas or beans, the soy-beans are the preferable crop to grow. If your purpose is to produce forage, cow-peas are preferable to soy-beans. At this station we usually plant in rows and cultivate where the purpose is to remove the crop either for fodder or for grain. If the plan is to pasture the crop on the ground, then broadcasting or drilling it would be preferable. A. M. TEN EYCK.

Bromus Inermis and Johnson Grass.

I have the impression that Bromus inermis and Johnson grass are the same. Am I right? Johnson grass is rather a pest here as it spreads very rapidly and is very hard to kill, makes a very coarse hay, and stock will not eat it when they can get anything else. S.

Bromus inermis and Johnson grass are not the same. Botanically, Johnson grass is known as Sorghum halapense. It spreads by means of large fleshy root-stalks which grow near the surface of the ground and are very hard to exterminate, because at each joint of the root-stalk, a bud may be produced which will make a new plant. When the sod is broken, these large root-stalks send up new shoots and a new growth is established.

Bromus inermis resembles Johnson grass somewhat in appearance, having a spreading head, but the stems are not so coarse and they are more leafy than those of the Johnson grass. Bromus inermis spreads by underground root-stems which resemble to some extent those of the common couch or quack-grass. It is not so easily killed by turning under as the common grasses, such as timothy, blue-grass, or orchard-grass; still the sod may be thoroughly and successfully killed as has been proven by experiments at the Minnesota and North Dakota Stations. It was found by these stations that if the sod was plowed under in the sum-

mer, immediately after taking off the hay, and backset in September, that at the latter date the grass would all be dead. When the grass was allowed to ripen seed, however, it was found that the new shoots at the base had gained such a foothold that when the sod was plowed under at this stage it was not killed at time of backsetting in the fall.

We have a field of Bromus inermis at this station but have not made experiments in breaking up the sod. I think that there is little danger but that Bromus inermis can be easily killed out. Its staying qualities are remarkable, however, and are really what give it its value and popularity. The grass forms a very firm, thick sod, and is very hardy, being one of the first grasses green in the spring and one of the last to be injured by frost in the fall. The grass is especially adapted to dry climates, being an excellent drouth-resister. Stock of all kinds eat the hay very readily, and as a pasture it is excellent. A. M. TEN EYCK.

Grass Twine for Binding Grain.

Can you tell me anything in regard to the grass twine used for binding grain, and made by the American Grass Twine Company, of St. Paul, Minn.? They say it has been in use in Kansas, so I thought you could tell something in regard to it. Ohio. D. L. SLACK.

I do not know as to the use of grass twine in Kansas, but I have been acquainted with its use in North Dakota, and am also acquainted with some of the representatives of the American Grass Twine Company. The twine may be successfully used and makes a good twine in every respect, but requires a special binder to use it. The only harvester company that I know of that makes a binder to use the grass twine is the Walter A. Wood. I have the impression that the Milwaukee Harvester Company furnishes an attachment for their regular binder by which the grass twine may be used. The grass twine is bulky and perhaps a trifle unhandy to use in comparison with the ordinary twine but it is durable and I know that it has been used with perfect success and is satisfactory. One advantage claimed for it is, it is less objectionable in straw which is used for feeding stock than the ordinary twine. As to the real merits of this claim I can not answer. It is claimed also that crickets will not cut the grass bands as they do the twine. A. M. TEN EYCK.

The Shrinkage of Wheat in Store.

How much a given quantity of wheat, or other grain, will shrink in a given time, is a question often asked and probably as variously answered as asked. The miller, elevator man, and farmer, either depends on personal experience and observation or follows some hard and fast rule of so much shrinkage from fall to spring which he has accepted without verification, from some one else whose knowledge or judgment he respects.

As a matter of fact, there can be no fixed rule. Meager as the data are of actual experiments, they are sufficient to show that there is no such thing as uniformity of shrinkage in wheat or

any other cereal, either in seasons or in places.

In fact, grain does not always shrink in store. It sometimes gains weight.

But the data collected through different experiments are such that every miller and grain-dealer who stores the farmer's wheat or his corn should avail himself of. And we give herewith the results of experiments made under circumstances that entitle them to credit.

In 1893 Christian Breisch & Co., millers at North Lansing, Mich., bought 1,500 bushels of wheat from a farmer. The wheat was in a dry, hard condition. It was hauled as soon as thrashed and placed in the elevator. In ten days it was weighed out and the loss was a little over thirty bushels, or a loss of 2 per cent. Three years later, 900 bushels of wheat placed in the same elevator while slightly damp, lost thirty bushels in four months, or a loss of 3 1/2 per cent.

In Utah it was found, in 1893, at the experiment station that wheat gained slightly by winter storage.

A peculiar trial was made at the Ohio Experiment Station a dozen years ago. About twenty samples of wheat, each of a different variety, were put in small boxes and buried in a bin of wheat, where they remained for nearly a year. After the removal of the wheat from the bin they were left in one corner, without any covering, for two years following. The shrinkage for three years averaged 2.32 per cent.

This experiment was hardly conclusive, as it established nothing except the gross shrinkage through a series of years. Another experiment at the same station was when twenty bags of wheat were taken, each containing a bushel of wheat, and piled into a bin in January. In the following July it was found that there had been a small gain. The season during the trial was unusually wet.

Prof. Clinton D. Smith, of the Michigan Experiment Station, tells of a test that was made at that station several years ago. A lot of wheat was thrashed on January 18, 1898. Two varieties were stored to test the shrinkage, one being White Clawson, a soft, white wheat, and the other Budapest, a hard, red variety. The grain was thrashed from the shock, but was dry and in good condition for storing. The bins were in the second story of one of the college feed barns, and were tight on sides and bottom, but uncovered on top. There were some evidences of the work of mice, and from one of the bins not far from four quarts of the grain leaked out. The wheat was stored for 332 days. The Clawson originally weighed 3,102 pounds and lost 14 pounds, or less than half of 1 per cent. The Budapest weighed 3,250 pounds and lost 3 pounds, or less than one-tenth of 1 per cent.

It would have been more satisfactory, perhaps, if the wheat had been weighed at regular intervals through the duration of the test and the weather noted at each weighing. It may have been that the weight fluctuated on each side of the final figure during the alternations of wet and dry weather.

L. N. Bonham, formerly secretary of the Ohio Board of Agriculture, gives some general conclusions derived from

his own experience. The shrinkage of grain, he thinks, is dependent on several factors, some of which are often lost sight of. Not only is the degree of dryness of the grain to be considered, but the tightness of the storage granary, the number of rats, mice, and fowl that may find access to it, and so on. If grain be abnormally dry when thrashed, and be held until spring without any loss from rats, leakage, etc., there will be little or no loss of weight, and may be a gain. If the wheat be taken out during a thaw, when the air is warmer than the wheat in the granary, every grain collects a little dampness, and by the time it has been sacked and hauled to the scales the increase in weight may be considerable.

Ordinarily, Mr. Bonham believes, when the grain is protected against losses, it is safe to count on taking out as many pounds in February or March as were put in, in August or September.—American Elevator and Grain Trade.

The World's Wheat Crop.

Our revised estimate of the world's wheat crop of 1902 make a total of 3,000,000,000 bushels compared with 2,823,000,000 bushels for 1901, and an annual average of 2,572,000,000 bushels for ten years prior to 1902.

For the past thirty years our returns have been as follows (in bushels):

1873	1,800,000,000
1874	1,880,000,000
1875	1,800,000,000
1876	1,808,000,000
1877	1,960,000,000
1878	2,000,000,000
1879	1,856,000,000
1880	1,960,000,000
1881	1,960,000,000
1882	2,220,000,000
1883	2,040,000,000
1884	2,240,000,000
1885	2,080,000,000
1886	2,150,000,000
1887	2,280,000,000
1888	2,224,000,000
1889	2,144,000,000
1890	2,284,000,000
1891	2,382,000,000
1892	2,411,000,000
1893	2,474,000,000
1894	2,562,000,000
1895	2,496,000,000
1896	2,437,000,000
1897	2,281,000,000
1898	2,918,000,000
1899	2,709,000,000
1900	2,609,000,000
1901	2,823,000,000
1902	3,000,000,000

For the thirty years the average annual production of wheat in periods of five years is indicated in the following (in bushels):

1873-77	1,850,000,000
1878-82	1,995,000,000
1883-87	2,160,000,000
1888-92	2,285,000,000
1893-97	2,450,000,000
1898-02	2,812,000,000

The second period of five years averaged 145,000,000 bushels in excess of the preceding five years; the next period averaged 165,000,000 bushels increase; for the next the average increase was lowered to 125,000,000 bushels; the following period the average gain was 165,000,000 bushels; for the past five years the annual average has advanced to the extent of 362,000,000 bushels, or more than double the gain for any like period previously.—London, (Eng.) Millers' Gazette.

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Horticulture.

Plum Culture.

BY PROF. F. A. WAUGH, AMHERST, MASS.

There is a great revival of interest in the cultivation of plums. For this there are various reasons. One is, the introduction of a great many new and valuable sorts. New species have been introduced from the woods of America and from the gardens of the Orient; and at the same time hundreds of new varieties have been developed from the old species formerly in cultivation. The introduction of the Japanese plums in particular has served to revive and extend the enthusiasm for the cultivation of this fine old fruit.

A good reason why plum culture has been rapidly developed in the last few years lies in the fact that many fruit-growers are beginning to feel that a better diversification of their orchards will be advantageous to them. The man who grows apples finds that the work comes all at one season of the year; and, also, that his returns come all at one season of the year. It is an advantage to distribute the work through a longer period and it is a far greater advantage to have some returns come in every month. There is a considerable tendency, therefore, amongst fruit-growers to combine various lines of fruit-growing, such as apple culture, plum culture, and the growing of small fruits.

A third reason why plum-growing has developed very rapidly during the last few years is that the market has proved capable of absorbing larger and larger quantities. There has been a general increase in the demand for luxuries, and plums have always been rated amongst the luxuries. With the increase of wealth and of taste we must expect a constant increase in the demand for fine fruits. This can not be expressed in any terms more clearly than in the quantity of plums consumed.

The growth of interest in plum culture is something remarkable. One who has not been acquainted with the circumstances would hardly believe the facts. These facts are brought to light somewhat strikingly by the recent census figures. According to statistics gathered for the Twelfth Census it is shown that the number of bearing apple-trees has increased 69 per cent between 1890 and 1900. During the same decade the number of bearing peach-trees in the country increased 85 per cent. These figures are certainly strong enough; but when we come to plums we find that during the same period they increased 343 per cent. In other words, the planting of plums was more than quadrupled in ten years. No fruit, perhaps no agricultural crop in the country, ever saw a similar development.

One of the old difficulties in the way of plum-growing was that the plum was adapted to a comparatively limited range of soils. It was also rather fastidious about the climate in which it would thrive. The introduction of new species and varieties has now made it possible to grow the plum over a greater range of territory than any other domesticated fruit. This statement may be made with all emphasis, for it is far and wide within the facts. Every one can now grow plums, and what is better, can grow them in any desirable quantity and in almost any selection of quality. It becomes, therefore, a matter of peculiar interest to study the correct methods of plum-growing.

GENERAL REQUIREMENTS.

It may be said at once, that in spite of the introduction of new varieties adapted to all soils and climates, plum-growing still remains one of the most complicated problems in horticulture. It is still fastidious and exacting in its requirements. Although plums may be grown quite as easily as apples when one hits upon the proper methods, a great many persons still fail because of some little mistake which might have been easily remedied with a better knowledge of the situation. It is necessary, therefore, to study this class of fruits somewhat more closely than one has to study apples or peaches, and to make due provision for their idiosyncrasies.

SELECTION OF SOILS.

A great deal has been said and written about the proper soils for certain groups of fruits, including plums. I think it is going to be more and more the feeling amongst farmers and horticulturists that almost any soil will grow almost any crop successfully if

it is properly managed. I am very sure that this is true with regard to plums. Different kinds of plums prefer different soils, however. The old-fashioned European plums and Damsons, such as Lombard, Green Gage, and Bradshaw, prefer comparatively heavy clay soils. The Japanese plums, on the other hand, have more nearly the requirements of the peach. They prefer lighter, warmer, more sandy soils. A mixture of rich loam and gravel, with thorough drainage, seems to be the most desirable, and may be taken as an ideal soil for all kinds of plums. Nevertheless, it should not be forgotten, as has been already pointed out in this paragraph, that plums of some description can be grown on any reasonably arable soil.

SELECTION OF VARIETIES.

Naturally one of the first questions which comes up is that of the selection of suitable varieties. This is a very difficult question to answer. There are now so many in cultivation that it is impossible to review the entire list in the short space which we have here at command. In my book, "Plums and Plum Culture," I have named and described between three and four hundred varieties, almost every one of which is at the present time in actual cultivation in the United States. Moreover, in discussing varieties one ought to go into the merits of the different classes of plums—the Japanese plums, the Americanas, the Hortulanas, the Domesticas, and the new Hybrids. It seems hardly possible to do even this much in a short paper like this one, but it may not be going too far to say that the Japanese and Domestic varieties are the ones which naturally claim the chief attention in New England States. The Japanese plums have the advantage of free and vigorous growth, of healthy trees, and of early and abundant bearing. The Domestic plums, on the other hand, are generally rated higher in quality and many of them are in strong demand in the markets.

The Japanese plums which are chiefly to be recommended for this section are the following, named in the order of their ripening: Red June, Abundance, Burbank, Chabot, Satsuma. The last one is especially desirable for canning; and on account of its late ripening and its fine red color it brings a high price in the market. I think, taking the country over, it is one of the most profitable plums grown in New England. However, it is an utter failure on some grounds and can not therefore be planted with entire confidence. Abundance is usually spoken of as the premier in quality amongst the Japanese plums. I think I would concur in this opinion with some hesitation. Burbank appears to be the most generally adaptable and reliable of all. For the beginner it is one of the most satisfactory sorts.

Among the Domestic plums Lombard is the one most commonly successful and even one of the most profitable on account of its prolific bearing. Bradshaw is better in quality, larger in size, more attractive in color and sells for a higher price. The tree is more difficult to grow, however, and the buds more liable to winter killing, so that in some degree its good qualities must be discounted. The old-fashioned Green Gage has always been a favorite, but the improved type, known as Reine Claude or Bavay (sometimes as Bavay's Green Gage) is much superior to it in every way. It comes later than Green Gage and that is an additional recommendation. There is always in demand for "blue plums," and this may be satisfied best with Fellenberg (Italian prune). This is one of the most profitable plums in most localities. Other blue plums which are satisfactory to the grower in many places are Kingston, Guell, Englebert, Quackenbos, and Blue Imperatrice.

In many markets the Damson plums bring high prices. There is always a strong demand for them and many growers find them very profitable. Personally, I dislike them so that I always speak against them, but as long as other people buy them at a liberal price I suppose it is perfectly proper to grow them.

There are some good things in the new hybrid plums which are being brought out now in great numbers. The most popular one is Wickson, which is usually classified as a Japanese plum, but which is really a hybrid of Japanese and Prunus simonni parentage. Wickson has been extensively planted in orchards during the last few years, and although it has not quite fulfilled all our expectations, it seems to have made a definite place for itself. The trees do not come very

early into bearing and appear to bear shyly at first. The fruit, however, is large and fair-colored, attractive and salable. Other hybrid plums like Shiro, Apple, Oxident, President, Golden, Gonzales, and Waugh have not been sufficiently tested so that they can be recommended, or else they have already proved unsatisfactory.

BEGINNING THE PLANTATION.

In setting a young plum orchard I would always buy the best trees that could be had regardless of price. The very small amount which can be saved by taking second-grade trees is more than lost in the development of the orchard. At the present time the best plum-trees can be bought of reliable nurserymen at prices ranging from 25 cents each down to \$8 or \$9 a hundred. The first cost of the trees is therefore a very small factor in the general expense.

In setting out Japanese plums I prefer always 1-year-old trees of large size. In setting Domesticas 2-year-old trees will usually be found best. While I am not an advocate of the Stringfellow method of handling young trees, I do believe that it is wise to cut them back more severely than is usually recommended. In handling 1-year-old tree of Burbank or Chabot, for instance, it suits my fancy best to cut off all the long roots back to a length of 6 to 10 inches and to cut the top to a straight whip not above 24 inches long. This enables one to form a strong, symmetrical head near the ground, as I shall describe more at length in a moment under the head of pruning.

The distance apart for planting plum-trees varies greatly according to circumstances. If left to their natural habits of growth, Burbank would require two or three times as much space as Abundance. As a general rule, I favor twelve feet apart, although for myself I would plant much closer, because I should practice a rigid system of repressive pruning. I have even seen plums grown successfully when the trees were set six feet apart each way, but this is rather below the limit of practicability.

There has been a good deal of discussion regarding the respective merits of fall and spring planting. According to my experience either one is successful if the trees are good, if the soil is in good condition, and if the work is properly done. In case there is any doubt about the condition of the soil or about the way in which the work is going to be executed, it would be better to defer planting until spring. There are some advantages, however, in fall planting and these may be secured whenever one is sure that all conditions are favorable.

PRUNING THE TREES.

It must be said, though with great regret, that we have no established system of pruning plum-trees. On account of the diverse habits of growth in different varieties and species, it will probably be a long time before we can find a universally satisfactory system. The method which I outline herewith has been worked out principally with the Japanese and hybrid varieties and is more particularly adapted to them. Taking the young tree as it is ready to be put into the ground, a straight whip two feet tall, we begin the formation of the head on this support. If the tree is healthy it will make a vigorous growth from almost every bud on the stem. It is best to practice a good deal of summer pruning the first year. First, the lower buds should be rubbed off as soon as they start, special care being taken to see that no sprouts start from the root. Then as the young shoots begin to grow in a cluster at the top of the stem they should be selected out. The best ones are saved, the pruner being careful to see that they are symmetrically distributed around the stem. It is best to leave four of these to grow; three will do and five is not altogether bad. These will make a growth of from two to six feet the first year and at the end of the season should be strong, shapely branches, well knit to the trunk, with strong, well-braced crotches, not showing any opportunity for splitting down later. It is hard to describe just the sort of a junction which should be made between the main branches and the trunk, but the practical fruit-grower will understand this without a diagram.

At the beginning of the second year these main branches should be cut back to a length of eighteen inches, or even less, if the tree has not grown vigorously. The secondary branches will then bud out rapidly and should be carefully watched and thinned during the second year as the other

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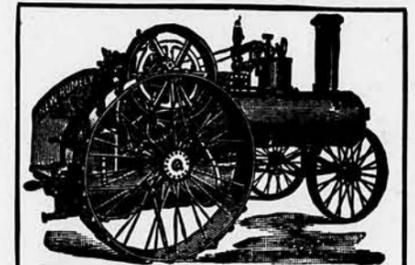
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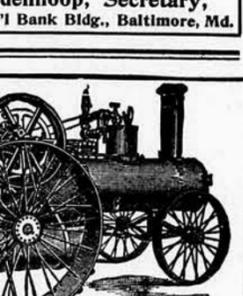
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during the first year, to branches were properly and sym- see that they sloped. metrically de-ning of the third year At the be-egin to form fruit spurs. The tree will be encouraged. These shou-anches which start along weak spur b the secondary branches the sides o, wed to grow to a length should be all inches and be then gen- of three to si by pinching the terminal tly stop. he main growing shoots to- bud. he ends of the branches should wards be allowed to grow undisturbed—until be allowed to grow the summer at any the late if the growth is too vigorous, rate, whole tree may be headed back in the Ju. For succeeding years, the prun- Ju. of the tree is more a matter of per- ing judgment and must be varied to son- of the needs of the particular variety under treatment.

POLLINATION.

In setting a plum orchard one thing more needs to be noticed, namely, pol- lination. This rests upon the fact that many plums will not fertilize their own flowers but require pollen from trees of some other variety in order to set fruit. It is bad practice, therefore, to set a large orchard of plums all of one variety. In case a large planta- tion is to be made it is best to have two or three or more varieties and to have them placed in alternate rows. In case a very few plums are to be grown for home use it is always dan- gerous to set a single, isolated tree, or two or three isolated trees of a single variety. No particular precautions need to be taken in this latitude aside from that of having two or three va- rieties placed within reach of one an- other.

CULTIVATION AND FERTILIZATION.

Plums can not be successfully grown in sod land. I think they are even less successful in sod than ap- ples are. They require the same sys- tem of cultivation practiced by the best apple-growers. This may be brief- ly outlined as follows: The ground is plowed as thoroughly as possible and as early as possible in the spring. It is then worked with light, surface cultivation, given in the latter part of June. At this time, the culti- vation is stopped and the ground is either allowed to go to chickweed or it is sown with a cover crop. The le- guminous cover crops are of course the best, since they supply some nitro- gen to the soil. Clover, cow-peas, and soy-beans are especially recommended. This crop is allowed to stand until the next spring, when it is turned under. No particular formula for the feed- ing of the plum orchard can be given. Moderate dressings of barnyard ma- nure are to be recommended, of course, particularly where the necessary amount of nitrogen has not been sup- plied through the cover crop. After the nitrogen supply is brought up to the proper level, other elements still being deficient, it will be best to use ground bone or acid phosphate in mod- erate amounts every other year. Light dressings of muriate are doubtless also helpful, if given in the spring about the time the fruit sets. This is to be recommended, especially when a crop of fruit is to be matured.

DISEASES AND INSECT ENEMIES.

Most people are deterred from grow- ing plums by fear of two enemies—black-knot and curculio. Black-knot is one of the easiest diseases in the world to circumvent. Prevention is the only practicable thing. The best way to treat black-knot is to cut it out as rapidly as it appears, thus prevent- ing its spread. The knots may usually be found during June and should be removed and burned at once. Any which remain until the falling of the leaves should also be burned without delay. When plums are grown in a considerable quantity, the ravages of the curculio are not important. In fact, I have often thought that the cur- culio was a distinct help. The plums punctured by this insect usually fall from the tree, thus thinning the crop—a very important matter. There are usually plums enough left uninjured to make a full crop. In case the curcu- lio is not satisfied with this propor- tion, however, and something further has to be done, it is perfectly practi- cable to reduce the damage by jarring the trees early in the morning during curculio season; that is to say, during the last two weeks of May and the first week of June.

Another disease, which is really more difficult to manage than either of those mentioned, is the rotting of the ripe fruit. This can be largely prevented by spraying the trees early in the season with Bordeaux mixture, the best time being before the buds

come out. Thinning the fruit and tak- ing out the diseased plums as fast as they appear will also mitigate the ra- vages of this rot quite materially.

MARKETING THE FRUIT.

If plums are to be sent to market they should be picked rather early and should be forwarded in small par- cels. The 10-pound grape baskets, with handles, are frequently used for this purpose but are not altogether satisfactory. In local markets the 16- quart and 18-quart Jersey peach bas- kets are used and will answer for hard- fished plums. They are not suitable for shipment, however. When plums are to be shipped any distance un- doubtedly the best package is the Georgia peach-carrier, containing six 4-quart baskets. Ordinary strawberry quart cups are sometimes used, and are shipped in the standard strawberry crates.

The Stock Interest.

THOROUGHBERED STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper. September 3, 1908—Central Missouri Hereford Breeders' Association, Macon, Mo. October 7, 1908—Combination sale of Shorthorns and Poland-Chinas. James F. Lahr, Sabetha, Kans., Manager. October 15, 1908—Central Missouri Hereford Breeders' Association. November 10-11, 1908—Marshall County Hereford breeders' annual sale at Blue Rapids, Kans. November 12, 1908—Central Missouri Hereford Breeders' Association.

REPLIES TO INQUIRIES FROM THE ANIMAL HUSBANDRY DEPARTMENT OF THE KANSAS EXPERIMENT STA- TION.

Feed vs. Weight.

Does it take more feed to keep Jer- seys as a breed than any other kind of cattle? L. L. L.

Argonia. The amount of feed eaten by animals of any breed depends largely upon the weight of the animal. Our feeding standards are made out on the basis of weight. Jerseys, on account of their small size, are usually classed as animals that do not eat as much per head as the larger breeds. Of course there are exceptions to this general rule and sometimes we find a small animal that will eat more than a large one. Usually we can count on the amount eaten as being in proportion to the weight, regardless of breed. D. H. OTIS.

Alfalfa as a Pasture.

I have been reading your article on pasturing cattle on alfalfa. We are very much interested in the subject, as it will add from \$10 to \$20 per acre to the land if it can be successfully pas- tured. A number of cattle-feeders claim that it can be done safely with cattle on full feed from the feed-lots. Have you ever tried it that way? If it can, it would open up a new indus- try here, as all the upland raises alf- alfa, but for this purpose is not as good as the bottom land.

Alfalfa looks fine and is now about six inches high. I expect to commence cutting to feed to fat cattle in the lot in ten days. C. B. Y.

Phillips County.

The article referred to is that pub- lished in the Industrialist for April 26. We have never attempted to take steers from the feed-lots and place them on alfalfa pasture, but the cows that we have pastured have been full fed, i. e., fed all they would consume profitably for milk production, and before turning them on the alfalfa pas- ture we have allowed them to fill up on all the alfalfa hay that they would eat. In one instance, we allowed the cows to eat all the green grass they would consume previous to turning on to the alfalfa pasture, but this did not prevent some of the cows from bloat- ing on the alfalfa.

Our experience indicates that there is less danger (we do not dare to say there is no danger) from the first growth. Last spring we pastured sev- eral cows on alfalfa successfully until the first crop was cut, but as soon as the new growth started we had trouble with bloat.

The writer knows of feeders and dairymen who have pastured alfalfa through the entire season without a particle of trouble, and he knows of others who have had fatal results even under the most favorable circum- stances. The man who pastures alfal- fa should realize he is running some risks and should watch his cattle very closely. We have not yet heard of a single case of injury coming from cut-

ting alfalfa and feeding it green as a soiling crop.

The readers of the KANSAS FARMER would undoubtedly be greatly interest- ed in hearing from those who have pastured alfalfa successfully with statements as to the methods em- ployed. Let us hear from you. D. H. OTIS.

Progress of the Live-Stock Department of the World's Fair.

EDITOR KANSAS FARMER:—An allot- ment of something over thirty acres of ground for the live-stock shows at the World's Fair at St. Louis next year has been asked of the management by Chief F. D. Coburn, who has charge of that department.

This site contemplates the erection of forty-seven buildings. Thirty-nine of these are planned for stock barns with 2,400 open stalls 5 by 10 feet and 400 box stalls 10 by 10 feet. The 2,800 stalls will accommodate as a minimum that number of cattle or horses, and later, simultaneously, a like num- ber of both swine and sheep. Four octagonal dairy barns will provide 140 open stalls and twenty-eight box stalls. The site desired for the live-stock exhibits is a continuation of "Agricul- ture Hill" immediately south of the Agriculture and Horticulture buildings, and would make possible the grouping all the larger exhibits in which far- mers and stockmen will be most inter- ested. The live-stock area extends south to the grounds limits, where it faces one of the main entrances.

Two archway entrances are planned to face the Horticulture Building and grounds at the northern end. These will have pedestals with heroic figures of live stock typical of twentieth cen- tury development. The two main buildings of the live-stock group will be just within these entrances. The larger is the amphitheater and show- ring building with an area of 250 by 450 feet. It will have a seating capac- ity of from 8,000 to 12,000. General headquarters will be provided in the building for all the numerous live- stock associations. This plan will be carried out on a scale that will bring the breeders and fanciers of horses, cattle, sheep, goats, swine, poultry, pigeons, birds, dogs, cats, in fact of every kind of live stock together in a way never before attempted.

The other main building will be a commodious structure designed for demonstrations of the work of the Ag- ricultural College Experiment Stations, meetings of live-stock organizations, sales, and similar purposes. It will be the first provision for exhibition of the work of the Agricultural Colleges in the comprehensive manner that the committee in charge is planning for. Its location will command an excel- lent view of a most interesting portion of the grounds, and porches and seats will allow visitors to rest while at the same time obtaining a view from the hill.

The dates which will probably be fixed for the live-stock displays at the World's Fair extend from August 22 to November 5 of next year. The barns will be given over to horses and mules from August 22 to September 3; to cattle from September 12 to Sep- tember 24; to sheep, goats, and swine from October 3 to 15; and to poultry, pigeons, dogs, and pet stock from Oc- tober 24 to November 5.

Cows participating in the dairy test are likely to begin to occupy their barns December 1 of this year, continu- ing their use until November 1, 1904. Silos will be built adjoining the dairy barns, and part of the ensilage to fill them has already been contracted for. A leading farm machinery company has agreed to put up the silos and to furnish all necessary silage machinery free of any charge.

Ample facilities will be furnished for distributing feed and water on the grounds. Warehouses will be located adjacent to the stock barns and forage, grain, and bedding will be supplied at reasonable prices. Rock roads from the farms in St. Louis County cross the live-stock area, and the latter is lo- cated in the section of the World's Fair grounds most easily accessible from the farm country adjacent to St. Louis. As street-car systems run from the fair grounds to the country, this may offer advantages in case of over-crowding in the city during the time of largest attendance.

In case the plans of the chief of the live-stock department of the World's Fair meet the approval of the manage- ment, the mule and his kin will be ac- corded unusual honors at St. Louis next year. It has been in Mr. Coburn's mind since assuming charge of the live-stock features of the Louisiana Purchase Exposition that its magni- tude offered an unparalleled opportu-



GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle. As a HUMAN REMEDY for Rheu- matism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50. Sold by druggists, or sent by ex- press, with full directions for its use. Send for descriptive circulars, testi- monials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

WET WEATHER COMFORT

There is no satisfaction keener than being dry and comfortable when out in the hardest storm. YOU ARE SURE OF THIS IF YOU WEAR TOWER'S FISH BRAND WATERPROOF OILED CLOTHING. MADE IN BLACK OR YELLOW AND BACKED BY OUR GUARANTEE. A. J. TOWER CO., BOSTON, MASS., U.S.A. TOWER CANADIAN CO., LIMITED, TORONTO, CAN. ASK YOUR DEALER. If he will not supply you send for our free catalogue of garments and hats.

Free to Horse and Cattle Owners. Ring-bone, Knee-Sprung, Fistula, Poll Evil, Lump Jaw. We know of over 140,000 farmers and stockmen who rely upon these same methods, and for whom we have saved hundreds of thou- sands of dollars. Books mailed free if you write stating what kind of a case you have to treat. FLEMING BROS., Chemists, 212 Union Stock Yards, Chicago, Ill.

CAR-SUL CATTLE DIP

CURES Mange and Itch; KILLS Lice, Ticks and Sorew-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 MOORE CHEMICAL CO., 1501 Genesee St., Kansas City, Mo.

STOCKMENS SUPPLIES

Sheep Dips, Tanks, Worm Cures, Ear Marks, Punches, Tattoo Markers, Shearing Machines, Shears, Sheep Marking Paint, Lamb Feeders, Lice Paint, Poultry Supplies, Veterinary Remedies, etc. Write for Catalogue AR. F. S. BURCH & CO., 144 Illinois St., CHICAGO.

LUMP JAW

A positive and thorough cure easily accom- plished. Latest scientific treatment, inex- pensive and harmless. NO CURE, NO PAY. Our method fully explained on re- cept of postal. Ohas. E. Bartlett, Columbus, Kans

ity to do justice to the mule. Accordingly, one of his first recommendations was to so enlarge the horse and mule classification that mules of all sorts of usefulness might find deserved recognition.

The World's Fair in St. Louis will set new standards in many ways, and Mr. Coburn's effort will be to include in these the standards that belong to the jack and jennet and from them down to the "just plain mule." A lack of knowledge exists as to the varied utilities of the mule, but the display at the fair will be an eye-opener in this respect. It will tend to bring the mule from all over the world. The largest mule, the smallest mule, the pack mule, the ambulance mule, all other kinds of army mules, the draft mule, the sugar mule, the cotton mule, the burro, in short, any mule or any of his relatives that have contributed to the world's progress in peace or war will find at the World's Fair a chance to record his service to mankind. This has not been the case at other fairs or expositions. At the Columbian, awards were made but to two mule-owners—one from Missouri and one from Illinois. Because the mule is patient his reward should not be always delayed, and a live-stock feature at St. Louis in 1904 will be a mule display likely to surprise many a man who now counts himself mule-wise.

GEO. B. HARRISON.
World's Fair, St. Louis.

What Ails the Cattle?

EDITOR KANSAS FARMER:—There is something bothering the cattle through the middle of the day in this neighborhood. It seems to work on the feet and low down on the legs, causing them to kick, lick their feet, and even run.

I am told that it is the "heel fly," but not one can tell what it looks like, or can tell any remedy. If it is known to you, I would like to see an article about it in the KANSAS FARMER.

Also, what does the "Hessian fly" live on? Does it trouble cattle or animals?
R. L. WILSON.
Ford County.

The Hessian fly lives on growing wheat. It does not bother animals.

If many cattle are affected as described, it will be well to apply to the State Live Stock Sanitary Board, Topeka, for an investigation by the State veterinarian.

The New International Organization.

The International Live Stock Exposition Association of Chicago, which has heretofore been under the general management of the Union Stock Yards and Transit Company was re-organized last week at Chicago and has now passed to the active control of the 600 stockholders comprising, mainly, breeders and others interested in the live-stock industry. Officers elected for 1903 were as follows: President, John A. Spoor, Chicago. First vice-president, Alvin H. Sanders, Chicago. Second vice-president, Andrew J. Lovejoy, Roscoe, Ill. Secretary, Mortimer Levering, Lafayette, Ind. Treasurer, S. R. Flynn, Chicago. General manager, W. E. Skinner, Chicago.

THE EXECUTIVE COMMITTEE.

The composition of the new executive committee is: Shorthorns—E. W. Bowen, Delphi, Ind., and Frank Harding, Waukesha, Wis. Herefords—Thomas Clark, Beecher, Ill., and T. F. B. Sotham, Chillicothe, Mo. Aberdeen-Angus—O. E. Bradfute, Cedarville, Ohio. Canada.—Richard Gibson, Delaware, Ont. Commission—G. B. Van Norman and M. P. Buel. Packers—Edward F. Swift. Stock Yards—Arthur G. Leonard. Red Polls—J. W. Martin, Richland Center, Wis. Galloways—Wm. A. Martin, Winnipeg, Manitoba. Sheep—Mortimer Levering, Lafayette, Ind., and Dr. G. Howard Davidson, Millbrook, N. Y. Hogs—Andrew J. Lovejoy, Roscoe, Ill. Agricultural Press—Alvin H. Sanders, Chicago. Breeding Horses—W. Dunham, Wayne, Ill., and R. B. Ogilvie, Chicago. Horse Commission—John S. Cooper, Chicago. Range Cattle—Murdo Mackenzie, Trinidad, Col. Range Sheep—Peter Jansen, Jansen, Neb. Agricultural Colleges—C. F. Curtiss, Ames, Iowa.

The new International Live Stock Exposition Association is now in full control of that great enterprise. It has secured from the Union Stock Yards and Transit Company a ten-year lease of the buildings at Dexter Park, the home of the exposition. Not only this, but a contract has been entered into by the U. S. Y. & T. Company, to erect immediately two buildings for exposition use, one a coliseum, the other an immense structure for the display of cattle. The latter will be of brick, iron, and glass on the property fronting on Halsted Street between 43d and 44th streets. The coliseum will occupy the present site of the cattle building on Halsted Street between 42d and 43d streets. It will be 600 feet in length and 75 feet in width, with seating capacity on the ground floor and balconies for 10,000 people. Both these buildings will be ready for occupancy early next fall and will

make a permanent and ideal home for the exposition.

The recent gathering was both large and representative, every live-stock interest and every section of the country having one or more spokesmen present. It was significant that at the directors' meeting, held subsequently, seventeen of the twenty-two members responded to the roll-call. The financial side of the enterprise is in splendid shape, and before the curtain rises on the December display, the \$100,000 guarantee fund the association has determined to secure will be in its treasury.

Prior to adjournment the stockholders of the International Live Stock Exposition Company voted a number of resolutions to the stock yards management, expressing their thanks for the favors which that concern has extended and pledging the support of the breeders to the support and success of future internationals.

In addition to the classification of former shows, a class was added in the fat stock section for group of three steers or spayed heifers, under 3 years old, the get of one sire.

Classes were added to the horse section for French Coaches, German Coaches, Hackney's and trotting-bred Coaches.

It was also decided that there would be no abandonment of the International Show on account of the World's Fair at St. Louis in 1904.

Premiums will be \$5,000 in excess of last year and the facilities for housing exhibits will be doubled.

American Royal Swine Show Financial Statement.

Editor Kansas Farmer:—I wish to make a brief financial report through the Kansas Farmer to the swine breeders, who honored me with the care of their interests at the American Royal Swine Show at Kansas City last fall. I had expected to be able to make a report earlier than this, but the tedious collection of small donations that had been subscribed and the pressure of my own affairs and the fact that there was no one to suffer from the delay, were the things that retarded the finish; and yet it is not fully finished, because there is about \$100 of unpaid subscriptions, and some of the committee's expenses are not yet paid. A total of \$3,792.08 has been collected and \$3,840.58 has been disbursed, or \$48.50 more paid out than received. The premiums aggregated \$2,150. All were paid in full the last day of the show and all the obligations of the committees were settled within a few days thereafter. This money was obtained as follows:
The Stock Yards Co. \$500.00
Poland-China breeders 504.00
Gross receipts from the hog sales 1620.00
From Kansas City friends and elsewhere 1168.08

Making a total of \$3792.08
Should the remaining creditors of the committee read this report, I am encouraged to believe they will send in their respective amounts without solicitation. To make bricks without straw was the task we had to perform, a treasurer was not needed, because there was not a dollar to charge him with. If you are pleased we are satisfied.
Respectfully,
H. W. KIRKPATRICK, Chairman.
1031 Central St., Kansas City, Mo.

Good Hereford Bull Sale.

Messrs. C. A. Stannard, Emporia, Kans., and Gudgeall & Simpson, Independence, Mo., united in a sale of Hereford bulls at Rapid City, S. D., during the recent cattlemen's convention there, which was a success, twenty-two head of bulls being sold for \$3,715, an average of \$142.88. The following is a list of the sales:
Archer, L. P. Davidson, Pedro, S. D., \$135
Beau Dux 2d, Frank Bender, Hermosa, S. D., 165
Beauty's Judge, J. G. Hale, Sturgis, S. D., 175
Billy, Mrs. S. Josie, Rapid City, S. D., 125
Bloomer, D. J. Walton, Sturgis, S. D., 150
Earl, C. E. Volin, Camp Crook, S. D., 175
Early Bird, E. Price, Volunteer, S. D., 115
Jolly Boy, Fred H. Sears, Starns, S. D., 145
Keep On 31st, Taddikin Bros., Pedro, S. D., 155
Keep Up, Fred H. Sears, 125
Kyle, Thomas M. Mahon, Rapid City, S. D., 100
La Franc Anxiety, Chas. Shannon, Pedro, S. D., 165
Marsall, J. S. Dunning, Hill City, S. D., 130
Masterpiece, Frank Bender, 180
May's Keep On 4th, Frank Bender, 155
May's Keep On 6th, A. L. Webb, Pedro, S. D., 135
Mike Secretary, C. E. Volin, 130
Monarch, Geo. E. McPherson, Rapid City, S. D., 175
Nixos, Gregor Cruickshank, Sturgis, S. D., 200
Oren, August Peterson, Folsom, S. D., 130
Stanton, A. L. Webb, 140
Sunny Slope Union, O. A. Gidden, Hermosa, S. D., 140

Gossip About Stock.

The popular headquarters for stockmen who visit Kansas City is the Coates House. Direct car lines from the Union Depot and to the stock-yards. Whenever public sales of fine stock are held at Kansas City you can depend on meeting the crowd at the new Coates House. Special rates to stockmen.

Col. John Daum, Nortonville, Kans., reports that the public sale of registered and unregistered Shorthorns held last week by W. H. Graner & Bro., of Lancaster, Kans., was a good sale and satisfactory to all parties concerned. The fact that Colonel Daum did the selling and the Kansas Farmer the advertising explains the result.

In the spring of the year, the animal system needs renovating, so to speak, something to throw off the effete matter, to purify the blood and tone up the stomach. This is just what Rex Conditioner, manufactured by the Rex Stock Food Co., Omaha, will do. They have a straightforward advertisement in this issue. Every farmer and stock-raiser should read it. For fuller information drop a card to the Rex Stock Food Company, Omaha, Neb. They are reliable and will do what they agree to.

Southwest Texas cattlemen smashed some records at Fort Worth last week. Ed. Lasater sold on that market from his Duval County ranch 234 calves averaging 25 pounds, at \$5.315. These calves

averaged in age from 2 to 3 months. On the same day, John Tod, manager of the Laurels ranch, Nueces County, topped the market with 380 head of grass heifers, averaging 634 pounds, which brought \$3.30. These sales speak well for the quality of cattle being produced in southwest Texas.—Texas Stockman and Farmer.

The Central Missouri Hereford Breeders' Association claims dates in our paper for its fall sales. The opening sale will be held at Moberly, Mo., on September 3. To be followed by one at Salisbury on October 15, the circuit closing at Macon on November 12. Secretary S. L. Brock, Macon, Mo., in claiming these dates, writes: "Good cattle will be offered; farmers' prices will prevail. Colonel J. W. Sparks will be the auctioneer. A prize of \$10 will be given to the best yearling bull in the sale, and also to the best yearling heifer, and a diploma will be given to the second best."

Snyder Bros. have made a material change in their advertisement on page 525. They own one of the most successful breeding establishments in the West, and it may be stated that the Percherons which they offer are all extra good, and will mature to from 1,700 to 2,200 pounds. The Shires offered are mostly dark colored and of excellent quality. In fact, some extra fine ones may be found among this herd. The Standard-bred horses are all good and the saddle stallion is the best combination horse in the State. Just now the Snyder Bros. are making exceptionally low prices on these horses and it is well worth one's time to visit them if something good is wanted.

One of the largest cattle deals made in Texas for some months was consummated at Fort Worth last week, says the Dallas News. Carver and Witherspoon, of Henrietta, sold to I. M. Humphreys, of South Omaha, Neb., 10,300 head of 2-year-old steers. The deal amounts in the aggregate to something like \$220,000. The cattle are off Carver & Witherspoon's ranch in New Mexico, on the Pecos, south of Santa Rosa, and will be delivered in May and June and will be shipped to South Dakota. It is also learned that W. E. Connell, of Dallas, has about closed a deal with Nebraska parties for 2,500 head of 2-year-olds at private terms. Mr. Connell said that the deal was pending, but had not as yet been closed.

John W. Roat & Co., Central City, Neb., owners of the Crescent Herd of O. I. C. swine, write that their stock is doing nicely and their spring farrow is large and uniform in size. From 10 to 13 pigs at one litter are common numbers, while one sow brought them 16 and another 17. The last one named has never farrowed less than 15. They have adopted the plan of dividing their large herd and placing them on five different farms so that they may be better cared for and less exposed to danger from disease. They are also prepared to furnish the highest class of Barred Plymouth Rock eggs and also Imperial Pekin duck eggs in number to suit. They are now booking orders both for O. I. C. swine, chickens, and ducks, and will be glad to mail their catalogue to interested parties.

Mr. Lyman J. Coffman, who has been in charge of the pure-bred horses at the Agricultural College in Manhattan for the last year and a half, severs his connection with that institution on May 1, to go to Emporia, Kans., where he enters the horse-breeding business. Mr. Coffman, before coming to the college, was employed on the well-known Avery ranch of pure-bred Percherons at Wakefield, Kans., for five years, and in that time has become thoroughly acquainted with the Percheron horse. During the last month he has bought a string of top-notch brood mares of the Percheron breed and expects to put a horse at the head of his herd equal to anything in the West. Mr. Coffman has made many friends among the horsemen of the State and all who know him prophesy great success for his new venture.

T. A. Hubbard, the genial proprietor of Rome Park Stock Farm at Rome, Sumner County, Kansas, sends us the following spicy item: "The long-looked-for and much-needed rain came the 28th and 29th and we were made happy. Corn is all planted and a part up and harrowed. Every growing crop needed rain before it came. Our wheat prospect is about 90 per cent at this writing but may improve now since the rain. We have a fairly good stand, and favorable or unfavorable weather will change results at harvest. Hog trade has been good. Have two Poland-China males and several Berkshire males of proper size for sale and sows of all sizes. Sowed my alfalfa just before the rain. Good farming land is bringing good prices. It has increased in value the last year about 25 per cent. Stock has wintered fairly well and is now on pasture."

American White Plymouth Rock Club, with headquarters at Simsbury, Conn., the largest poultry specialty club in America representing thirty-eight States and Canada and Mexico, recently held its annual election with the following results: President, C. G. Hinds; vice-president, E. B. Eddy; secretary-treasurer, J. Fred Grange. Executive committee: W. A. Greene, Frank Heck, W. R. Pollock, D. T. Roots, J. L. Smith, D. A. Johnston. (Note: The executive committee consists of the president, vice-president, secretary-treasurer, and six other members.) Advisory board: Lewis Harrington, E. B. Omohundro, C. H. Hilderbrandt, M. M. Johnston, Cris. C. Burrough, Mrs. Mattie Webster, Dr. W. E. Bartlett, Mrs. Ida Blanchard, Dr. H. Q. Alexander, J. W. Downey, E. M. George, C. A. Hollis, W. E. Gapen, C. E. Hodgkins, Everett G. Tool.

Stockmen are now on the alert for pure-bred bulls of serviceable age, as it will be but a short time until buyers will discover the fact that there are not enough to be had in the country to supply the legitimate demand. Right now is a most favorable time for buyers for the reason that the few people that have a number of bulls for sale are quite eager to close them out quickly. On another page we have an advertisement this week of Geo. Channon, owner of the Rockridge Stock Farm Herd of Shorthorns at Hope, Kans., who has for immediate sale twenty Shorthorn bulls from 8 to 12 months old, sired by that splendid bull, Rosemond Victor 12th 136313. Mr. Channon says they are

Not a good lamp chimney is made without my name on it.

MACBETH.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

MACBETH, Pittsburgh.

good ones and will be sold very cheap, as he has no pasture for them and intends to sell out his entire herd of 200 Shorthorns and is quite anxious to sell the bulls first. Write him for prices.

In the combination Hereford sale to be held at Sioux City, Iowa, May 8, will be found a number of good things contributed by Mr. W. W. Gray, of Fayette, Mo., whose advertising card appears on page 524. Among these may be mentioned March On 14th 106576, a 3-year-old bull bred by W. S. Van Natta & Son by March On 76035, out of an Anxiety cow. Mr. Gray has used this bull in his herd to some extent where he has proved a great sire. He is of the type and breeding which will meet the approval of critical buyers. March On 14th is certainly one of the tops and is well worthy to go to the head of a good herd. In this sale also will be contributed several of the get of March On 14th as well as a few head by the great Printer. Among the March On calves is Miss March On of Wayside 158259 out of a Printer cow; Lady Emille 4th 160042; Wayside Princess 160043; Dodo 160038 and Ed Vance 160039, all of the same breeding. In addition he will contribute Ellstae 105649 by Printer out of a Shade-land cow; Ermie 149352 out of a Lord Wilton cow; Emerson 160049 out of a Lord Wilton cow. All these are sired by Printer, who is unquestionably one of the great bulls of the breed and about which we shall have something to say in another place.

The consulting veterinarian of the Zenner Disinfectant Company says: "The Western papers are referring to a strange malady which has caused the death of many calves in the vicinity of Augusta, Mont., and ranches are unable to account for the epidemic, for such it has become. The disease in question is probably infection and blood-poisoning from raw navel coming in contact with germ-infested filth causing abscess on navel and secondary abscesses and blood-poisoning. Navel should be thoroughly wetted with full strength Zenoleum at birth and several times daily afterwards with a 10 per cent solution of Zenoleum. Calving pens, floors, walls, etc., should be disinfected with 5 per cent solution of Zenoleum, then whitewashed. At birth of calf, privates, belly and udder of dam should be washed with 2 per cent solution of Zenoleum before calf is allowed to suck and udder should be washed twice daily for a week with similar solution. Pregnant cows should be generously fed a nitrogenous ration of ground oats, bran, flaxseed-meal and dried-blood-meal for at least two months prior to parturition. Incomplete nutrition of pregnant cows may have a good deal to do with the trouble, the calves of such cows being 'living abortions.'"

During a recent visit to the World's Fair grounds at St. Louis, we had the pleasure of again shaking hands with the genial Col. C. F. Mills, whom every Berkshire man knows so well and favorably. Colonel Mills is assisting Chief F. D. Coburn, of the Live Stock Department of the Louisiana Purchase Exposition, and that he is doing it well goes without the saying. The Colonel is authority for the statement that Sunny Slope Farm, owned by C. A. Stannard, Emporia, Kans., is the largest Berkshire breeding establishment in the world. During the past year, Sunny Slope recorded more Berkshire pedi-

greens and owned more Berkshire hogs than any other establishment in the world. It will be remembered that Sunny Slope is one of the largest Hereford breeding farms in the United States, their herd numbering some 600 animals, which we believe is second only to the great breeding establishment of Gudgeon & Simpson, at Independence, Mo. With the largest Berkshire Hereford breeders' association, county the largest Hereford herds, and one of the largest Angus herd bred by the world, and the innumerable smaller herds of the highest quality within her borders, surely Kansas is forging rapidly to the front as the very storm center of the breeding industry.

There is at least one man in Kansas who does not believe that the bottom has fallen out of the pure-bred cattle industry and that man is the president of the Kansas Improved Live Stock Breeders' Association. Mr. Chas. E. Sutton, owner of Rutger Farm, Russell, Kans., has won fame as a breeder of Aberdeen-Angus cattle and Large English Berkshire swine and his last letter to us is good to read. He says that trade in Angus cattle is good; many orders coming from men who never before owned an Angus bull but has seen their neighbors sell Angus steers for from 50 cents to \$1 per hundred over the market price for good reds. They now desire to ride on the Angus handwagon, as it rolls on to success. Mr. Sutton owns a great herd-bull in the 2-year-old, 2,000-pound Erica bull, Imp. Electrician 41376. He writes that Electrician is doing splendid service for them and they look for a great crop of calves out of Expands helpers. Mr. Sutton says that the outlook for good cattle was never better, and the stockman who delays in putting a registered bull at the head of his herd makes a serious mistake, as no investment he can make will return such great profit. The late storms covering the western portion of the State will probably result in serious losses to cattlemen, and it behooves each and every one of them to replace such losses by the employment of pure-bred bulls at the head of their herds. Mr. Sutton announces some good things in his card on page 525.

While in attendance upon the dedicatory exercises of the Louisiana Purchase Exposition we had an opportunity to run in on Chief F. D. Coburn, of the Live-Stock Department. During our visit we had the pleasure of inspecting his plans for the live-stock exhibit at what will probably be the greatest world's fair in history. The site asked for will include some thirty acres of ground on which it is proposed to erect forty buildings. These buildings will contain at one time about 3,000 head of horses and 3,000 head of cattle, with double that number of sheep and goats. Included with the buildings will be four large dairy barns which will contain about 200 stalls for the exhibition of dairy herds and the making of milk tests. The site chosen is immediately south of the Agricultural and Horticultural Buildings, which will make a grouping of agricultural, horticultural, and live-stock exhibits very convenient to those most interested. Included in the list of buildings also will be a large sale pavilion of such dimensions that large numbers of animals can be shown or sold at one time, and the crowds of visitors will be accommodated with seats. In connection with the building entirely devoted to the work of the agricultural colleges and experiment stations, which will be available for various live-stock meetings to be held during the fair. If the designs of the department are carried out, ample recognition of all the breeds will be made in all the premium lists with the added feature of special recognition for the Missouri mule. The plans contemplate the exhibition of horses and mules from August 22 to September 3; cattle from September 12 to September 24; sheep, goats, and swine, from October 3 to 15; and poultry, pigeons, dogs, and pet stock, October 24 to November 5; while the dairy cows designed for the tests will be housed on December 1, of this year and remain there until November of 1904. A leading farm-machinery company has agreed to build all the silos and furnish all the necessary ensilage machinery free of charge, and arrangements are practically perfect for the material with which to fill the silos. If the plans of Chief Coburn are carried out, little can be desired in the way of arrangements for the greatest live-stock show ever made.

Publisher's Paragraphs.

The advertising department of the Farmers' Handy Wagon Company, at Saginaw, Mich., are anxious to obtain some farm views showing their Handy Wagons in actual use on the farm, and accordingly are offering \$75 in cash to amateur photographers who may be successful contestants in this contest. Full information as to conditions governing the same will be sent to any one.

Our readers will notice the appearance this issue of the advertisement of the Studebaker Bros. Mfg. Company, of South Bend, Ind. This great concern, we believe the largest of its kind in the world, is so well known as to require no introduction. Studebaker general repositories for the products are found in most large cities, while there is scarcely a hamlet in the country found. There is nothing questionable about the character of Studebaker goods. The wagons and vehicles of every character and harness for all purposes are standard everywhere. Whoever is willing to pay a fair price for assured high quality is not disappointed in Studebakers. We unreservedly commend the advertisement to the favorable attention of our subscribers.

Perhaps no country on earth has developed so rapidly in solid and permanent growth as has Oklahoma. Thousands of people from Kansas and other States have settled there and made a good living, if not wealth. The rush to the new country is not yet over, and while farms may be scarce and hard to get, we are glad to be able to announce that town lots, which require less money for purchase and bring as big returns as farms frequently do, are now available to the purchaser along the line of the new Frisco system extension. The Big Four Townsite Company has entire control of the lots in the town on this new railroad and they are not only offering lots at

markably low figures but are offering for sale shares in their company at \$25 each. This company has \$100,000 paid up capital and is backed by the best financial institutions of the Territory. This extension of the Frisco system passes through the "new country" to the south and west of Oklahoma City, and either a purchase of a share of the stock of the company or the purchase of a lot from the company promises big returns for the small amount of money invested. The general managers of the Big Four Townsite Company are Perry & Dowden, 200 1/2 Grand Ave., Oklahoma City from whom full information may be had. Their advertisement appears on page 511.

With the coming of spring, the opening of the flowers and the spreading of the leaves comes the sudden recognition of the fact that the farm buildings in their old coat of paint look shabby when compared with nature's new dress. The painting of farm buildings is a job always dreaded because it is expensive when a painter is employed, and because it is a difficult proposition when a farmer undertakes to do it himself. Within the last year or two, have come into prominence a number of cold-water paints which are easily spread, very durable, and very much cheaper than are lead and oil paints. This paint will not scale off, will not chalk and it is claimed to be the equal of any oil paint on the market. One of these paints is manufactured and furnished by the Building Material & Paint Company, of Denver, Col., who make this astonishing proposition: The company will pay the freight on the paint purchased from them, and if the paint proves to be unsatisfactory the money will be refunded and no questions asked. As this point costs less than one-fourth that of any other paint, and as its spreading qualities and durability are not exceeded by any other paint, it will be seen that this generous offer of the company is worthy of consideration. We are informed by this company that up to this time they have never been called upon to refund one cent although they stand ready and willing to do so at any time should one of their customers prove to be dissatisfied with the paint he has bought. This paint is manufactured by the Building Material & Paint Company, Room 24, Railroad Building, Denver, Col., whose advertising card appears on page 527.

The June Delineator is especially strong in fiction and presents the usual charming display of fashions. It contains a group of four college stories, each of which is a fine specimen. They are: "The Taking of Isabel," by Catherine Young Glen; "Professor Ashur's Tutor," by Alice Louise Lee; "By Grace of Linnaeus," by Kate Milner Rabb; and "A Delayed Proposal," by Kate Whiting Patch. They are illustrated by E. M. Ashe, George Gibbs, C. M. Relyea, and Karl Anderson, respectively. In the second installment of Mrs. Catherwood's serial story, "The Bois-Brules," the plot develops along highly dramatic lines. An intimate friend of Augusta Holmes, who died recently, contributes an article on the famous composer; it is strikingly illustrated. "A Chafing-Dish Supper," by Miles Bradford, is of especial interest to epicures, and is also a good story. Minnie Maddern Fiske, the actress, is shown in a page of very fine photographs. An attractive dwelling, suitable for occupation the entire year and moderate in cost, is presented with excellent illustrations. Clara E. Laughlin has a serious paper on the domestic relations of woman, and Mrs. Birney contributes a helpful article on "Childhood." Dr. Grace Peckham Murray discusses plumbing and the water supply, in their relation to health. For the children, Grace MacGowan Cooke gives the last of the charming "What Happened Then" stories—Beauty's Little Dumb Son, and Lina Beard adds another number to the engaging Pastimes. A squirrel story by Charles McIlvaine is also a feature. Almost every phase of the home is treated in the other departments.

A Clean Business.

Especial attention is called to the full-page advertisement of the Empire Cream Separator Company in this issue. We believe, and we think most dairymen who are familiar with the situation will agree with us, that the butter industry of the country owes a debt of gratitude to the Empire Cream Separator Company for the missionary work it has done during the past several years in the interest of better dairy methods. The advertisements of this company, which it has been our pleasure to carry, as well as the catalogues and booklets issued by the company from time to time, have all been educational in tone, conservative in statement, and remarkably free from exaggeration and mud slinging which characterize the efforts of some over-zealous advertisers.

The Empire Company evidently believes that it has a machine satisfactory in every way, and in all its advertising matter courts an investigation of its claims, and a comparison of its machine, with the work and records of any other machine on the market. This is a spirit of fairness which is to be commended, and likewise a spirit which shows that the Empire machine must be built to stand such a test. We think every reader of this paper will be interested and instructed by the Empire catalogues and other booklets issued by this firm. Send for them.

Carriage Book Free.

Every man or woman who is thinking of buying a carriage, a buggy, a set of harness, or other horse accessories, should write to the Columbus Carriage and Harness Company, Columbus, Ohio, for their new illustrated booklet. This book, which will be mailed free to any address, shows the advantages of buying direct from the manufacturers and doing away with the dealer's profits, thus resulting in the saving of thousands of dollars to customers. Nothing could be fairer than the way the Columbus Carriage Company sell their goods. That they have all the confidence possible in what they manufacture is shown in the liberal way they treat their customers. If the buyer finds the carriage not as represented and unsatisfactory, he can return it to the factory, the purchase money is returned and the freight paid both ways. Whether the dealer or manufacturer is patronized, this book should be in the possession of all who are interested in



When such firms as ARMOUR PACKING CO., SWIFT PACKING CO., CUDAHY PACKING CO., AMERICAN EXPRESS CO., ADAMS EXPRESS CO., and STANDARD OIL CO., buy and feed Rex Conditioner, can you doubt its merit? It is endorsed by State Veterinarians. It is worth its weight in gold. All horses need it this time of the year. Don't fail to write for our FREE Books and Bulletins.

REXSTOCK FOOD CO., Dept. 9, OMAHA, NEBR.

BLACKLEGOIDS

BEST PREVENTIVE OF BLACKLEG.

Blacklegoids afford the latest and best method of vaccination against blackleg—simplest, safest, surest. They are always ready for use; no filtering, measuring or mixing is necessary. Accuracy of dosage is always assured, because each Blacklegoid (or pill) is exactly sufficient for one inoculation. Administration with our Blacklegoid Injector is easy. The operation need not consume on a minute. Blacklegoids are sold by druggists; ask for them.

Our newly printed eight-page folder on the "Cause and Nature of Blackleg" is of interest to stockmen. Write for it; it is free.

PARKE, DAVIS & CO. - DETROIT, MICH.

Branches: New York, Kansas City, Baltimore, New Orleans, Chicago, Walkersville, Ont.; Montreal, Que.; London, Eng.

DODD, DOOLEY & CO.

A. J. DOOLEY, Manager, Topeka, Kansas.

Manufacturers of PURE SOFT COPPER CABLE

Lightning Rods

Endorsed by the Farmers' Mutual Insurance Company of Kansas. Prices the very lowest. Send for free booklet on the Laws and Nature of Lightning and how to control it. A good man wanted in every county to handle our goods. References—100,000 farmers in Iowa and adjoining states, and the Kansas Farmer, Topeka, Kans., Iowa Homestead, Live Stock Indicator, Wallace Farmer, of Des Moines, Ia., Cashier of Bank of Topeka, Kan., and The Mail and Breeze.

Lightning Got There First.

Dodd, Dooley & Co Got There First.

The Big 4 Townsite Company

Owens the townsites on the extension of the Frisco System railway which passes through the "New Country" in Oklahoma.

\$100,000 Paid Up Capital.

A limited number of shares for sale at \$25.00. Profits sure and large. Lots for sale on which money will easily double in 90 days.

Get next to this and do it quick. For particulars, address

PERRY & DOWDEN, 200 1/2 Grand Avenue, Oklahoma City, O. T.

the carriage question, as it will help the prospective buyer to make a choice. It not only illustrates all high-grade vehicles, but shows the cost of them at the factory. Address a postal card to the Columbus Carriage Company, Columbus, Ohio, or, if you are located in some Western State, address it to their St. Louis office, with a request for one.

An Unique Institution.

Thousands of people in all sections of the United States are interested in the Great Southwest Country, and have heretofore been unable to gather specific, detailed, and reliable information regarding the wonderful resources in this grand section, and the favorable opportunities for investment to be found there.

Here you may also obtain farms, and homes in as healthful a country as can be found anywhere, and where more income is earned from the lands in proportion to their cost, than on any in the States where lands, values, and taxes are exceedingly high.

To meet the demands of the people, the Frisco System has established a Bureau for the convenience of all who may be interested in lands of any description in the Southwest country along its lines—agricultural, timber, mineral, orchard, ranch, and other lands.

Should you be interested in an investment in lands of the Great Southwest, you are invited to make your wants known by addressing communications to Mr. R. S. Lemon, secretary, St. Louis, whose duty it is to assist you in any way possible.

This institution fills a long-felt want of many of our readers, and will be of material assistance to all, who may be interested in the Southwest country, to which the eyes of the entire United States are at present turned.

Worth \$5 a Bottle.

A. M. Ziegler, Burwell, Neb., says: I got struck on the back going down hill, with a cultivator tongue, and was taken home insensible and remained so for about eight hours. My neighbor ran for his bottle of Watkins' Vegetable Anodyne Liniment and they rubbed my back and put some on my face and brought me out O. K. I also saved two horses that had the colic, with the liniment. I would not be without it if it cost me \$5 a bottle."

A Wide Swath

And a clean one is cut by the "Milwaukee" Mower. It is a simple, substantial, chain-driven machine—no lost motion or delay in doing its work. It cuts from the word "go," and keeps on cutting as quickly and as long as the wheels revolve. It adapts itself to smooth prairie meadows or rocky and rolling hilly stretches.

Their local agents will cheerfully impart further information concerning this sturdy machine, or furnish catalogue. This machine is manufactured by the Milwaukee Division, International Harvester Company, Milwaukee, Wis.

Oklahoma Lands!!!

Your life's opportunity lies in Woodward county. The Government Record of the rainfall at old Ft. Supply, in central Woodward county, compares favorably with the Government Record at Wichita, Kansas, and for the growing months of April, May, June, and July the Record shows more rain here than at Wichita.

Until recently the cattlemen held these fertile lands. Write us for further particulars, stating what you want.

SIMMONS BROS.,
First Nat'l Bank Bldg., Woodward, Okla.

EYE BOOK FREE!

Tells how all Eye and Ear Diseases may be cured at home at small cost by mild medicines. It is handsomely illustrated, full of valuable information, and should be read by every sufferer from any eye or ear trouble. This book is written by Dr. Curtis, originator of the world-famed Mild Medicine Method, which without knife or pain speedily cures most hopeless cases. Dr. Curtis offers to send this book absolutely FREE to all who write for it. Address, Dr. F. Geo. Curtis, 350 Shubert Bldg. Kansas City, Mo.

SEE THROUGH IT NOW?

If not, send for our free catalogue and it will tell you all about our low-down, wide-tired, light-draft, broad-platform, horse-and-man-eating Farmers' Handy Wagon. Dealers sell them. Write today Farmers' Handy Wagon Co. Saginaw, Mich.

KEITH'S FURNITURE CATALOGUE

175 pages of high grade reliable Furniture at prices that cannot be duplicated. Rugs, Carpets and Curtains in immense variety at lowest prices. Wepay freight. Write today for Catalogue C. Robert Keith Furniture & Carpet Co. Dept. C. Kansas City, Mo.

GOV'T REVOLVERS, GUNS, SWORDS.
Military Goods, new and old, auctioned to F. Bannerman, 579 B'way, N. Y. 15c Cal'l'g m'l'd'c.

PATENTS

Obtained. Low Fees, Easy Payments, Free Advice. William F. Hall, 1009 F St., Wash., D.C.

When writing advertisers please mention Kansas Farmer.

The Young Folks.

Conducted by Ruth Cowgill.

A LOVE-LETTER FROM DAKOTA.

Shweet Jinny, I write on me knee
Wid the shtump of a limitid pencil;
I would write on me disk, but you see
I'm widout that convaiuent utinsil.
Ive a house of me own, but as yet
Me furniture's homely an' shinder;
It's a wife I am afther, to let
Her consult her ideals of shplindor.
If I should buy tables an' chairs,
An' bureaus, an' carpets, an' vases,
An'—bothor the lingo of wares!—
An' curtains wid camel-hair laces,
Perhaps whin I married a wife
She would turn up her nose at me choos-
in'
Or waysht the shweet bloom of her life
Wid pretinse of contint at their usin'.
So now, I've no carpets to shweep,
Nor tables nor chairs to tip o'er;
Whin night comes I roll up an' shleep
As contint as a pig on the floor.
But ah, the shweet dreams that I dream
Of Erlin's most beautiful daughter!
Until in me visions you seem
On your way to me over the water!
(—Please pardon me method ungainly,
But, hopin' the future may yoke us,
I'll try to be hould an' spgak plainly.
An' bring me note down to a focus:—)
Would you marry a man wid a farrum,
An' a house most iqxistely warrum,
Wid walls so ixcaldin'ly thick, ma'am,
For they're built of a single big brick,
ma'am,
Touchin' Mexico, Texas, Nebrasky—
The thickest walls iver you thought of,
Why, they cover the country we bought
of
The sire of Alexis—Alasky!
For sure its great walls are the worruid—
In fact it's a hole in the ground;
But oh, it's the place to be currulid
Whin the whirlikinds are twirlin'
around!
It is ivery bit, basemint ixcpt
The parlor, that lies out-or-doors,
Where the zephyr's pure fingers have
swept
Its million-ply carpeted floors.
Forgive me ixt ravigant speeches,
But it's fair as the dreams of a Hindoo,
Wid me parlor's unlimited reaches
An' the sky for a sunny bay-window.

Me darlint, Dakota is new,
Sod houses are here widout number,
But I'll build a board mansion for you—
Whin I'm able to purchase the lumber.
An' sure 'twill not take very long
Where the soil is so fertile, I'm tould;
Whin you tune up your plow for a song,
The earth hums a chorus of gould.

Thin come to your Dinnis O'Brion,
An' let his fidelity prove
That his heart is as strong as a lion,
Ixcpt that it's burstin' wid love.
—W. W. Fink, in The Century.

A Visit to Tennessee Town.

Tennesseetown is a settlement of negroes. It occupies a piece of ground about one quarter of a mile square. It was settled by some of the ex-slaves from Tennessee, in 1880, when large numbers of them came to Kansas, which they had learned to think of as a friend to the slave.

It is a picturesque spot, though I am happy to say it is growing less so, picturesqueness being a quality implying dirt, decay and lack of progress. Yet there are still many quaint features of life there. An old woman sitting out on warm evening on one of their rickety frame porches, in spotless white and red bandanna turban, or another carrying three buckets of water, one upon her head; a decrepit cottony-headed old man, in immense flappy old shoes, painfully making his way by the help of a cane; the swarm of dirty, happy, little pickaninnies; here and there a woman in gaudy apparel, impossibly vivid colors brought together in discordant gorgeousness. These are all reminders of the olden times.

This side of the life there has its charms—at a distance. I once attended services at one of their oldest churches. It was very quaint. There were about a dozen people at the beginning of the preaching, and at the end the building was well-filled. They came straggling stealthily in all through the sermon. The sermon I will not describe to you—because that were an impossibility and because though it was really funny—with the big words misapplied and sometimes manufactured on the spot, evidently, with its labored attempts at oratory and its sudden impressive drops to the commonplace, its bewilderingly unexpected changes of thought, interspersed apologies and embarrassingly pointed references to white people—though one could not fail to see the ludicrous in it, yet there was a sincerity and a real noble earnestness of purpose, that compelled respect, and won my reverent attention. I am sure I hope he will be successful in his effort to "cleansify" his parish. There was a funny little black man sitting on the platform behind the preacher. I suppose he was some high officer in the church. At any rate a good deal of the sermon was spoken directly to him, which seemed to startle him somewhat and please him greatly. He was the very blackest man I ever saw, and such a comical-looking little man! Whenever there

was a particularly strong point made, he said "Amen!" and his white teeth and eyeballs gleamed in an expansive smile. The singing was very peculiar. I had never heard congregational negro singing before, and it really almost frightened me it was so wierd, sinking and rising again, faltering, then swelling, the men's voices, hoarse yet rich, leading, the women's quavering along behind like a shadow of a song. The song was not a long one, yet I thought they would never end. Each line was first read by the preacher, then sung by the congregation, and the syllables were long drawn out, to the slow pulsation of the melody. It was the very strangest music I had ever heard.

They have their own peculiar way of taking the collection, too. The minister said, "Mr. So-and-So, and Miss So-and-So, will take up the collection." But instead of passing the hat, they took their places at each end of a table in front of the pulpit, and every one went up and laid down his offering, while the minister watched the amounts deposited with great interest, sometimes calling out the amount given. The preacher went down to his wife in the audience and asked her if she had any money. "I'm pretty nearly financially embarrassed," he said. I had taken the back seat, to avoid being conspicuous, and my dismay can be imagined, at finding I must walk up before so many inquisitive eyes in order to give my mite, and it was worse because I felt they expected the white lady to be generous, and I had only a paltry ten cents with me. I was tempted to make an ignominious "sneak" out of the door, but the thought of what that terribly outspoken preacher might say to his congregation at such apparent stinginess nerved me to do my painful duty.

This that I have shown you, however, is only the grotesque side of life in Tennesseetown. There is much that is very different. I think I may say the majority of the homes are decent places. Some of them are very attractive with fresh paint and cleanliness, lace curtains at their clean windows, flowers growing in their well-kept yards, a piano in the house and pictures on the walls. Some of the people are fine-looking, the young girls particularly being often very pretty. The younger people dress well. These people have a natural love of beautiful things, which is generally untrained, and leads them into strange and often grotesque excesses. But in the cases where there is some training of eye and taste, a real elegance often shows itself.

There is great and terrible wickedness going on in that little space. They are a people whom it is very hard to impress with what we call principles. They have the best times of anybody, when they are happy, and when trouble comes, they are desperately, passionately sad. No exertion or extravagance is too great for them, if it brings them a good time. A young negro said, "I'd rather pay \$5 to go to the circus, than go to church for nothing."
(To be concluded.)

Sir Robin's Advice.

MRS. J. W. WHEELER, IN AMERICAN AGRICULTURIST.

Johnny Gillet sat by the window with his multiplication table in his hands. He was thinking of the great green meadow where he wanted to go hunt violets, so he puckered his forehead and pouted his lips and said crossly: "I just hate those horrid sevens tables. I couldn't learn 'em in a hundred years. I just can't, so now!"

By-and-by a robin lit upon the window sill. The robin looked right at Johnny and began to talk. Johnny sat up very straight and opened his eyes very wide, at least he thought he did.

"Jonathan Gillet, I am very much ashamed of you for making such a fuss over such a little thing. What if you had a whole summer residence to put up? I've a job on my hands worth fretting about. What if I should sit and pout? Where do you suppose Lady Robin would have to lay her beautiful blue eggs? Right on the ground, of course, where your wicked Tabby or some snake would speedily rob us of our family. No, indeed, I've not time to sit and pout! I must be up every morning at sunrise, looking for building material, until my house is done. You, Master Jonathan, have a nice, warm bed all made for you, and a beautiful white house to live in. You don't have to scratch for your breakfast, dinner and supper; your father and grandfather raise all sorts of good things and your mother and grandmother cook them for you. All you have to do is to get your lessons and do a few chores. Jonathan, you're lazy, that's what's the

matter! By-and-by, Lady Robin will have her own special business to attend to; then I'll have to scratch for two. What if I should quit work then? What would become of us? Laziness is bad enough, but to be lazy and grumpy at the same time is just scandalous! I believe in being cheerful—there's lots to be cheerful over. I think, Master Jonathan, if you tried to be a little more cheerful, that things would go better."

With this, Sir Robin hopped away and Johnny awoke. At least he thought he had been asleep, but there were the multiplication tables, the blue sky and the warm sunlight, and the blossoming cherry tree, and from the big maple near the well, a robin was singing:

"Jonathan Gillet! Jonathan Gillet!
You can if you will it,
Can you if you will it!"

No, it couldn't be a dream, he felt so sure of it that he found grandma and told her all the robin had said.

"There, don't you hear him, grandma?"

"Jonathan Gillet! Jonathan Gillet!
You can if you will it,
Can you if you will it!"

came from the depths of the big maple. "You can if you will it," repeated grandma, smiling. "The robin is perfectly right, and I don't believe my Johnny is going to let a little bird beat him at trying."

So she kissed Johnny and Johnny sat down and tried again, reading the tables over until he had them by heart. How easy it was, after all! After he had recited it to grandma, he whistled for Spotty to go down to the meadow with him, but first he went out to the big maple tree to see if he could discover Sir Robin. There he was on one of the highest branches, and Lady Robin was there too, pulling and twisting a little piece of straw that she had taken from Sir Robin's bill.

For the Little Ones

SOPHISTRIES OF UNCLE BILL.

Got to arguin' last night,
Me'n Uncle Bill;
Hadn't got so sleepy we'd
Been at it still!
Uncle Bill he 'lowed a camel
Was pervided with a hump
Fer a fleas' observatory;
(Never heard o' such a chump
As Uncle Bill!)

"Pigs has got a squirmy tail,"
Says Uncle Bill,
"So's when storms comes blowin' 'round
'Em fit to kill.
They can wrap them curly tails
'Round a rusty nail, you know,
An' then go to sleep an' let
The concarn't tornado blow!"
(That Uncle Bill!)

"Cats is skeered o' water, too!"
Says Uncle Bill,
"Cause their hide shrinks when it's
wet!"
Says Uncle Bill;

"An' a pore cat would feel awful,
Worried, I'm a-tellin' you!
If his skin was shrunk so tight he
Couldn't wink his eye nor mew!"
Says Uncle Bill.

"Flies is always wantin' fight!"
Says Uncle Bill,
"Watch the next one that comes 'round,"
Says Uncle Bill,
"An' you'll see him rub together
Them there little fists o' his—
Braggin' that of all the house-flies
He's the biggest fly what is!"
Says Uncle Bill.

"Hen's ain't got a speck o' teeth!"
Says Uncle Bill,
"Have to 'gum it' all their life!"
Says Uncle Bill,
"Ever see a hen a-scratchin'
An' a-peckin' in the dust?
She's a-huntin' fer her false teeth—
Bound to find 'em, too, or bust!"
(Oh, Uncle Bill!)

"Lightnin' bugs is coward bugs!"
Says Uncle Bill,
"Like some little boys I know!"
Says Uncle Bill,
"Fraid to sleep without a candle—
Them there little fire-fly sons!"
('F I'd a-had a rotten tater
I'd a sent it, sure as guns,
At Uncle Bill!)

Sometimes ain't so mighty sure
'Bout Uncle Bill;
Sort o' 'spicion he's a josh—
My Uncle Bill;
If he isn't, what d'ye think—
Honest—'bout that rusty nail
An' the pig, an' 'bout his fool
Funny little squirmy tail?
B'lieve Uncle Bill?
—Lowell Otus Reese, in San Francisco
Bulletin.

A Red Coat.

Mary Crane is a little girl who likes a great many things, but the thing she likes best is her red velvet coat. She thinks red is the prettiest color there is, and she has a red dress, and a red bonnet, and red ribbons for her hair. But Mary Crane's father has a cow that does not like red at all. It is very strange. The old cow seems to dislike it as much as Mary likes it.

I'll tell you how Mary Crane found out that the old cow doesn't like



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One day she started out to find some dog's-tooth violets. It was very early in the spring, when they were first beginning to come out, and it was rather cold, so that Mary Crane had to wear her coat. She looked and looked for the flowers, but only found one or two, until she remembered how she had found a great many last year, down in the pasture. So she started off, in her little red coat, to find them. There was a barbed-wire fence around the pasture and Mary Crane climbed through very carefully, so that she should not tear her coat. She found a great many flowers there, but she had to look very closely, for they hang their little heads down and when the grass is tall it is hard to find them.

Mary Crane had not been there very long, though she already had a good many flowers, when she heard a noise, and when she looked up there was an old cow running towards her, looking angry, with her tail sticking out and shaking her horns.

Mary Crane knew that the very best thing for her to do, then, was to get out of that pasture as quickly as possible. So she ran for the barbed-wire fence, and did not stop to be careful that she did not tear her red coat. She didn't even think of her coat, for that old cow looked dreadfully cross. And she left some of that coat hanging to the wire!

Poor Mary Crane! She felt badly when she found she had torn it, and she almost cried when she told her mother about it. But her mother took her in her arms, and said, "My dear little Mary, we can buy a new coat, but if my little girl were hurt, we never could get a new Mary."

Then Mary Crane wanted to know what made the old cow run after her. "I think old Boss does not like your coat," said mother.

"Doesn't like my coat?" cried Mary.

"Why, it is my prettiest coat!"
"Yes," answered mama. "We think it is pretty, but old Boss does not like red as well as you do. I think it hurts her eyes."

"Well! well!" said Mary. "That is very strange. I wonder if she likes her little calf. It is red!"

"Yes," answered mother. "She wants her baby to wear a red coat, but she doesn't want my baby to. She is a selfish old cow."

Mary Crane thought it was very strange, and she could not understand it. But she never went near old Boss again, when she wore her red clothes.

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MARRIED AND MATED.

The vows were said which made them one
For happiness or woe;
They pledged themselves thro' light and gloom
Together e'er to go.
The echo of the wedding bells
Came slowly, as if freighted
With more than bliss, to those who now
Were married—were they mated?

The bridal gown was put aside,
The veil was laid away;
A frock was donned to suit the needs
Of sinner every-day;
Dropped threads of life were gathered up,
And two lives joined were fated
To walk the path of days as one,
Wedded—but were they mated?

"Two lives with but a single thought,
Two hearts that beat as one";
Two souls to strive in unison
Till strife of life is done.
One life with doubled force for joy,
And usefulness, ne'er fated;
Thus is a marriage made in Heaven,
And two souls here are mated.

They "know not where His islands lift
Their fronded palms in air;
But only know they can not drift
Beyond His love and care."
And as they climb to loftier planes—
Tho' slow, and oft belated—
With hand in hand, and heart to heart,
They'll go, for they are mated.
—Mildred Tate Wells, in May National.

Beauty in the Home.

Care for the details in the furnishing of the home is what counts. A little tact goes a long way, by which sage remark I am reminded of a story: One woman said of another, "She has so much taste!" "Yes," answered her companion, "and it is all so bad!"

The criticism often, made of American women is that they fill their homes too full—that they lack the loveliness of tranquility and calm, even in their home-making.

I am going to offer a few suggestions, not in a spirit of criticism of country women, for I have seen fully as much mistaken decoration in town as in country—I believe more—but in the spirit of helpfulness which characterizes so many of the contributions to this department, hoping to suggest to others what has been suggested to me as to the best ways of making the home beautiful and inviting to its inmates.

Plain paper on the walls is generally preferable to the figured. It makes the room look larger, it furnishes a better background for pictures, it is much more elegant than the figured at the same price. Indeed, I think the quality of plainness in all house decoration will be found to add a restfulness and an air of refinement much more difficult to attain with much ornamentation. By plainness I do not mean bareness, stiffness, or lack of grace or of loveliness of any kind.

But there is a certain profuseness, an overdoing of the beautifying process that has the effect of wearying those who see it. For instance, let us go together into a room of this sort, and examine the details of its furnishing, and let us see what causes this effect. We open the door, and a confusing collection of things assails our eyes. It is as if the furnishings had turned themselves into a mob, each trying to make itself conspicuous. We sigh, "Oh, dear! How tired I am! How the wind blows! I ought to be at home doing a thousand things." At once, you see, disturbing, wearying thoughts start up in your brain. But we will take the time to examine this room before we go on to another.

First, we notice scarfs thrown over the corners of the chairs and draped over the pictures. There is too much furniture—the room is over-crowded; a frail and useless-looking stand, upon it some artificial flowers in a vase, has its place in the middle of the room. Upon the floor is a carpet with striking red and green figures, and upon the carpet, here and there, are small rugs of different predominating colors. A lounge, blue in color, with vivid yellowish flowers, stands on one side. An upholstered chair of an old rose shade stands near it. There is a sort of cabinet filled to overflowing with a few dusty curios, a book or two, some photographs, and a lot of odds and ends. At the windows are lace curtains draped, and draped, and draped again, and finally tied back with blue ribbons. The wallpaper has a background of brown, upon which are scattered thickly some intricate and interesting looking figures, like the puzzles we as children used to work so hard to solve. Upon this befogged wall are hung or tacked numerous pictures of all descriptions and of all subjects, from family portraits to advertising cards. Now, I believe we have finished our ex-

amination of this room. We admit, in thinking it over, that there are many beautiful things in it, that some of the furniture is, in itself, tasteful and artistic. But the whole is truly anything but pleasant to our feelings.

Let us, then, turn our eyes to another room.

It is my ideal parlor, and I think its furnishing has cost little, if any, more than the one we have just left. The walls are a dull neutral green, with wide border around the bottom of which is a narrow plain moulding, from which are hanging a few good pictures, one of which is a calm and beautiful Madonna and Child, and all of which have the restful note predominant. The carpet is one of the same quality as we saw in the other room, but the color is the same quiet shade as the walls, with figures in a different tint of the same color. There is a couch piled up with sofa pillows in delicate shades, a couple of rocking-chairs, one of plain polished wood, the other of wicker, a capacious, inviting-looking arm-chair, and a straight-backed chair or two, very plain of cut and without upholstering. A good-sized table stands at one side of the room, upon which lies an old standard book or two, and a magazine. In its center stands a pretty, shaded lamp, tinted a soft yellow-green, and at one side a delicate tinted vase of fresh flowers. At the windows snowy, ruffled curtains hang, caught back with pale, yellow-green ribbons. A low stand holds a luxuriantly growing plant. The pot in which it grows is wrapped with delicate green crepe paper tied with ribbon of exactly the same shade. We breathe a sigh of content as we sink into the easy chair and look around, and, "Oh, how restful!" is the exclamation that expresses our feelings.

Now, of course it is much easier to theorize, and dream of what we would do—if we could, than to make a beautiful room out of the material on hand, accumulated year by year. And I freely admit that I have never seen my ideal parlor, and probably could not make it if I could have everything just as I wanted it. But it is just as well to have ideals, and ideas, as a sort of goal to work toward.

Now, let us go back to the first room we visited, and see what we can do for it. Perhaps we can give it some such an air of peace and tranquility as pleased us so heartily in the second room.

First thing, let us see what we can take out. The rugs are superfluous. One carpet is enough—so out go the rugs! The curtains are pretty enough. Let us take them down and hang them again, straight and plain from the top. Behold! already the room looks different. Let us now see what we can do with that cabinet. The curios are interesting. We will make them clean, and arrange them upon one shelf in some kind of order so that they can be seen easily. A lot of rubbish on the other shelf can just as well be packed away out of sight. We will hunt up all the books we have, and put them in its place. If the shelf is not full, no matter. It looks very nice and "homey."

There certainly are too many pictures, especially since the wallpaper is so be-pictured itself. We will take out the most gaudy-looking ones, and rearrange the others. We will take out the extra bits of fancy work thrown over the corners of the pictures and chairs, putting in their stead some clean, pretty tidies on the chair-backs. We will take out the artificial flowers and replace them with fresh blooms. We will set the stand to one side, and possibly take out one or two chairs. Now we look around with satisfaction. The room is transfigured. And how almost startling it is, to realize that all we have done is to take out and rearrange! We feel that we shall be very happy here in this room where the unpretentious charm of restfulness is beginning to make itself felt. We think we will come here when, tired and nervous, we find a few moments of rest necessary. And we hope that our husband and our children will seek this place now more and more often, finding it sweeter to stay here than to seek pleasure elsewhere. If this be the result, we shall feel that our thought and our labor have not been in vain.

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city boy.—From "The Farmer's Son and His Problems," by Frank Putnam, in May National.

Club Department.

Country Clubs.

MRS. SADIE PICKERING BEECHER, ARKANSAS CITY.

Recently I read that women's clubs were the offspring of men's clubs. If such is the case I believe the old rule established by the Creator, when He took a rib from Adam and made woman, thereby producing a development superior to the original, to hold true. I base these premises upon the aim and object of the two organizations, inasmuch as the latter invariably have a purpose in view other than that of self-enjoyment. They look to the upbuilding of humanity, the enlightening of the masses, and the inculcation of genuine principles of good citizenship in the young.

Whether the club is a good school for women remains to be seen, for the benefits are too far reaching to be realized in a few months or years.

The average country girl attends our public schools until she is fifteen or sixteen years of age. If she is ordinarily intelligent she manages in that time to complete the course of study for the district school and receives from the county her graduating diploma. Here her education stops, unless her parents can afford time and means to send her to the high school in neighboring town or village. If her parents lack this ability, which often happens, she quietly stays at home and assists in the housework until she is courted and married by some young man who desires a home. Taking upon herself the cares of managing a house and raising a family she soon loses all interest in the studies she pursued in school.

It is one of nature's laws that if we cease to use any of the organs of our body, that organ immediately begins

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to lose its power for usefulness; and if we continue to neglect its proper use, it, in time, loses all power to perform its wonted functions. This is true in a mental as well as a physical sense and we find our subject losing not only what she learned at school, but losing the power by which that knowledge was acquired. History, science, art, and music have no charms for her because she has lost the power to find pleasure or enjoyment in them. Her life has narrowed down to the dull routine of cooking, washing, and mending for her family. Things necessary to be done for the comfort of her loved ones but not of themselves ennobling because they are soon learned and by constant repetition become in a measure automatic. Time passes, and as her children grow up around her and begin to ply her with questions and come to her for help in their studies, she realizes that in the years in which she has been out of school she has been standing still while the world has moved onward with gigantic strides. Instead of being teacher and guide to her children until their minds have grown and expanded and they have become capable of being companions to her she is compelled to step backward and acknowledge to herself if not to them, that she has failed. Her very ignorance makes her timid and the relations assumed between her children and herself are far from ideal ones.

Now let us suppose that this neighborhood has a live country club, which the girl upon leaving school joins, and remains a member, taking an active part in all its duties. In this club a course of study is taken up each year and carried forward. Current events are discussed. Each month magazine articles are read and commented upon

by the different members. In every way available, the mental horizon of each member is broadened and strengthened. She can spend an afternoon once a month at such a meeting and come away feeling benefited by it; and the benefit is not for her only but extends to her family as well. What child will not take a greater interest in the history of his country when he hears his parents discussing at the evening meal the events that are daily making history, or will not evince a desire to understand the latest discoveries in science, when wireless telegraphy, liquid air and bloodless surgery (as practiced by Dr. Lorenz) are daily topics of conversation?

The meeting with the neighbors, the exchange of ideas, and the social part of the club, are advantages that should not be regarded lightly, when we remember how isolated some of our country women are.

We, as wives and mothers, have no right to become so absorbed in our household cares that we neglect that part of our organism that places us in the rank of human beings, that lifts us above the order of the brutes and makes us what God designed we should be—intelligent beings capable of ministering not only to the physical wants of our families but to their spiritual and mental needs.

Then, if the country club can aid the farmer's wife to rear her children wisely and implant in them the germs of patriotism and good citizenship, if it helps her to produce an ideal home, and, lastly, if it broadens her own life, lifting her above herself and rendering her a help to all with whom she comes in contact, its mission is not in vain.

Miscellany.

THE ROAD AND THE LOAD.

The four papers following are a part of the classwork of Professor Ten Eyck's class in Agricultural Physics. The essays are not claimed to be full treatments of the subjects discussed but are a part of the regular classwork.

Influence of Width of Tire and Diameter of Wheels on Draft of Wagons.

E. W. M'CRONE.

No two factors affecting the draft of wagons are so important as the width of the tire and the diameter of the wheels. One can readily see the importance of the width of the tire when he reflects on what would be the effect of reducing the width to the extent that the wheels would only have sufficient strength to bear the load. On ordinary earth roads the wheels would cut in like the rolling colter of a plow, while with a little wider tire it would be borne on the surface and would certainly roll much easier. It is also apparent that a tire can be made too wide to run easily on ordinary roads. When the tire is wide enough to bear up the load without cutting in, no advantage will be gained by making it wider. By making the tire still wider it will have the disadvantage of striking more obstacles and thus running harder.

Experiments conducted at the Missouri Experiment Station show that for ordinary purposes on the farm or road the six-inch tire is the most satisfactory. Six-inch tires were found to run easier on macadam roads, on gravel roads, on dirt roads that were dry and free from dust, on clay roads with mud deep but drying on top, on meadow, pasture, stubble, corn ground, and plowed ground, wet or dry. The standard tires, one and one-half inches wide, run easier than the six-inch tires on roads covered with deep dust, and hard roads where ruts had been cut with wagons with tires of standard width. In the case of the ruts, however, it was found that after driving over them three times with the wide tired wagons they were leveled down so that the wide tires ran the easiest.

It is generally conceded that a vehicle having large wheels runs easier than one having small wheels. Large wheels run over obstacles better than small wheels. It would be impossible to pull a vehicle with wheels ten inches in diameter over a perpendicular obstruction five inches high if the line of draft were parallel to the road-bed. This would not be an impassable obstruction to a wheel of any larger diameter. Pulling a wheel over an obstruction is similar to pulling up an inclined plane, and diminishing the diameter of the wheel diminishes the length of the power arm, thereby decreasing the efficiency of the inclined plane and increasing the draft. All ordinary road-

surfaces spring a little under heavily loaded wheels, and must spring more under small wheels than under large ones, since the smaller wheels present the smaller surface to the road. Here again the principle of the inclined plane applies, for because of the springing of the road-bed, the wheel must in effect constantly ascend a slope, and we have seen that the larger wheels ascend a slope with the least draft.

At the Missouri Experiment Station these theories were borne out in a practical test, the large-wheeled wagons being found to run with the least draft under all conditions.

Draft of Wagons as Affected by Smoothness of and Rigidity of Road-bed and the Rigidity of the Carriage.

E. H. HODGSON.

To the average farmer, to the teamster, and every one that uses a wagon there is a marked variation in the draft or the force required to pull the load. First, we may speak of the smoothness as having a marked influence. If there is an obstruction in the road, it will require extra force to raise the wheel over the obstruction, or if the wheels go into a rut, extra force will be needed to raise them out again. However, the increase in the mean draft is not as great as might at first be supposed, because when the wheel has been raised on top of the obstruction it will roll down with little or no pull; also when the wheel runs into a rut, the energy acquired in running into the rut will help to carry the wheel part way up the other side. But it is noticeable to every one that the irregularity of the pull necessitates having a larger team and it worries them much worse than a smooth road, to say nothing about the strain on the wagon and the comfort to the driver.

As to the rigidity of the road it seems that but little need be said and yet so much depends upon it. The road that is soft or spongy will require more work to pull a load over it than will a solid road; but as to the exact amount of extra labor necessary we can only tell by experiment with the dynamometer. But we do know that the yielding road-bed increases the draft more than any other hindrance and when the wheels are steadily cutting into the road-bed it is the same as trying to raise over an obstruction or out of a rut and is then constantly climbing a steep grade, the grade increasing as the wheels are smaller and the cutting deeper. By experiment it has been shown that with a fifty-inch wheel which cuts into the road-bed one inch, the draft was nearly doubled. That is, an obstruction of 4 per cent the diameter of the wheel increased the draft more than twofold. However, as the wheels never rise over the obstruction when cutting in, the draft is not as great as if the wheels were raised to the top of the ground. The difference in pull of a load on a stone or macadam and dirt road is due to the slight cutting in of the wheels. The draft of wagons as found by experiment shows that on a macadam road it requires 55 to 67 pounds to pull a ton, and on common dirt road 75 to 224 pounds per ton.

The rigidity of the carriage has also proven to be of considerable importance as regards the draft. Providing the road is not smooth and when the rate of travel is faster than a walk, springs under the load diminish the draft, and the rougher the road and the faster the speed the more advantage is gained by elasticity of the carriage. When the load is not heavy

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this elasticity may be secured by pneumatic tires which conform to the inequalities of the road-bed and thus lessen the draft. Where the load is heavy, springs under the load respond rapidly to the inequalities of the road, relieve the concussion, diminish the strain on the carriage, and at the same time save the road. Springs or elasticity of some kind is advised where the roads are not smooth and a speed faster than a medium walk is desired.

Some Problems in Draft.

H. R. THATCHER.

In considering the question of draft on a wagon, our attention is called, among other things, to the effect of the distribution of the load on the wheels, and the effect of having the motive force parallel to the line of draft. Most of us are inclined to load a wagon heavier in front, because we have learned by experience that the nearer we hitch to the load, the easier it seems to pull.

However, there are several factors which enter in that materially affect the draft. In the first place, if the load is heavier on the front wheels, which tend to vibrate out of line as the tongue vibrates, the front wheels will cut in deeper and hence the load will pull that much harder.

Again, the front wheels are always smaller than the hind wheels, hence with the same load the draft is greater and, with a wagon which tracks, the hind wheels have a more solid road-bed to run over. Further, the circumference being larger on the hind wheels, the weight will be distributed over more surface than on the front wheels, hence they will not sink in as deep.

To offset these advantages, the line of draft is an important factor. On the ordinary road-bed, or in field or pasture, since the wheels sink in, they are continuously attempting to climb a grade. In other words, the line of draft, instead of being parallel to the road-bed, varies to a slant approaching that of the traces. Therefore, since the line of draft on the front wheels and the line of motive force tend to be parallel, the highest efficiency is secured from the power applied.

But in the case of the hind wheels, the line of draft is also oblique to the road-bed, but since the motive force is applied through the reach, which is generally parallel with the ground, or sloping toward the front wheels, there is more or less power lost because the power is applied more or less against the road-bed. In practice, it is found that on soft ground the load pulls easier if evenly distributed or if on any set of wheels, the hind wheels are preferable.

Influence of Grade on Draft.

CLAUDE CUNNINGHAM.

On a perfect road the draft of a load drawn over it would practically be nothing, just enough to overcome resistance of air and friction of wheels on axles. The steel track of a railroad is the nearest approach to a perfect road that has been devised at present. The most important factor in road-making, aside from bed itself, is the grade, and this is the hardest obstacle to overcome. Usually the best policy is to go around a hill if this is possible. It is better to increase the horizontal length of a road a half mile or more to avoid going over a hill 100 feet high.

A pull of 2,000 pounds is required to pull a ton vertically, while to move it horizontally only the friction of carriage and resistance of air need be overcome. Therefore, on smooth, level roads, heavy loads can be moved at a good rate, with a minimum expenditure of work. The draft of a load increases directly with the grade; that is, if a road rises one foot in a hundred, it is called a 1 per cent grade and the draft would increase 1 per cent of the weight of the load. Thus if a 2,000-pound load was being pulled up a 10 per cent grade the draft would be 200 pounds heavier than on a level road.

Applying a mechanical principle involved in the relation of draft to grade we consider that in overcoming any resistance or in doing work of any kind in which the force or power doing work, when multiplied by the distance through which it moves, is always equal to the resistance or work multiplied by the distance through which it is moved. This principle can be stated in formula, as follows:

Power \times power distance = weight \times weight distance.

or, $P \times P. D. = W \times W. D.$

Suppose a road-bed is 100 feet long and has a 10 per cent grade, then if a load of 2,000 pounds is drawn the length of the road, the power (P) would have acted through a distance of 100 feet parallel to road-bed, not including friction, the work done is to lift 2,000 pounds ten feet high. Thus a load of 2,000 (W) pounds is lifted ten feet (W. D.) by a force acting through a distance of 100 feet (P. D.). Applying these figures in formula:

$P \times P. D. = W \times W. D.$

Whence, $P \times 100 = 2,000 \times 10$

or, $100 P. = 20,000$

or, $P. = 200$ lbs. or increased draft due to 10 per cent grade

As a chain is no stronger than its weakest link, just so the greatest load which can be hauled over a road is the load which can be hauled up the steepest hill on that road. The importance of low grades will be readily understood from the following considerations: A horse can pull about half its weight but this is its maximum and should not be required for long intervals or very often repeated. A draft equal to one-fourth of his weight is an

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exhaustive and heavy pull for a horse to maintain for long periods. In practical work a horse is not expected to pull more than one-tenth of his weight, at a two and one-half mile per hour gait, for a ten-hour day's work. At this rate the work done by a 1,000-pound horse would equal

$$\frac{5,280 \times 2.5 \times 100}{60 \times 33,000} = \% \text{ H. P.}$$

Thus we see that a safe rate of work for a 1,000-pound horse on the road is a steady 100-pound pull. He may at short intervals pull 250 pounds and in an emergency 500 pounds for a short distance.

It has been found by experiment that it takes a traction or draft of 140 pounds to move a ton over a common dirt road. Thus if a 2,400-pound team pulling at a rate of one-tenth of their weight come to a hill with a load of

$$\frac{240}{140} \text{ tons} = 3,428.5 \text{ lbs.}$$

the question is, up how steep a grade could the team haul this load? The maximum a team can pull is a draft of one-half their weight or 1,200 pounds. The weight taken up hill is the combined weight of load and team. In this case it would be:

$$3,428.5 \text{ lbs} + 2,400 \text{ lbs.} = 5,828.5 \text{ lbs.}$$

To find out how steep a grade a draft of 1,200 pounds would take a load of 5,828.5 pounds we would have to apply to the following formula:

$$\text{Power} \times \text{power distance} = \text{Weight} \times \text{weight distance}$$

or,

$$P \times P. D. = W \times W. D.$$

The maximum power, 1,200 - 240 = 960 lbs., or the reserve draft to go up the grade.

$$P. D. = \frac{100}{W.} = \frac{100}{5,828.5}$$

$$W. D. = \frac{960 \times 100}{5,828.5} = 16.5 \text{ per cent grade}$$

or the maximum grade up which a load of the above weight could be pulled. This is a theoretical problem but should not be depended upon in practice. Such a grade as that should be short, as a team could not keep up a strain like this long.

From the foregoing we can easily see that steep grades are a very objectionable feature in a good road, as they lessen the size of the load that can be hauled on that road and make work harder on horses. Steep grades are still more objectionable on macadam roads or steel roads. On a good macadam road, that is level and rigid, a much heavier load can be drawn on the level, but the increase of draft going up a grade is the same as the increase on the dirt road. Therefore the road permitting the largest loads on the level requires the lowest grades. On a steel track, an ordinary horse draws as high as a ten- or eleven-ton load but it could not draw it up the slightest kind of a grade. In this case a 1 per cent grade would increase draft 230 pounds, and a 2 per cent grade would tax a 1,200-pound horse to the utmost. All things considered, the grade should not be more than 7 feet in 100 on good dirt roads, or 4 feet in 100 on macadam roads.

Kansas State Fair and Other Matters Not Granted by Our Legislature.

EDITOR KANSAS FARMER:—The State Fair appropriation was voted down, but not passed by, as it will be agitated until we get it. Stockmen are more in earnest about it than ever, and say they will not give up until it is accomplished. I fail to see the propriety of a \$100,000 appropriation for the St. Louis Fair that will pass with the occasion and do the State but little good as a State (except for those that like to boast of what we have done), and then turn down a small appropriation asked for by the people of the State for a fair in our own borders that would be a benefit to the people and an honor to the State. Our stockmen have to go to neighboring States to get their State fair premiums, and they get some of the best wherever they go. It is a shame and a disgrace to our State to see the State fair ribbons hung up at a show like the Royal and not a Kansas State fair ribbon there. Some of the newspapers say that the reason our Legislature did not give us an appropriation was because so many of the members were afraid of their political bosses. Well, this may be, but there are hundreds of voters in this glorious State of ours who have no political boss when it comes to voting, and it will be found out next election. A breeder of fine stock said recently that as regards his action he would have one more whack at his man at next election, and then he wanted nothing more to do with him. It may be our legislators had so

much to do that they did not have time to consider what was best for the people; but there is one thing they might have thought of as they were going to chuch on Sunday morning, and that is a law to prohibit ball-playing on Sunday. The enacting of such a law would have been appreciated by the peaceable, law-abiding citizens who would like to have a little more peace and quiet on Sunday. It would also be a benefit to the boys who are led into vice by this amusement on Sunday. But it seems that our Representatives preferred to turn down what was for the benefit of the people of the State and to enlarge the St. Louis Fair by giving it what the State should have.

Another matter was the way the woman's suffrage bill was defeated. Some of our good newspapers said it was a good thing that the one house took their vote on this measure as they did so that the members would not have to go on record, for it could not then be brought up against them in the future. Just think of a Representative of your State going there to do business for you and then being ashamed to let it be known what he has done! Allen County. A. B. MULL.

Spring Work on the 4,000-acre Experiment Station.

EDITOR KANSAS FARMER:—The heavy snows and early rains have put the ground in good shape for spring work. The 200 acres of fall wheat sown is excellent. Of the 165 varieties sown, all but 22 came through the winter. Of those that did not get through, the larger part failed on account of poor seed as no stand was secured. A few winter killed. Only one of the nine varieties of rye sown gives promise. The area devoted to each variety differs in size from the small space given a few grains to over twenty acres. The larger number are hybrids of the best varieties in this section, and those that have been introduced from other countries where conditions are similar. It is the purpose to watch each variety carefully, with the hope of finding better yielders, and more desirable kinds. Careful notes are taken frequently regarding each one. Some of them have already shown great promise.

The Macaroni wheats are also receiving attention. Five varieties were sown on sod last spring, and in addition thirteen new varieties have been sown, covering an area of nearly 40 acres. Also 22 varieties of barley, and 18 of oats have been sown this spring. This makes 230 varieties of small grain on an area of 340 acres.

Besides a test of varieties, there are also included tests of methods of preparing the land for seeding. These experiments are not as extensive as they will be in future on account of the land now being new. Fields are being laid out in rotation to determine the effects of various crops on those following. The determination of soil moisture will also be made in connection with various culture tests.

Of the 30 varieties of wild grasses sown a year ago, the majority are making a fine start. The two kinds that show most promise by their ability to withstand hot, dry winds, making a yield of ever two tons of fine hay per acre, proved to be annuals. However, as the seed is easily obtained, they may prove valuable for seeding this spring.

The work with grains and grasses is largely in co-operation with the U. S. Department of Agriculture. Work in irrigation is also being begun in cooperation with the Government Irrigation Investigation. Large wells are being put down, and centrifugal pumps will be used to raise the water, which will be applied to various crops, in comparison with the same crops not irrigated.

Quite a number of varieties of corn will also be tried. These have been collected from Old Mexico and other places in drier parts of the country.

As a beginning in horticulture and forestry, 400 fruit-trees, consisting of peaches, apples, plums, and cherries, and 300 berries have been planted. One thousand forest-trees have been set for shelter and shade. Four thousand small seedling cedars and pines were planted under a partial shade to give them as nearly as possible natural conditions. After two years in the nursery they will be transplanted along the creek banks to beautify the twelve miles of timber that grows along the stream.

The Legislature last winter appropriated \$32,500 for equipment and maintenance for the next two years. Considering that the station is located 300 miles west of the Missouri River, in the "Great West" that people even 200 miles east have a very vague and distorted idea about, this amount, though not half what the institution could use

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is naturally interested as to the results which his harvesting may bring. He sometimes lessens his chances for gain by using harvesting machines that are liable to go against him when he needs them most, necessitating expensive repairs, cost of which would reduce some of the profit he figured on. This can be avoided by using



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to advantage, will do a great deal towards establishing and making known the capabilities of western Kansas. It has been only thirteen months since the first sod was turned, and until the last Legislature acted, only \$3,000 per annum was available. We are now purchasing teams, machinery, and stock, and erecting buildings. Weather observation instruments are being installed, and a careful record of all the ordinary observations will be kept. The work is only beginning and what the future will be is only conjecture. Located as it is in the Great Plains Region, and having such an ample basis in land, and Kansas to back it, it will surely come to be unequalled by any similar institution. There will be need of laboratories for studying the different soils, the effect of different crops, water, fertilizers, etc. But the most urgent need will be laboratories for testing the different varieties of wheat. Yield alone is not sufficient. The baked loaf is final. All essentials must be correlated. J. G. HANEY, Superintendent. Fort Hays Branch Experiment Station, Hays, Kans.

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IMPRESSIONS OF THE PRESIDENT.

(Continued from page 505.)

rushed into the Auditorium, one naturally expected him to talk very rapidly. On the contrary, he talked very slowly, separating every word from every other, and occasionally hesitating for the exact word he wished to use, and apparently reaching for it with his hand. But he always got it.

As an orator, in the usual sense of the term, Mr. Roosevelt is easily surpassed by men in almost every county in Kansas. As a man who has something worthy of being said and who says it earnestly and in a way to be understood by all hearers, he is in the first rank. His address argued the necessity of manliness, strength, integrity, and above all, of work, diligent work, on the part of every man, and of joining these with the brotherly kindness which looks out for other's good. He spoke without notes but gave with scarcely a variation the address which was written and sent to the Associated Press throughout the country before the President left Washington.

Mr. Roosevelt is a short man but "heavy set." He carries the appearance of strength, energy, endurance, and earnestness. At the same time, he is bubbling over with fun, and likes to joke with those around him. He takes a keen interest in everything he sees and hears and especially in people he meets. Those who saw him in Kansas are generally counting him as a personal friend, one whom they would like to meet often. Those who heard him and those who have read his addresses are sure that the chief executive office is in safe, strong hands, guided by a fixed purpose to administer the government fearlessly and honestly in the interest of all the people.

Not in the memory of the present generation has the country had a President who so fully corresponded with the people's ideals as does Roosevelt. He is a real flesh-and-blood man, a man of big heart and kindly impulses, a man of strength and endurance of body and mind, a man of courage and of devotion to duty as he sees it.

THE NATIONAL GOOD ROADS CONVENTION.

For many years there has been an agitation among the people of the United States in favor of good roads, but for some reason it seems never to have appealed with any special force to the people of the West. The addition of a bureau of good roads to the Department of Agriculture served to stimulate the interest somewhat, but it was not until the establishment of the rural route system that any real need was felt along this line out West. Once the rural routes were established it was required of the people to keep the roads in repair or lose the routes. The interest in good roads then became not only keen but widespread, and resulted in the greatest good-roads convention that was ever held. This convened during the early part of the week devoted to the dedication of the Louisiana Purchase Exposition. The convention was attended by more men of national and international repute and was characterized by papers of more real value than any like convention of which we have knowledge. President Roosevelt addressed the gathering in his characteristic manner which served to add interest to an already enthusiastic meeting. One of the most valuable papers presented at this meeting was the address by Gen. Nelson A. Miles, who is not only at the head of the United States armies but is also president of the National Highway Commission. While the subject assigned to him was "Military Roads and a National Highway," he devoted most of his time to a discussion of necessity for good roads from the farmers' standpoint. This paper we hope to reproduce in full when space will allow. Hon. W. J. Bryan captured the convention with one of his characteristic speeches. Kansas was recognized in this great convention by the appointment of H. A. Heath, secretary of the Kansas Improved Live Stock Breeders' Association, as a member of the committee on needed legislation, and of I. D. Graham, associate editor of the KANSAS FARMER as a member of the committee on resolutions.

The following resolutions were reported by the committee and unanimously adopted:

We, the delegates of the National and International Good Roads Association, assembled in the city of St. Louis, April 27, 28 and 29, 1903, impressed with the great necessity of improving the highways of our country, hereby declare it as our unalterable judgment:

1. That the building of good roads in the United States is now of paramount importance to National prosperity and commercial supremacy.

2. That we recommend the harmonious cooperation of township, county, State and National government in furtherance of this great end.

3. That the association believes that the appropriation heretofore made for the building of railroads, canals, the improvement of the rivers and harbors has been wise and become necessary to extend the blessings of intelligence and to promote a high order of citizenship among all classes of people and to meet the ever-growing necessities of the agricultural interests.

4. That we recommend the establishment throughout the United States of a complete and perfect organization from the Nation down to the township, which organizations shall interlap each other and make a complete National association.

To this end we recommend that the delegates here assembled on their return to their respective States proceed as representatives of the National organization of the good-roads association, wherever such organizations do not at present exist, to organize their States, counties and townships along the line herein suggested, and where State organization now exists to give our earnest support and influence to such local State organization.

Your committee on resolutions respectfully reports the following resolutions and recommend their adoption:

1. That we indorse the work of the office of public road inquiries, United States Department of Agriculture, for the betterment of the public highways of the country; and that we believe that this office should be enlarged into a bureau of the Department of Agriculture, with sufficient appropriation at its disposal to extend its work into all the States; that we especially urge the Senators and Representatives in Congress to vote for such increased appropriations.

2. Whereas, The greatest progress in the improvement of the public highways has been made in the States which have adopted the principles of State and local cooperation.

Resolved, That this convention hereby declares itself in favor of State aid in the improvement of public highways.

3. That we believe it is now as important that the National Government assist in the improvement of the common highways and post-roads of the country as it is for it to care for the rivers and harbors, and we therefore demand, in justice to the agricultural classes, federal appropriations to highway construction.

4. That these resolutions favoring National aid shall be presented to the Congress of the United States by a committee composed of one person from each State of the Union, to be selected by the National Good Roads Association, who shall also arrange the date and place of meeting in Washington, D. C., and for the presentation of said resolutions by the said committees of Congress having charge of the bill, provided that representatives of the commercial and industrial organizations interested in highway improvement may be included in said committee, to be selected in like manner.

5. That we favor the organization of road associations by States, congressional districts and counties, which shall have for their object the improvement of public highways, the naming and beautifying of the same, and the numbering of the country houses, so as to facilitate travel and the rural free delivery of the mails.

Whereas, There is a growing demand on the part of the people for the cooperation of the United States Government with the States and the civil subdivisions thereof in the work of public road building, and

Whereas, Thomas Jefferson, on March 29, 1806, approved an act for laying out and building a public road from Cumberland, Md., to Ohio, thereby establishing a precedent for the undertaking by the Government of the United States of the work of public road-building, and

Whereas, The Jefferson Memorial Road Association has begun the construction of a memorial road to connect Monticello, the home and tomb of Jefferson, with the University of Virginia, to serve as a National object lesson road, therefore be it

Resolved, That the National and International Good Roads convention heartily indorses and approves the construction of the memorial road to honor the memory of Jefferson and at the same time promote a great public reform, of which he was a consistent and wise advocate, and it therefore urges

all advocates of road improvement to aid in its completion.

6. We heartily endorse and approve the untiring efforts of the officers of the association, W. H. Moore, president, and R. U. Richardson, secretary.

METHODS IN BREEDING.

Recent years have shown wonderful advances made in the art of breeding for beef. Four breeds have come into prominence as best adapted for this purpose, and in the keen competition which has come to this as well as to other lines of business, the effort of the promoters of each breed has always been a nearer approach to an ideal type. Those breeds which have most nearly approached the ideal have met with the greatest success and most rapid gain in popularity. The individual breeder bases his success on results attained along this line. A really successful breeder is an artist who is just as much entitled to a niche in the Temple of Fame as is the painter of a great picture or the composer of a great piece of music. There are many men who are engaged in breeding pure-bred beef animals who fall very far short of the ideal and of success, by reason of lack of necessary knowledge and true artistic instincts. On the other hand, there are many whose success is most pronounced. In these later years, perhaps no breed has grown more rapidly in popularity than has the Hereford; and in searching for a reason for this, the only explanation that we have found that is at all satisfactory lies in the fact that Hereford breeders, as a rule, breed more closely to the ideal type than breeders of other cattle. By the judicious selection of good bulls and the necessity which was upon them of improving the breed, they have constantly grown, until in notable instances the ideal is well-nigh attained. As an illustration may be cited the great breeding establishment of Gudgeon & Simpson, at Independence, Mo., who have practiced line-breeding with their great families of Anxiety blood until they now own what is perhaps the largest and most uniform herd in the United States. As a comparison, we may mention that we recently visited another large herd where the quality was of the highest type, but the herd as a whole was made up of animals of widely differing families. The results of the breeding in this herd were shown in the difference in appearance and lack of uniformity of type in the offspring. It is noticeable always at the great fairs, shows, and sales, that the winner of the prize, as well as he who tops the market, is the man who has bred to a uniform type and that type the one which most nearly approaches the ideal. A visit to Gudgeon & Simpson's herd at Independence is a more satisfactory experience than is a visit to a great State fair, for the reason that one sees more animals on exhibition of that wonderful uniformity of type which has made their herd famous, and which is impossible to see in any State fair. Following the example set by these great masters of breeding, we note that many breeders who have not been so long in the business are meeting with striking success. The Vermillion Herd, owned by E. E. Woodman, at Vermillion, Kans., the Sunflower Herd, owned by D. L. Taylor, Sawyer, Kans., and the Wayside Herd, owned by W. W. Gray, Fayette, Mo., are among the larger and more notable examples attained by line-breeding in the Anxiety blood. The successes attained by Gudgeon & Simpson in the past thirty years will unquestionably be augmented during the coming fair and show season next fall, and new laurels will be won by the Anxiety blood as represented in this great herd of 700 head of America's best type of Herefords.

KANSAS FARMER'S NEW WALL ATLAS.

The KANSAS FARMER has arranged with the leading publisher of maps and atlases to prepare especially for us a New Wall Atlas, showing colored reference maps of Kansas, Oklahoma, Indian Territory, the United States, and the world, with the census of 1900. The size of the New Wall Atlas is 22 by 28 inches and it is decorated on the outer cover with a handsome design composed of the flags of all nations.

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The Experience Which Came to the Man on the Box.

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"It is a hard life," he says, "and it is no wonder when one of us breaks down. For myself, the exposure and lack of sleep ran me down in health last winter till I became a shadow. Oftentimes I have had to take to my bed with a fever running my temperature way up. I had a cold a good part of the time, my head was always dizzy, my stomach was out of order and my limbs stiff. I grew thin, was tired out all the time and felt generally miserable.

"No, the doctor didn't seem to help me very much and I didn't get any better until, upon the advice of a friend, I began using Dr. Williams' Pink Pills for Pale People. The first box made me feel better and a few more made me all right. Now I am strong and healthy again and I recommend Dr. Williams' Pink Pills to all my friends who seem to need a tonic."

The best tonic medicine in the world is Dr. Williams' Pink Pills for Pale People. Mr. Roe is only one out of thousands all over the world who have found this out by personal experience. This medicine, unlike any other, acts both on the blood and nerves, builds up the system and cures where ordinary preparations fail. Dr. Williams' Pink Pills for Pale People are not only a tonic but have cured such diseases as locomotor ataxia, partial paralysis, St. Vitus dance, sciatica, neuralgia, rheumatism, nervous headache, the after-effects of the grip, palpitation of the heart, pale and sallow complexions and all forms of weakness in either male or female. Dr. Williams' Pink Pills for Pale People are sold by all dealers or will be sent postpaid on receipt of price, 50 cents a box, or six boxes for \$2.50, by addressing Dr. Williams Medicine Company, Scherectady, N. Y. They are never sold in bulk or by the hundred. Avoid imitations; substitutes never cured anybody.

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Any one not now a subscriber who will send us 50 cents at once will receive the KANSAS FARMER for five months and will be given a copy of our New Wall Atlas free and postpaid.

Farm Notes.

N. J. SHEPHERD, ELDON, MO.

It is a mistake to ship mixed lots of poultry to market expecting that the good fowls will sell the poorer. By such a course the better fowls bring a less price than if sold separately, while the poorer fowls bring no more. The safest plan is to grade before shipping.

Even with young chickens, it is best to send them to market as fat and plump as possible. But to fatten chickens to the most advantage they should not be allowed their liberty, or much of the food will literally run away. Keep confined and feed regularly of cooked or soft food, taking care not to give more than is eaten up clean.

When eggs are purchased for hatching with a view to improving the poultry on the farm, it will nearly always pay to mark those that are hatched in some way so that they may be distinguished from the rest of the flock. One of the easiest ways of doing this is by making a hole in the web of the foot with a small punch.

Leg weakness is not uncommon among the larger, heavier varieties. It occurs more frequently where the chickens are being penned to fatten for market. It rarely occurs when the fowls have free range. The best remedy is to feed some bone-meal in their food and give them as good an opportunity to exercise as possible.

When they are sufficiently well grown to be turned out, they will require less feeding if allowed to have the run of the orchard or a good pasture. They may be fed some grain night and morning, but during the day will be able to pick up what they need, and the exercise they will take in do-

ing this will be beneficial to their health and thrift.

If ducks are hatched reasonably early, it is a good plan to push their growth so as to have them of marketable size early in the summer when there is a good demand for them. With care in feeding, they can be made to grow rapidly, and will at ten weeks weigh twice as much as chickens of the same age. The later hatched may be kept for breeders.

Ducklings thrive best on soft food; one part cornmeal, one part bran, and one part cooked potatoes or turnips mixed together make a good meal for them. The ration may be still further improved if all is wet up with sweet skim-milk. While ducks are voracious eaters, they grow rapidly and can be made ready for market when eight or ten weeks old, and will average four or five pounds at that age.

Our Foreign Trade in Agricultural Products, 1902.

(Continued from page 506.)

were recorded at 333,150,624 pounds, worth \$35,449,797. Contrasted with the export record for 1901, these figures disclose a falling off of 72,972,117 pounds in quantity, with a loss of \$2,049,229 in value. The annual export price per pound advanced during the two years from 8.2 to 9.3 cents.

Hams.—The export trade in hams during 1902 was considerably larger than that of the year before, the sales of this product showing a gain of 11,081,429 pounds in quantity and \$2,379,966 in value. According to the records of 1902, shipments were made to the extent of 227,653,232 pounds, the value being \$25,222,744. The annual export price per pound averaged 10.5 cents for 1901 and 11.1 cents for 1902.

Salted or pickled pork.—Of salted or pickled pork, the United States sold to foreign countries in 1902, 115,896,275 pounds, or 22,747,336 pounds less than in 1901. There was a marked advance, however, in the annual export price, which rose during the two years from 7.2 cents to 8.7 cents per pound. Owing to this gain in price, our exports for 1902 brought a return of \$10,117,562, or \$190,929 more than the much larger shipments recorded the year before.

Fresh beef.—In our foreign sales of fresh beef, there was a rather decided falling off during 1902, the shipments for that year amounting to only 301,824,473 pounds, worth \$29,045,056. Compared with the records of the year before, these figures show a decline of 49,923,860 pounds in quantity and \$2,806,305 in value. The annual export price of fresh beef advanced during the two years from 9.1 to 9.6 cents per pound.

Lard.—Lard forms the largest item among the meat products marketed abroad. During 1902, our lard exports amounted to 556,840,222 pounds and had a value of \$52,375,864. The quantity shipped was decidedly less than in 1901, showing a decline of 54,517,292 pounds when compared with the record of that year. Notwithstanding this marked falling off in quantity, a decided rise in price brought the total value for 1902 above that of the year before, the gain amounting to \$5,815,716. The annual export price, which was only 7.6 cents per pound in 1901, advanced during the following year to 9.4 cents per pound.

Oleo oil.—Next to lard, the principal meat product exported is oleo oil, of which in 1902 there were shipments valued at \$12,254,969, the quantity being 138,546,088 pounds. As in the case of lard, there was a falling off in the amount exported, accompanied by an increase in value resulting from higher prices. The loss in quantity amounted to 23,105,325 pounds, while the gain in value was \$408,596. During 1902, the export price averaged 3.8 cents per pound, as compared with only 7.3 cents per pound during 1901.

LIVE ANIMALS.

Contrasted with the exceptionally large trade of 1901, our live-stock exports for the past year exhibited a noticeable falling off. The sum received for shipments under this head during 1902 was \$44,871,684, or less by \$7,187,192 than the value recorded the year before. The decline was caused by a diminished exportation of cattle.

Cattle.—During 1902, the United States shipped to foreign markets 392,834 head of cattle, worth \$29,902,212. The number exported fell short of the record for 1901 by 66,334 head, the loss in value amounting to \$7,664,768. Last year, the export price averaged only \$76 per head as against \$82 per head in 1901.

Horses.—While a falling off occurred last year in the cattle trade, considerable gains were made, on the other hand, in the exportation of horses. The

horses sent abroad in 1902 numbered 103,020, or 20,770 in excess of the number shipped during the previous year. Last year's exports had a total value of \$10,048,046, exceeding the record of 1901 by \$1,174,201. In 1902, the annual export price averaged only \$98 as against \$108 the year before.

TOBACCO.

The American tobacco sold in foreign markets during 1902 brought a return of \$27,103,996. Compared with the export sales for 1901, there was a slight falling off, the loss in value amounting to \$552,479.

The statistics quoted relate to unmanufactured tobacco of all kinds, including stems and trimmings. The principal part of this item, however, consists of leaf tobacco.

Leaf tobacco.—Our exports of leaf tobacco were recorded at 291,369,700 pounds, worth \$26,881,641. These figures show a decline of 15,531,234 pounds in quantity and \$593,825 in value from the records of the year before. In the annual export price, there was an advance during the two years from 9 to 10.8 cents per pound.

OIL CAKE AND OIL-CAKE MEAL.

Although the shipments of oil cake and oil-cake meal for 1902 were not quite so large as the record-breaking exports of the year before, the higher prices prevailing brought a greater return in value. The sales during the past year had an aggregate value of \$19,943,198, or \$1,219,526 in excess of the figures returned for 1901. As regards quantity, however, there was a decline of 78,451,767 pounds, the exportation falling last year to 1,648,093,619 pounds. The annual export price per pound averaged 1.1 cents in 1901 and 1.2 cents in 1902.

VEGETABLE OILS.

Our export business in vegetable oils suffered a considerable falling off during 1902. The value of the shipments for that year, returned at \$15,308,633, was less by \$3,727,053 than the record of 1901. The principal part of this loss is traceable to smaller shipments of cottonseed oil, which is decidedly the most important article of exportation under this head.

Cottonseed oil.—The shipments of cottonseed oil during the past year were recorded at 33,042,848 gallons, worth \$12,992,393, showing a decline of 16,313,893 gallons in quantity and \$3,548,928 in value when compared with the exceptionally high figures of 1901. Owing to a considerable advance in price, however, the loss in value was less marked than that in quantity. During 1902, the export price averaged 39.3 cents per gallon, whereas in 1901 it was only 33.5 cents per gallon.

FRUITS AND NUTS.

Fruits and nuts form another item in our agricultural export trade that showed a decline during 1902. The shipments for that year were valued at \$8,719,344, or \$2,107,307 less than the value reported for 1901. It was in the exportation of fruits, which comprise by far the larger part of this item, that the loss occurred. Our fruit shipments for 1902 had a value of only \$8,415,103, falling short of the preceding year's record by \$2,192,805. Exports of nuts, on the other hand, although comparatively small, showed a considerable increase.

SEEDS.

The business of exporting seeds increased somewhat during 1902, in which year the United States sent to foreign markets shipments worth \$3,027,824. Compared with the record for 1901, there was a gain of \$1,643,009 in value. A larger export trade in flaxseed contributed to this growth.

DAIRY PRODUCTS.

Dairy products were exported in diminished quantities during 1902. The value recorded for that year was only \$7,104,770, or \$2,298,952 below the figures for 1901.

Butter.—Our exports of butter last year had a value of \$2,885,609, the amount shipped being 16,002,169 pounds. In comparison with the records of 1901, the value declined \$1,129,296 and the quantity 7,241,357 pounds. The annual export price, which averaged 17.3 cents a pound for 1901, advanced in 1902 to 18 cents a pound.

Cheese.—In the exportation of cheese there was a still greater falling off than in the case of butter. Our cheese shipments for 1902 amounted to only 27,203,184 pounds, worth \$2,745,597. These figures show a decline of 12,610,333 pounds in the amount exported, with a loss of \$1,205,402 in value. The annual export price per pound averaged 9.9 cents for 1901 and 10.1 cents for 1902.

Rivers of Milk

Are flowing now in Kansas. Every day the torrent is growing stronger and deeper. Every farmer in Kansas should be milking a bunch of cows. Every cow will raise a calf and make from \$2.00 to \$5.00 worth of butter-fat every month besides. Invest now.

Get a Hand Separator

A De Laval will pay for itself in a few months. Your skim-milk will raise the calf or your pigs. Nothing like it in the world. The De Laval is the separator which stays so long it gets to be a member of the family. The question is not "How can I afford to get it" but "How can I afford to do without it."

Our Prices the Highest

Because we have sought out the best markets, widened the outlet, and procured the biggest contracts. Because we make our money by a small margin on a great number of pounds, instead of having to charge a heavy margin on a few pounds.

We Lead, Others Follow

Other concerns pay good prices to some people all the time and to all their people some of the time but we pay the best prices to ALL the people ALL the time. Don't tie up with a concern that has only gall for capital, but with this company which has its all invested in Kansas and is setting the pace. Write us or see our operators.

CONTINENTAL CREAMERY CO., TOPEKA, KANSAS

Experience With Turkeys.

One of the drawbacks of raising turkeys is the loss of eggs during the laying season due to the turkeys going a distance from home to make their nests, says the Reliable Poultry Journal. Some nests are not found, and often they are broken up by dogs, and the hen, after she has commenced to sit, can not be so easily looked after as if she were near at hand. If the turkeys could be confined during the laying season, without an inurious effect upon the production and fertility of the eggs, a great saving of time and loss would result. With this in view, an experiment was conducted to show the effect of confinement upon the production and fertility of eggs. In this experiment two breeds were used, Bronze and White Holland.

Two hens of each variety, all of which were 2 years old, were used. The Bronze tom was 1 year old, while the White Holland was 3 years old. Each lot was confined to a run 80 by 100 feet. They were given a variety of food. In the morning they were fed a mash composed of equal parts wheat bran and cornmeal. On alternate nights they were fed whole corn and wheat. Oyster shell was before them all the time, and they were fed ground bone and meat scrap twice a week. Two nests, thirty-six inches square, were made in each run. They were covered over the top to keep out the rain and a few brush were thrown in front of each nest to make them private.

The following table shows the number of eggs produced. The eggs were gathered each day and none were lost:

	Com- menced laying.	Stopped laying.	No. of eggs pro- duced.
Bronze.....	March 26	April 22	42
White Holland.....	March 24	May 4	36

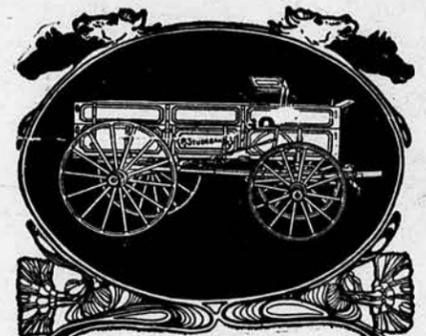
The following table shows the effect of confinement on fertility of eggs:

	No. of eggs set.	No. of fer- tile eggs 10th day.	No. of tur- keys hatched.
Bronze.....	42	38	27
White Holland.....	36	27	15

During incubation, four eggs were broken by the Bronze hens and six were broken by the White Holland, all of which were fertile. The eggs that did not hatch were those laid during the first two weeks.

Can He Cut Alfalfa with a Binder?

EDITOR KANSAS FARMER:—I would like to ask if any of my brother farmers have had any experience with cut-



No Favors.

Impartial Time bestows none in passing on vehicles. Each is judged by its fitness and the service rendered. It is through more than half a century's duty that

Studebaker Vehicles and Harness

have acquired the good opinion of all users. The verdict is that they are staid, staunch, dependable goods, that give full value everywhere and always. There's variety and fitness for all services, good taste, style, and above all, **Honesty in Make and Material.** You are entitled to these things for your money. The place where you are sure of getting them is the Studebaker local dealer. Catalogue and particulars sent direct on request.

Studebaker Bros. Mfg. Co., SOUTH BEND, IND.



ting alfalfa hay with a self-rake machine? Will it cure in the bunch the same as flax? I have 30 acres to cut this season. A. B. BLAZER. Neosho County.

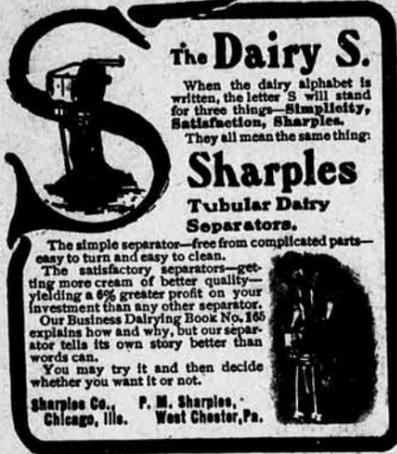
Experience is a teacher that insists on compulsory education and the tuition is high. Read our "Blocks of Two" again.

The Dairy S.
When the dairy alphabet is written, the letter S will stand for three things—Simplicity, Satisfaction, Sharples. They all mean the same thing.

Sharples Tubular Dairy Separators.

The simple separator—free from complicated parts—easy to turn and easy to clean.
The satisfactory separator—getting more cream of better quality—yielding a 6% greater profit on your investment than any other separator.
Our Business Dairying Book No. 165 explains how and why, but our separator tells its own story better than words can.
You may try it and then decide whether you want it or not.

Sharples Co., P. M. Sharples, Chicago, Ill. West Chester, Pa.



In the Dairy.

Conducted by George C. Wheeler, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

ANSWERS TO INQUIRIES.

Raising Calves for the Dairy.

In raising calves for milch cows, I would like to know the kind and quality of food which should be given at the different ages as found by your experiments? Do you recommend dried blood put in the milk? I simply want cows that will produce good quality and quantity of milk.

J. S. MANN.
Cowley County.

The first few days after birth, the heifer calf designed for the dairy should be allowed to suck its mother, or at least have its mother's milk fed to it warm and fresh three times a day. The best results are usually obtained by keeping the calf on whole milk about two weeks after birth. It should be fed at blood heat about two quarts night and morning and one quart at noon. After about two weeks of whole milk feeding three times a day, it may be gradually changed to skim-milk and fed regularly twice a day.

The feeder must watch the calf, continually noting especially the condition of the bowels. Any tendency to scour calls for an immediate reduction in the quantity of milk given. It may be necessary to omit a feed or two entirely.

The calf will very soon begin to eat a little prairie or timothy hay. Young calves had better not have clover or alfalfa as it is too laxative. At this period something must be added to the ration to take the place of the butterfat which had been taken from the milk. It has been found by all the experiments along this line, that the starchy grains will supply this deficiency. At the Kansas station we have found the most satisfactory grain ration for the dairy calf to be shelled corn, ground Kafir-corn, and bran, equal parts by weight. Calves being raised for the dairy herd must not be allowed to lay on any surplus fat, so any tendency in this direction must be guarded against. The calf must be induced to consume all the bulky feed possible so as to develop a large stomach capacity.

The calf may be induced to eat grain by having a little thrown into its mouth immediately after drinking its milk. Never attempt to feed grain with the milk. By all means have some stanchions to confine the calves while drinking, and as soon as the milk is disposed of, put the grain into the trough. By this method of feeding grain, calves will not be inclined to suck each other's ears so much. The grain may be gradually increased until a calf 6 months old will consume about three pounds a day.

As to the amount of skim-milk fed it should be remembered that nine or ten quarts a day is a good feed for a calf 6 months old. Many feeders give entirely too much skim-milk, apparently on the theory that a larger quantity will make up for the deficiency in fat. Definite rules as to quantity fed cannot be laid down. The feeder must constantly exercise his judgment, based upon his observation of the calf's condition from day to day.

The calves should have comfortable, dry quarters. They should have access to fresh, pure water and a box of salt should be kept in the pen. Very young calves may be allowed to run on pasture, but from about 4 weeks to 4 months old the skim-milk calf will do better if kept off pasture and allowed dry hay only for roughness.

We have used dried blood at the Kansas station as a remedy for scours, and in case of a very weak or debilitated calf, very satisfactorily. Dried

blood is a very concentrated feed and only a very small quantity should be fed, not over a spoonful or two at a time. Some very bad cases of scours have been cured among our calves by this method. During the winter of 1901 and 1902 a bunch of calves were fed a grain ration containing dried blood. This experiment resulted unfavorably for the dried blood. The calves did not relish the ration and did not gain as well as those on the simple grain ration.

The aim in raising the dairy calf is to keep it steadily growing from birth to maturity without getting too fat. The fattening habit is very undesirable in the dairy cow. G. W. C.

Calf Stanchions.

By giving us a more complete description of the calf stanchions illustrated in the KANSAS FARMER of March 19, 1903, as regards their height from floor; length of upright; space between calves, etc., you will confer a favor upon some of the readers of the "old reliable." C. W. D.

Saline County.
The stanchions illustrated in article referred to are constructed in sections of ten each. The top and bottom rails are formed by two six-inch, rough boards, the upright being nailed between them. The fixed upright is also made of rough lumber, either cypress or yellow pine fencing. The movable part of the stanchion must be made of some thinner material so as to move freely in space between the two boards of top and bottom rail. Ours are made of four-inch dressed yellow pine which is less than an inch thick, while the rough cypress or yellow pine is a full inch or a trifle over. The uprights are cut three feet long, thus leaving a space of two feet up and down in the clear. The moveable piece must be about two inches longer so as to project slightly above the top. It is pivoted by a wire nail through lower end.

The distance between the calves when locked in is just two feet—that is, two feet from center to center. Four and a half inches is allowed for the calf's neck and the space to the left of the movable piece must be wide enough to allow the stanchion to open from seven and one-half to eight inches to admit the head of calf. The upper end of the movable piece must be sloped off as shown in the cuts in article referred to.

The bottom of the stanchion used at the college is placed six inches above the level of the calf's feet. The alley side is a foot lower for convenience in feeding. These stanchions must be securely fastened at the ends and should also have a rigid post in the middle. It will not require an expert carpenter to construct the stanchions described. Any man reasonably handy with tools can make them. G. C. W.

The Ten Commandments of the Calf.

A. F. TURNER.

1. Thou shalt not over-feed me; for verily I am a greedy thing and know not when my abdomen is sufficiently dilated.
2. Three days shalt thou feed me my mother's milk, and for seven days shalt thou leave therein all the butterfat, but after this shalt thou change my diet gradually to skim-milk.
3. Thou shalt not steal—the fat of the milk and leave it void thereof—but verily shalt thou return to me fat in other substance, as in corn or Kafir-corn-meal and the hay of the prairie-grass.
4. Verily shalt thou wash my eating vessels clean, and my grain shalt thou give me unmixed with milk, that I may gain the fat thereof and not scour my poor little self to death.
5. Thou shalt not be unkind to me nor impatient, neither shalt thou expect of me to be wiser than thou art, else would I be called upon to instruct thee in the art of drinking milk.
6. Thou shalt follow the Golden Rule, and do unto me as thou wouldst have me do unto thee.
7. Thou shalt not lie and slumber until my poor sides to each other cling before thou feedest me, but thou shalt look to mine appetite that it be regularly satisfied.
8. Thou shalt feed me no oil-meal or alfalfa in the days of my youth, but rather of fattening and binding feeds shalt thou give me to eat.
9. Sunshine and exercise shalt thou give me in abundance, and shelter from the storm shalt thou provide.
10. All these shalt thou do unto me that I may live long and increase my weight, and I will add unto thee many pleasures, I will give unto thee large houses and fine farms, and many luxuries will I add unto thee in the days of the slaughtering time.

DE LAVAL CREAM SEPARATORS ARE SO MUCH BETTER THAN OTHER CREAM SEPARATORS

BECAUSE.—They are constructed under many all-important patents, which cannot be used by any other manufacturer and which enable De Laval machines to skim cleaner and produce a more even and more thoroughly churnable cream than is otherwise possible, at much less speed and wear, and with much greater ease of operation.

BECAUSE.—The De Laval makers have ever been first and foremost in the manufacture of Cream Separators throughout the world—have ever led where others follow—their factories being among the finest machine shops in the world and their knowledge of Cream Separators far greater and more thorough than that of any comparatively inexperienced would-be competitor.

BECAUSE.—The one purpose of the De Laval makers has ever been the production of the very best Cream Separator possible regardless of cost, instead of that mistaken "cheapness" which is the only basis upon which any would-be competitor can even make pretense of seeking a market.

BECAUSE.—The vastly greater sale of De Laval machines—ten times all others combined—enables the De Laval makers to do these things and much more in the production of the perfect Cream Separator that no one else could attempt.

A De Laval catalogue explaining in detail the facts here set forth may be had for the asking.

The De Laval Separator Co.

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217-221 Drumm St.,
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General Offices:

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121 Youville Square,
MONTREAL.

75 & 77 York Street,
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248 McDermot Ave.,
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U S U S U S U S U

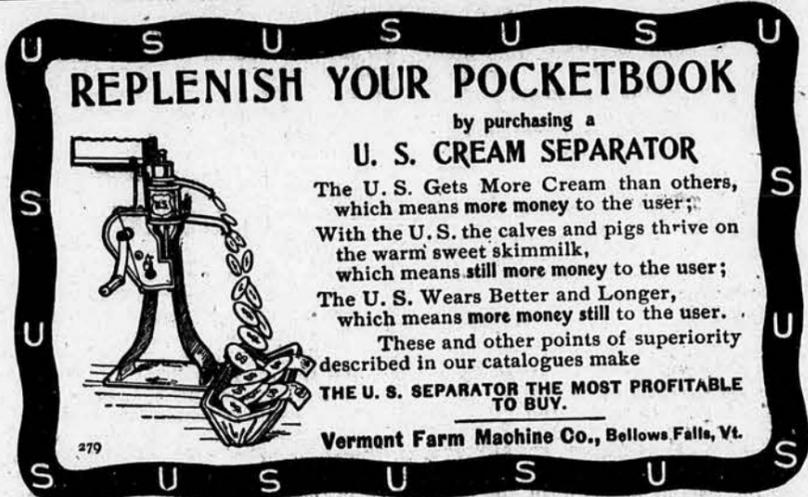
REPLENISH YOUR POCKETBOOK

by purchasing a
U. S. CREAM SEPARATOR

The U. S. Gets More Cream than others, which means more money to the user;
With the U. S. the calves and pigs thrive on the warm sweet skimmilk, which means still more money to the user;
The U. S. Wears Better and Longer, which means more money still to the user.

These and other points of superiority described in our catalogues make
THE U. S. SEPARATOR THE MOST PROFITABLE TO BUY.

Vermont Farm Machine Co., Bellows Falls, Vt.



For Western trade we transfer our Separators from Chicago, Minneapolis, and Omaha. Address all letters to Bellows Falls, Vt.

Take Better Care of the Milk.

E. W. M'CRONE.

Much complain is often made, and justly, by creamerymen and skimming-station operators, of the quality of the

milk brought to them. It has lately been the privilege of the writer to inspect the milk as it was received at a Kansas creamery, through a method of about three months. On Monday morning throughout this period, samples

were taken from the milk brought by each patron. These samples showed all gradations of quality. Some samples were good, others had flavors contributed by such feeds as turnips, cabbage, or ragweed; some had flavors received from the filth of dirty stables, while still others bore the unmistakable taint of badly washed cans and utensils. Samples taken from milk brought by one or two patrons were invariably good through the whole period; which fact goes to show that with proper care a much better quality of milk may be produced than the average farmer is now delivering.

Some farmers seem to think that if they get their milk to the creamery in a condition in which it will be accepted by the man at the weigh-can they are doing well enough, and it is nobody's business but their own. True, those farmers get as much for their milk as any one else, but they reduce the price of every patron's milk. The bad milk and the good milk are always dumped into the same vat, making it all alike bad. Thus the patron who is careful and always brings a good quality of milk has to take the same price as his neighbor who brings his milk in dirty cans. Pasteurization and the use of pure-culture starters can not completely overcome the effect of stable filth and unclean utensils. No skill of the butter-maker can produce so good an article from milk in this condition as he could if it were handled properly from start to finish.

With a little better knowledge of conditions effecting milk, and a little more care in handling the same, the farmers may be able to avoid most of the bad results. When the Kansas creamery patron comes to realize the importance of the proper feeding of his cows, the powerful germicidal properties of sunshine, hot water, and various washing powders in the cleansing of utensils, and applies this knowledge in the care of milk, then will the Kansas creameryman be able to produce the best butter and get the best prices in all markets, and the creamery patron will realize the profit.

The Uncrowned Monarch.

EDITOR KANSAS FARMER:—For the past year all our daily papers and many of our magazines have devoted much space to the discussion of trusts, the benefits derived therefrom and the attendant evils. The opinions of the great and good, the grasping and selfish men have been quoted repeatedly upon this momentous subject, but still the strife goes on and the end is not yet in view.

Nearly fifty years ago, Abraham Lincoln said, "You can fool all the people part of the time, part of the people all the time, but not all the people all the time." Lincoln himself sprang from the people and always recognized that the strength of the Nation lay in the people.

Right there is the key to the solution of this perplexing subject. If the people, the actual producers, the farmers of the United States, would array themselves against the great packing houses—call it a trust or what you will—and hold together loyally, all the millions that pour annually into the coffers of a few would be distributed among the toilers. But it is only by united, organized action that this can be brought about.

It is the mortar between the bricks that holds the building together. In this great structure—the American Nation—it is the people—not a handful of millionaires—that constitute the mortar.

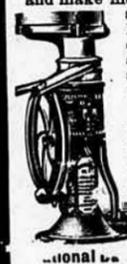
Seneca tells us the slaves in ancient Rome were at one time so numerous that the government prohibited their wearing a distinctive dress lest they should learn their strength and discover that the city was in their power.

To-day, in the United States, the

End Your Butter Troubles

with a National Hand Separator and make more and better butter from same quantity of milk. The National will do it easier, quicker and pay its cost in a very short time. We don't ask you to take our word—we send the machine for **10 Days' Free Trial** and let it prove its worth right in your own dairy. You take no risk—we assume it all. If it does not meet your expectations, send it back—we pay the costs. Our catalogue tells more write for it, it's free.

National Hand Separator Machine Co., Newark, N. J.



power is within the grasp of the people waiting, nay crying aloud for them to claim their own.

Recently President Roosevelt said, "We are no more against organizations of capital than against organizations of labor. We welcome both, demanding only that each shall do right and shall remember its duty to the republic. * * * I think I speak for the great majority of the American people when I say that we are not in the least against wealth, as such, whether individual, or corporate; that we merely desire to see any abuse of corporate or combined wealth corrected and remedied; that we do not desire the abolition or destruction of big corporations; but on the contrary recognize them as being in many cases efficient economic instruments, the results of an inevitable process of economic evolution; and only desire to see them regulated and controlled so far as may be necessary to subserve the public good."

Now is the time for the farmers—the men without whom the country can not exist—to step in and take a hand at this trust game. Let them own their own packing houses, each farmer taking stock according to his means, even if it be only one \$10 share. Then will each man receive a just profit on his cattle, his poultry and his eggs, where now he sells for what the packers will pay, and the packers sell at their own price to the people. In the same way should the farmer control the grain market.

The people are with the farmer. The present administration stands for right and justice regardless of the frowns and menaces of Wall Street.

Truly the farmer is king. A golden opportunity is before him. Where is the powerful leader from the ranks to start the ball rolling? Once in motion the momentum would be so tremendous no earthly force could check it.

Douglas County. E. S. A.

Every man should so live that a brass band will not be necessary to draw a crowd at his funeral. Subscribe for the KANSAS FARMER and you can do it.

The Nickel Plate Road

is the short line to the East and the service equal to the best. You will save time and money by travelling over this line. It has three through daily express trains, with through vestibuled sleeping-cars, and American Club Meals, ranging in price from 35c to \$1.00, are served in Nickel Plate dining-cars; also a la carte service. Try a trip over the Nickel Plate Road and you will find the service equal to any between Chicago and the East. Chicago depot: Harrison St. and Fifth Ave. City Ticket Offices 111 Adams St. and Auditorium Annex, John Y. Calahan, General Agent, 113 Adams St., Room 238, Chicago.

COLONIZATION OF THE SOUTH-WEST.

Aid and Inducement Offered by the Missouri Pacific Railway.

The Missouri Pacific Railway is bending every effort towards developing the agricultural, mineral, and industrial resources of the West and Southwest. To attain this end, it asks the aid and cooperation of every farmer, miner, merchant, and professional man along its lines.

The development of the products of any section of the country means just so much more capital to be spent in that section. Prosperous neighbors make a prosperous community, especially if they live and have their interests at home.

It is this class of persons that the Missouri Pacific Railway asks the patrons along its lines to invite to their sections.

You furnish the names and addresses, and we will furnish the necessary descriptive and illustrated literature to induce them to settle in your community.

We wish to colonize the West and Southwest and offer every inducement in the way of excellent transportation facilities and low rates to all prospective settlers and homeseekers.

H. C. TOWNSEND
General Passenger and Ticket Agent,
St. Louis, Mo.

Great Colonist Movement.

Indications point to an unprecedented rush to the marvelous agricultural regions of the Northwest, and thousands of homeseekers from all parts of the East are already on their way to take up Government lands, or purchase them outright.

Vast bodies of land are open to any taker on payment of small fees. The State of Oregon has nearly 500,000 acres of selected school lands that it offers at \$1.25 per acre, only 25 cents an acre of it in cash and the rest on long time.

This wonderful region has been aptly termed "A land of gold and golden grain," where crops never fail and the rewards of intelligent industry are certain. The climate for mildness and equability is unrivalled anywhere.

No other part of the United States or of the world has greater or more valuable opportunities to offer to intelligent and industrious seekers for homes and competence than the Pacific Northwest, Oregon, Washington, or Idaho.

To enable persons to reach these localities at a minimum expense, the Union Pacific has arranged, beginning with the third Tuesday of March and the first and third Tuesdays of every month until July 16, 1903, a round trip rate of one fare plus \$2 to the West, northwest Idaho, Oregon, and Washington. Information cheerfully given by Union Pacific agent.

An Army Invades Kansas.

A year ago a few modest, delicate, unobtrusive Empire Separators went into Kansas with glad tidings of joy to the patient dairymen who had waited for years to receive the reward promised them, but which reward has never come. This little group of silent workers met some "bullies" and were told to go back from whence they came. When this noisy bluff failed, they were laughed at and made all kinds of fun of. They were told they were too little, too insignificant, too weak, and every now and then some great big duffer, who imagined himself proof against any kind of exposure would douse this little visitor with ice milk. But this little band of crusaders (who soon won favor with that element in whom everybody is interested—the women and children) continued to carry their silent message of a better way to handle milk, and they sent back to their old home for more help to tell this beautiful story of less work, less expense, better calves and above all a market from 25 to 50 per cent better than the old one. Each silent appeal brought a helper until at the expiration of the first year. There are 3000 of these little simple, silent workers preparing (in their easy way) the cream from 100,000 cows to be shipped to the Blue Valley Creamery Co., of St. Joseph, Mo where the highest price is paid. Do you want to know more? If you are interested write us.

YOURS FOR BETTER RESULTS,

Blue Valley Creamery Co.

Davis Cream Separators



**BEST IN THE WORLD
EASIEST CLEANED
MOST DURABLE
CLOSEST SKIMMER**

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Commands big wages. We teach the best system in existence and can train you for a good position. NATIONAL CORRESPONDENCE SCHOOL OF DRESS-MAKING, Dept. C, Des Moines, Iowa.



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We will send any bicycle to any address with the understanding and agreement that you can give it 10 DAYS' FREE TRIAL and if you do not find it easier running, handsomer, stronger, better finished and equipped, more up to date and higher grade than any bicycle you can buy elsewhere at \$5.00 to \$15.00 more money, you can return it to us at our expense and you will not be out one cent.

\$10.95 Buys our new HIGH GRADE 1903 NEWTON BICYCLE, which we guarantee stronger, easier riding, better equipped; better frame, wheels, hubs and bearings than you can get in any other bicycle for less than \$20.00.

OUR 1903 NAPOLEON BICYCLE is priced at about ONE-HALF the lowest price asked by others. For Free Bicycle Catalogue, hundreds of price surprises in bicycles and supplies, our Free Trial and Guarantee Proposition and our Most Astonishing Offer, cut this ad. out and **SEARS, ROEBUCK & CO., CHICAGO** mail to

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Beautifully Engraved

This perfect 14 K. Gold-Filled Case with Standard Movement, fully jewelled and guaranteed timekeeper, equal in appearance and utility to the best \$35 watch

Will be sent C. O. D. \$3.85 with privilege of examination. If the watch is the best bargain you ever saw, pay the express agent \$3.85 and expressage and it is yours; or sent prepaid upon receipt of price. Ladies' or gents' size.

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American Finance Co., Dept. G, Baltimore, Md.

The Poultry Yard.

The Farm Hen.

EXTRACTS FROM A PAPER READ AT THE WISCONSIN STATE AGRICULTURAL CONVENTION, BY J. L. HERBST.

The most valuable piece of property on the farm, considering size, time required to take care of, quarters required to house and feed, is the farm hen.

Since my advent into the poultry business and from what I have experienced in this line of work it has been a wonder to me why the farmers do not give more attention to this part of farm work than they do. Did you ever stop to think that one hen properly fed and taken care of can be made to produce for the owner a net gain of \$1.25 to \$1.50 in the course of a year?

Now how does this compare with the dairy cow? At the experiment station a few years ago a cow gave a profit of \$92.23. She weighed 1,137 pounds, or for every pound of flesh her profit was a trifle over 8 cents. The hen netting \$1.20 and weighing 51 ounces would produce for every pound of flesh 20 cents. A vast difference between 8 cents and 20 cents, or a difference of 12 cents in favor of the hen. I simply give these figures to show that the hen is not so far behind the times, after all, and no wonder the rooster crows and puts on a good deal of pride to have such a valuable mate.

But this can not be done with every hen any more than every dairy cow can be made to net the owner \$92.23. Cows like this are scarce and hard to get. But many a hen can be made to net the owner at least \$1 per year.

It cost \$39.60 to feed the cow referred to, while this same amount of money would feed fifty hens. These hens should give to the farmer in the course of a year, if properly fed and handled, 700 dozen eggs, which at an average of 15 cents per dozen, would be \$105 or a profit of \$65.

Taking the State over, probably not more than ten in every one hundred of the farmers give the care and attention to the poultry necessary to place them on a paying basis. Or, in other words, do those who are raising poultry know whether they are making enough to pay them for the feed and time expended?

Poultry to be profitable should be given care and attention and fed regularly those foods which contain those properties necessary for their welfare. During the summer months when they have free range but little work will be required. They secure the various foods necessary for the production of eggs, and there is no trouble to secure fresh eggs and plenty of them every day, and as a rule, the market is filled and eggs are cheap. I do not care how many eggs my hens produce at this time of the year and should prefer them to lie idle, but on the approach of winter I want them housed and fed properly and when eggs are scarce I want them. There is some satisfaction in getting 20 cents to 25 cents and even 30 cents a dozen for them, when, as a rule, they are only worth about 10 cents in the summer months.

Try to make the hen's condition in the winter as near as you can to the summer months. Of course you will have the cold weather as the worst drawback. Make your house as warm as possible without using a heating apparatus, and ventilation should be of such nature as to admit fresh, pure air and carry off the bad, impure gases that generate. I consider a good hen-house one of the first essentials and most important necessities for the well being of the hen.

The breed should come next and in this you must use your best judgment. The farmer will want a variety that will produce both eggs and flesh. But here we have the trouble that the farmers have with the cow. They have, as yet, failed to produce the dairy cow that is also a good beef breed and vice versa. The same rule is true of poultry. You must sacrifice one for the other. We have plenty of breeds that are used as general-purpose fowls, such as the Plymouth Rocks, Wyandottes, and in fact all the American class. The Asiatics, such as the Brahmans, Cochins, and Langshans, are of the heavier type and not considered as good in laying qualities as the other breeds. While they may do as market fowls still in this they have their drawbacks, as they are slow to mature and the flesh is coarse-grained. The Mediterranean class, including Leghorns, Spanish, and Andalusians, seem to be the best for egg-producing qualities, but as market fowls are almost worthless.

For the farmer, I should advise the

use of Plymouth Rocks or Wyandottes, and another breed that has lately come into prominence, the Cornish and White Indian games. These last two are not fighters as the name "game" implies; no more so than the Rocks or Wyandottes.

I do not advise cross-bred fowls for the farmer who wishes to make the most out of his flock. What I strongly advocate is the raising of full bloods in preference to the common dunghill fowls, or in other words, the infusion of new blood each year or two instead of incrossing year after year. The farmer who each year will send to market all the inferior stock, such as are called culls (and you will always get these among the best of fowls), those birds that are inferior in size for breed they represent and those whose laying qualities are such as not to repay for the food and time expended, will have his flock soon on a paying basis if proper quarters are given, and they are provided with the necessary food and attention.

To do this you must make their winter life as nearly like the life they lead in the summer as you possibly can. They must have warm quarters, plenty of pure air, a variety of food with plenty of grit and exercise.

The morning feed of my flock consists of equal parts of bran, corn, and oats, made into a mash by the use of warm water. To this is added occasionally a little poultry feed mixture. I give just enough of this to create a good appetite. About twice a week I mix in this mash boiled potatoes, carrots, and mangel wurtzels, and a little onion to flavor. Immediately after this mash they are given a mixture of grains, such as wheat, oats, barley, and the like, thrown in amongst straw or any coarse litter in which they are made to work for it. Their evening meal consists of corn and occasionally buckwheat. As these have heating qualities in them, I consider this the best time to feed these grains. They have continually before them plenty of fresh water, grit, and oyster shells.

Probably one of the best foods in grains for the laying hen is oats, but they must be carefully fed. Plenty of grit must be given them with this food, or better scald them the night before and give them in a soaked condition, but drain them off before feeding so. Cabbage hung up for them to pick at will furnish them with green food, or if this is not to be had, cut clover hay, scalded, will answer the same purpose.

Nearly all the above foods mentioned are to be had on all farms and if properly fed will give surprising results. The above is my method of caring for my several flocks, and I have no trouble in getting plenty of eggs and at the time of the year when they bring the best prices. My flocks are in a healthy condition and as soon as I find a bird not appearing right, she is immediately removed from the flock until I am satisfied she is perfectly well.

Care of Young Chicks.

BY IDA E. TILSON, IN FARM, STOCK AND HOME.

BROODING.

Newly hatched chicks better not be put in brooders with older ones, as the latter require coarser food, lower temperature and more air. They will rob and run over the tiny tots. So buy brooders enough to last chickens 5 or 6 weeks, or make some home-made brooders, at least. A box lined with wool, and having a slashed cloth door, is the only thing I know of to take the place of a lamp. Chicks 3 weeks old are not strong enough to be removed from a warm brooder to ordinary coops. Ducks can be, by rapidly but gradually reducing brooder heat. They leave brooders very early of themselves. By the way, duck's-eggs set under hens generally do well in a ground nest. Choose a slow, old sitter, that will not race the tots around when they do come off, with their short, waddling legs.

LICE.

Ravenous hunger, pale faces and wattles indicate lice. Look the chicks over early, and the turks, too, for these pests. I prefer applying some powder, rather than grease, till the birds are about six weeks old.

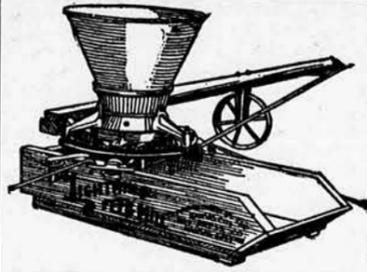
WETTING.

Sudden showers are very fatal to poults, ducklings and chicks. Plan to get them under cover when storms threaten. That is more satisfactory than drying them afterwards.

AIDS TO HEALTH.

Powdered charcoal cures looseness of bowels. Onion tops keep the liver

Lightning Feed Mill.



Greatest Capacity, Lightest Draft, Quintuple Gear, Roller Movement. KANSAS CITY HAY PRESS CO., 129 Mill St., Kansas City, Missouri.

POULTRY BREEDERS' DIRECTORY.

SILVER WYANDOTTES—Standard bred, farm range, prize winners for fourteen years. Eggs 100 for \$4. Mrs. J. W. Gause, Emporia, Kans.

BARRED PLYMOUTH ROCKS—Special summer prices. 15 eggs, 60 cents; 30, \$1. E. J. Evans, Box 21, Fort Scott, Kans.

BLACK MINORCAS—World's greatest laying strain, beautiful in shape, color, and comb, grand winter layers. Eggs \$1.50 per 15, \$4 per 100. George Kern, 817 Osage st., Leavenworth, Kans.

FORTY Barred Plymouth Rock hens for sale at a bargain; the kind that wins the ribbons. Extra heavy boned, deeply barred, good layers. \$1.25 a piece. W. P. Rock eggs reduced to \$2 per 15; B. P. Rock eggs \$2 per 17. Mr. & Mrs. Chris. Bearman, Ottawa, Kans.

SIX EGGS FREE—Enclose this Ad. and get 21 White Wyandotte eggs for \$1.50. Fresh, fertile, and from prize stock. L. D. Arnold, Salina, Kans.

EGGS, EGGS—From thoroughbred Toulouse geese, Rouen ducks, White Holland turkeys, Buff, Brown and Black Leghorns, C. I. Games, Houdans, Buff Cochins, S. S. Hamburgs, Plymouth Rocks, Buff, White, and Silver Laced Wyandottes, Seabright Bantams and guineas. Eggs at \$1 per setting for all varieties. Also all kinds of fancy pigeons for sale. Satisfaction guaranteed. Write to D. L. Bruen, Box A, Oldenbusch, Nebraska.

CORNISH Indian games, White Plymouth Rocks; score 93½ and 94; eggs \$1.50 for 13; \$2.50 for 26. C. I. G. cockerels, \$1.50 to \$3, scored. Mrs. J. C. Strong, Moran, Kans.

POULTRY FARM—Breeders of Light Brahmans, Plymouth Rocks and Partridge Cochins, took first second and third on Light Brahmans; first, second, and third on Partridge Cochins at Fort Scott show. A few good cockerels for sale. Eggs in season. \$1.25 per 15. G. W. Shuman, Fort Scott, Kans. Rural Route No. 1.

EGGS—From thoroughbred Rose Comb Brown Leghorns and Cornish Indian Games \$1.25 for 15. Mrs. John Holzhey, Bendena, Doniphan Co., Kans.

PURE S. C. B. Leghorn eggs, 30 for \$1; \$3 per 100; entire new blood. Orders promptly filled. F. P. Flower, Wakefield, Kans.

TWO YARDS S. C. B. LEGHORNS—15 eggs \$1. John Black, Barnard, Kans.

D. M. TROTT, Abilene, Kansas. Choice Barred Plymouth Rock eggs, \$1. per 15.

PURE-BRED POULTRY—Silver Wyandottes, Buff Wyandottes, Dark Brahmans. Write for terms to M. D. King, Minden, Neb.

WHITE, LIGHT, WHITE PLYMOUTH ROCKS, the prize-winners at the Kansas State Poultry show, 1903. Remarkable for clear white plumage united with exceptional size and shape. Eggs from our best matings, \$2.50 for 15. Usher & Jackson, 1735 Clay St., Topeka, Kans.

FOR SALE CHEAP—Pedigreed Scotch Collie pups. W. H. Richards, V. S., Emporia, Kans.

regulated and bowels open. Fine grit, such as hens have picked over, or coarse grit sifted, will help digestion and growth.

FEEDING.

Keep the young things growing. One day's neglect means 10 for repairs. Feed five times a day at first. Give just what will be eaten up clean, and feed on a piece of board or shingle; then scrape it off and put it away for next time. Eating their own droppings mixed with food has killed many chicks. The ground around them is nearly always filthy. After a chick is a few days old, whole wheat and millet are good. Earlier, crack the wheat in a coffee-mill. Feed pin-head or rolled oats. Not till chicks are about six weeks old can they take home-ground oats. Some feeders advise against millet seed for chicks; others recommend it highly. I go between, and say that like everything else, it is good in combinations. Variety of food overworks no part of the digestive apparatus.

FEEDING TO SELL OR KEEP.

I would rather sell or eat my cockerels than squab my pullets. But if cockerels are separated as soon as they can be distinguished they can be corn fed. If all the chicks are intended for broilers, they may have cracked corn when a week old and from then on. But the future layer needs building material rather than fattening. Even in fattening fowls there is less corn used now than formerly. Wheat makes better flesh. The fat from corn fries away and leaves a drier carcass than a wheat- or oat-fed one. Liberally fed

FOR SALE—Light Brahma cockerels, \$1.00 each; four for \$3.00. WANTED—White Holland turkeys. Nellie E. Stallard, Sedan, Kans.

FOUR young litters high-bred, pedigreed, Scotch Collie pups, for sale. Book your orders quick. Walnut Grove Farm, Emporia, Kans.

COCKERELS—Indian Games and Black Langshans, farm-raised, price \$1 each, if taken soon. H. Baughman, Wymore, Neb.

SILVER LACED WYANDOTTES—Exclusively the American Beauties. Choice birds. Sixteen years a breeder. Eggs \$1.50 to \$1 per 15. D. Tennyson, Frankfort, Kans.

PURE S. C. B. Leghorn eggs, 30 for \$1; entire new blood. Orders promptly filled. F. P. Flower, Wakefield, Kans.

BARRED PLYMOUTH ROCK EGGS—From fine flock Hawkins strain, 15 for \$1.50; 45 for \$3. Annie Wynkoop, Bendena, Doniphan Co., Kans.

EGGS—At \$1 per setting from our White Plymouth Rocks or White Wyandottes that will produce fine stock. W. L. Bates, 1829 Park Ave., Topeka, Kans.

SNOWFLAKE POULTRY FARM—R. C. W. Leghorns, W. Wyandottes, W. Guineas. Eggs \$1.50 per 15. Mrs. Winnie Chambers, Onaga, Kans.

EGGS FROM GEM POULTRY FARM are sure to hatch high-scoring Buff Plymouth Rocks. No other kind kept on the farm. 15 for \$2; 30 for \$3.50. Satisfaction guaranteed. M. B. turkey eggs, 11 for \$2. C. W. Peckham, Haven, Kans.

WHITE WYANDOTTES EXCLUSIVELY—Eggs—15, \$1.50; 25, \$2.50; 100, \$5. MRS. E. F. NEY, Bonner Springs, Kans.

WINNERS—White and Barred Rocks. Send for circular. Burton's Poultry Yards, Fort Scott, Kans.

COLLIE PUPS AND B. P. ROCK EGGS—I have combined some of the best Collie blood in America; pups sired by Scotland Bay and such dams as Handsome Nellie and Francis W. and others just as good. B. P. Rock eggs from exhibition stock; none better; 15 years' experience with this breed. Eggs \$1.50 per 15. Write your wants. W. B. Williams, Stella, Neb.

SCOTCH TERRIERS—Finest bred in this country. Feather Prince, the champion of Scotland, and sire of Nosegay Foxglove, out of the champion imported Romany Ringlet, best service at our kennels. G. W. Bailey, Beattie, Kans.

Rose Comb Brown Leghorns

Exclusively. Farm raised. Eggs per setting of 15, \$1. Incubator users write for special prices in 100 lots. P. H. MAHON, R. D. No. 3, Clyde, Cloud Co., Kans.

Sunny Summit Farm Pure-Bred Poultry.

Silver Spangled Hamburgs, American Dominiques, S. C. and R. C. Brown Leghorns, Barred and Buff Rocks, S. C. Black Minorcas, Mammoth Bronze Turkeys. Eggs \$1 per 15; turkeys \$2 per 9.

VIRA BAILEY, Kinsley, Kans.

BLAOK MINORAS

Biggest Layers of Biggest Eggs. Eggs for hatching, \$1.50 per 15. Also at same price eggs from choice matings of Light Brahmans, Dark Brahmans, Black Langshans, White, Silver and Golden Wyandottes, Barred and Buff Plymouth Rocks, S. C. White and Brown Leghorns, Rose Comb American Dominiques, Houdans, White Crested Black Polish, Buff Laced Polish. JAS. C. JONES, Leavenworth, Kans.

Blue Barred Plymouth Rock Eggs

from large-sized, high-scoring birds. Hens weigh 8½ pounds. Eggs safely packed for shipment two pens not related, \$1.50 for 15.

Mrs. J. C. Leach, Carbondale, - - Kansas.

Pure-bred Light Brahma Eggs For Sale.

EGGS from our best pen headed by a cockerel scoring 94 points, mated to twelve extra-fine pullets, for \$2 per setting of 15. Eggs from birds having run of the farm, \$1 per 15. Can furnish large orders for setting incubators on short notice as we have a large number of laying hens. Our stock is first-class and sure to produce good results that will please you. Address

F. W. DIXON, Holton, Kans.

Save Your Little Chicks

By feeding Mrs. Pinkerton's Chick Food. Send for circular telling how to feed and raise little chicks successfully.

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Barred Plymouth Rocks, White Plymouth Rocks, Buff Cochins, Partridge Cochins, Light Brahmans, Black Langshans, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs, Brown Leghorns, and Belgian Hares. First-class Standard Stock of Superior Quality. Stock For Sale. Eggs in Season. Write Your Wants. Circular Free.

A. H. Duff, Larned, Kans.



TWO GIRLS

hatch 2,183 chicks; one woman 716; one man over 2,000. New System incubator. Booklet free. F. GRUNDY, Morrisville, Ill.

BURR INCUBATOR.

You can get the best incubator on earth, \$8.50 up; all the latest improvements, no night watching, because we use our Five-Inch Double Wafer Regulator. 30 days trial. Send it back if you want to. Catalogue free. We pay freight.

Burr Incubator Co., Box 8 23, Omaha, Nebr.

broilers are to barnyard diggers as baby-beef is to ranch stockers.

THE FIRST FOOD.

Bread and milk is always good for little chicks. Eggs are best boiled half an hour and finely minced; or beaten raw and thickened with bread crumbs. One egg a day for a dozen chicks is enough. Fresh ground bone may be used when chicks are a week old.

Pudding, bread and milk, etc., sour soon, and sour food should not be fed to very young chicks. As nearly as possible prepare each meal as it is to be fed. Make sour milk slowly into crumbly cheese till chicks are six weeks old. When they come to take sour milk as a drink, add one-half teaspoon soda to a pan. Scald all ground grain. This swells meals more than cold water does, and prevents crop packing. For very young chicks bake coarse johnny-cake. If the crust bakes hard, give it to the old hens, or soak it. Broilers grow faster on puddings, but chicks on a mixed diet hold out better for future layers.

A GOOD PUDDING.

My favorite pudding is one-third each bran, middlings and corn-meal. Bran loosens and shorts or middlings bind. The two balance and are both builders. A little grease aids digestion, one tablespoon to four quarts of pudding is about right. They use tallow at the Nova Scotia Experiment Station. If one feeds millet, barley or corn, all fattening, some oil-cake or bean-meal in the pudding, a pint to 4 quarts of other materials, helps balance. Beans are still better for chicks if cooked. One successful poultry woman uses 2 quarts cooked beans, 2 quarts bran, 3 quarts middlings, 1 pint meat-meal and 1 teaspoon salt. Mix stiff with hot water. Chicks grow well on it.

Grange Department.

"For the good of our order, our country, and mankind."

Conducted by Ed. Blair, Cadmus, to whom all correspondence for this department should be addressed. Papers from Kansas Granges are especially solicited.

NATIONAL GRANGE.

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Lecturer..... N. J. Bachelder, Concord, N. H.
Secretary, John Trimble, 514 F St., Washington, D. C.

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Overseer..... J. C. Lovett, Bucyrus
Lecturer..... Ole Hibner, Olathe
Steward..... R. C. Post, Spring Hill
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A Model Address of Welcome.

Not everybody can make a fitting address of welcome. But addresses of welcome either suitable or unsuitable have to be delivered on many occasions. The Grange is a great teacher and it brings out abilities unsuspected. Following is an address of welcome delivered at Orchards, Wash., upon the occasion of a visit from National Master Aaron Jones. It is a good one, and the editor regrets that the local paper which reported the address did not give also the author's name:

"Worthy Master of the National Grange: The pleasing duty devolves upon me to tender you the welcome of the several subordinate granges in this vicinity, on your visit to us in this far-away section of our great country.

"We welcome you as the embodiment of the spirit and purpose of our organization. We welcome you as the worthy successor of its founders; of the men who, animated solely by love of their kind, conceived and originated the Grange; and who, in their singleness of purpose exemplified the loftiest sentiment of humanity, the love of their fellow man, in devoting their time and thought, without hope of reward, fame, or fortune, to bring into existence an organization for the material betterment, the social advancement and intellectual improvement of the most numerous but least remunerated industrial class of their country.

"We are members of this organization and are laboring to extend its field of usefulness, because we believe that it is only through organization that the tillers of the soil can obtain a fair share of the fruits of their labor. We are confronted with the fact in all our business transactions that we have no voice in regulating the price we receive for what we have to sell, nor in

the price we pay for what we have to buy. This economic disadvantage we believe to be unjust, and the main cause of the agricultural class being unable to keep abreast of the wave of progress making for a higher social existence and a more refined environment, which is so marked a feature in all other industrial activities of our time. Those other industries have found organization to be a remedy for the unequal opportunities which they claim to have labored under. We believe the same remedy will be practicable for us when, through increased membership and cooperation our organization shall have reached such proportions as will enable it to wield an influence that must be reckoned with by other industries in adjusting questions of economic and educational inequalities.

"To this end we are laboring for the principles of the Grange, and your presence amongst us here, to-day, Worthy Master, we recognize as an incentive to our endeavors; also a visible proof of the active efforts you and your colleagues at the head of the Grange are making for its more rapid extension."

Lexington Anniversary.

Lexington Grange celebrated its thirtieth anniversary on the evening of April 16. A program was arranged including Bros. Geo. Black, I. D. Hibner, Henry Rhoades, and Mr. and Mrs. W. C. Brown, all old-timers in Grange work. For reasons over which these expected visitors had no control, not one of them was able to attend the Lexington anniversary. But the Lexington home talent came to the rescue. In writing of the occasion to the Patron, Bro. Oliver C. Gordon says:

"Our young people, of whom we are blessed with a goodly number, having lately had an infusion of new blood, prepared a very entertaining program consisting of vocal and instrumental music by our Grange choir; also, Bro. Henry Pellett gave some of his choicest selections on his graphophone, and with the many short papers and declamations we had an evening long to be remembered for its glorious success.

"The harvest feast given a class of ten new members, and partaken of by all present, could not have been excelled by any. The great variety of the food, set off as it was by the interspersed of cut flowers, was prepared by a sister, a charter member, a great lover of beautiful flowers and one of six charter members present, who thirty years ago participated in the organization of Lexington Grange No. 94. One other charter member present, S. R. Miller (present by invitation), having long since lost his interest in our noble order, like many others, grew impatient of results, expected great political reforms, but on finding the Grange strictly non-partisan, passed on to something more promising (?). We here give the names of the charter members present, and who are still members and have been in good standing ever since our grange was organized, thirty years ago: Mr. and Mrs. Charles B. Pellet, Kate Pellet, G. B. Scott, Geo. W. Leamer, Mr. and Mrs. Oliver C. Gordon, and Eliza E. Gordon. Of the members present who have been members continuously for twenty-five years were Sisters Rachael Couch and S. J. Couch.

"With the new blood recently infused, our grange bids fair to survive many more anniversaries that will doubtless excel the one just passed.

"May the spirit of revival so clearly demonstrated in old Lexington, be spread abroad in the land, and so permeate and recuperate the many dormant granges of our State and Nation that life and vigor shall be seen and felt everywhere.

"With the help of the rural mail delivery and the telephone system in successful operation throughout the land, the farmer will yet occupy his rightful position at the head of the column."

Some men use language to conceal thought—others instead of it. When you advertise tell the truth and tell it plainly.

\$19.00 to Boston and Return \$19.00 with membership fee of \$2.00 added, account of annual meeting of National Educational Association. Tickets will be on sale via the Nickel Plate Road July 2d to 5th, inclusive, good returning from July 8th to 12th inclusive, without being deposited with joint agent. Additional limit to return not later than September 1st can be obtained by depositing return portion of ticket with Joint Agent and payment of 50c for execution. Superior train service and excellent dining-car meals, on American Club Plan, ranging in price from 35c to \$1.00; also a la carte service. Write John Y. Calahan, General Agent, 113 Adams St., room 238, Chicago, for time of departure of trains from Chicago and other detailed information: (3)



A prominent club woman, Mrs. Danforth, of St. Joseph, Mich., tells how she was cured of falling of the womb and its accompanying pains and misery by Lydia E. Pinkham's Vegetable Compound.

"DEAR MRS. PINKHAM:—Life looks dark indeed when a woman feels that her strength is fading away and she has no hopes of ever being restored. Such was my feeling a few months ago when I was advised that my poor health was caused by prolapsus or falling of the womb. The words sounded like a knell to me, I felt that my sun had set; but Lydia E. Pinkham's Vegetable Compound came to me as an elixir of life; it restored the lost forces and built me up until my good health returned to me. For four months I took the medicine daily and each dose added health and strength. I am so thankful for the help I obtained through its use."—Mrs. FLORENCE DANFORTH, 1007 Miles Ave., St. Joseph, Mich.

A medicine that has restored so many women to health and can produce proof of the fact must be regarded with respect. This is the record of Lydia E. Pinkham's Vegetable Compound, which cannot be equalled by any other medicine the world has ever produced. Here is another case:—



"DEAR MRS. PINKHAM:—For years I was troubled with falling of the womb, irregular and painful menstruation, leucorrhoea, bearing-down pains, backache, headache, dizzy and fainting spells, and stomach trouble.

"I doctored for about five years but did not seem to improve. I began the use of your medicine, and have taken seven bottles of Lydia E. Pinkham's Vegetable Compound, three of Blood Purifier, and also used the Sanative Wash and Liver Pills, and am now enjoying good health, and have gained in flesh.

I thank you very much for what you have done for me, and heartily recommend your medicine to all suffering women."—Miss EMMA SNYDER, 218 East Center St., Marion, Ohio.

"FREE MEDICAL ADVICE TO WOMEN."

Women would save time and much sickness if they would write to Mrs. Pinkham for advice as soon as any distressing symptoms appear. It is free, and has put thousands of women on the right road to recovery.

Mrs. Pinkham never violates the confidence thus entrusted to her, and although she publishes thousands of testimonials from women who have been benefited by her advice and medicine, never in all her experience has she published such a letter without the full consent, and often by special request of the writer.

\$5000 FORFEIT if we cannot forthwith produce the original letters and signatures of above testimonials, which will prove their absolute genuineness. Lydia E. Pinkham Medicine Co., Lynn, Mass.

ORDER AND SEE THAT YOU GET

Pasteur Black Leg Vaccine

If not obtainable from dealers, refuse substitutes and wire your order to us. Over 20,000,000 calves successfully vaccinated with the original Vaccine during the last eighteen years. Powder form and Cord form both for Single and Double treatment.

PASTEUR VACCINE COMPANY, Ltd., CHICAGO - NEW YORK, - FT. WORTH - SAN FRANCISCO.



IN DAYS OF OLD

In days of old men fought in armor bright,
And crops neglected died of winter's blight.
In modern days men sow and reap the grain, and

DEERING BINDERS

Help to make their gain.



WEEKLY WEATHER CROP BULLETIN.

Weekly weather-crop bulletin for the Kansas Weather Service for the week ending May 5, 1903, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

Though there were some warm days, yet the week has been cold, with some decidedly low temperatures—ranging from 16 degrees and 17 degrees in the northwestern counties. The precipitation is still deficient in the eastern division but heavy rains have fallen in the central and western counties. In the middle division the precipitation ranges from one inch to three inches, and in the western it ranges from one inch to nearly five inches. Snow fell, on the 29th and following night, over most of the State, ranging in depth from a half-inch to over three inches and was followed by two severe frosts.

RESULTS.

EASTERN DIVISION.

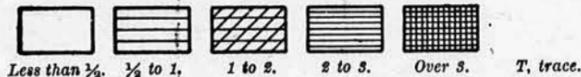
Wheat is in good condition, except that in Pottawatomie it was damaged by the late freeze, and in Marshall wheat that had jointed, was injured; in Montgomery it needs rain and warmer weather. Corn planting continued until near the close of the week when it was checked by the cold wave. Corn was injured in all parts of the division, where it was up. Oats are growing slowly in the southern counties but were damaged in the northern. Alfalfa is in fine condition. Grass is growing slowly, and flax is doing well. Potatoes that were up have been cut to the ground, and the beans and tomatoes killed. Many leaves on forest and shade trees show the blighting touch of the frost, while the leaves of the grape are dead. Some correspondents report much fruit killed, others require further time to decide. Allen.—About half the corn is planted; tender vegetation killed by frost, but it is thought apples and peaches escaped. Anderson.—Cold weather has destroyed prospects for the entire fruit crop, and injured potatoes and early gardens; corn planting progressing as rapidly as possible.

Rainfall for Week ending May 2, 1903.



Minimum temperature shown by broken lines.

SCALE IN INCHES.



Atchison.—Some corn being planted; all fruits damaged if not killed; grass growing slowly. Brown.—Fruit and vegetables damaged; bad week on crops of all kinds. Bourbon.—All early fruit will probably fall, but late apples may survive in the low land; gardens badly damaged; strawberry crop cut short; wheat not injured; ground in bad condition; rain needed; only part of the corn planted. Chase.—Apples, blackberries, and raspberries not greatly damaged, but all other fruits were mostly killed; small acreage of wheat looks fine; corn planting checked; corn not coming up well; pastures good; stock being turned out; alfalfa looking fine. Chautauqua.—All vegetables frozen; some of the fruit saved; corn frozen. Coffey.—Much corn planted this week; grapes most all killed; blackberries, raspberries, and some gooseberries have escaped; apples, plums and cherries are damaged some. Crawford.—Wheat and oats good in some localities and poor in others; cherries and plums injured some, but no great damage done by frost; only part of the corn planted. Doniphan.—Garden truck and fruit damaged; possibly slight damage to wheat and oats. Douglas.—Most of the fruit and much garden stuff killed; corn planting in progress. Elk.—Most of the fruit is killed; potatoes and gardens are frozen down. Franklin.—Rain would be beneficial to crops and farm work; fruit damaged by frost. Greenwood.—Considerable damage done to corn, garden stuffs, and most fruits; too soon to tell how much damage has been done. Jackson.—Corn planting retarded by cold weather; all fruits probably killed; gardens suffered very much; early planted corn and potatoes cut to the ground; wheat probably safe; not jointed yet. Jefferson.—Fruit and gardens considerably damaged; apples probably mostly killed in low ground; the few peaches seem unharmed; corn planting progressing rapidly; grass growing slowly. Johnson.—Cherries, plums, strawberries, and pears, and all tender plants killed; apples badly damaged; corn planting in progress, but it is sprouting slowly. Labette.—Farm work progressing rapidly but

things grow slowly; considerable damage by frost. Leavenworth.—Fruit and gardens damaged badly; poor growing weather; pastures in good condition. Linn.—Small fruits and grapes injured; all crops retarded; wheat but little injured; light acreage of oats and flax; corn is being planted. Marshall.—Wheat doing well except perhaps some that was jointed is damaged by frost; oats badly damaged in some localities; fruit probably all killed. Mortimer.—Wheat has not done well in many fields for want of rain; potatoes, tender vegetables and early corn killed; rye beginning to head. Morris.—All fruits and garden stuffs badly injured by frost; alfalfa has made fine growth; pastures look well; corn planting progressing rapidly. Pottawatomie.—Alfalfa, wheat and oats badly damaged; also the gardens. Riley.—Fruit not damaged as much as first expected; perhaps cherries, apples, and strawberries will make a good half crop; wheat but little injured. Shawnee.—Corn planting is progressing; soil rather wet and cold; alfalfa and wheat looking fine; pastures and meadows green. Wabaunsee.—Much damage done to fruit and gardens; but very little corn up; wheat looking fine. Woodson.—Small fruits and vegetables injured by frost; but apples seem all right; oats, flax and alfalfa doing well; too cold for corn; corn mostly planted; pastures getting green. Wyandotte.—All fruit badly damaged; potatoes frozen to the ground; grass not growing well.

MIDDLE DIVISION.

In most of the division wheat is in fine condition; it was injured in McPherson by the frost, and slightly so in Ottawa and Clay. Oats were damaged slightly in Barton and Ottawa but in the other counties are doing well, the rains having rendered material service. Corn planting continues; corn that was up was generally frozen to the ground. Alfalfa was injured in Clay and Cloud and slightly hurt in Ottawa and Smith while the spring-sown was injured in Sedgwick; it is in fine condition in Barton and doing well in Washington. Apples, cherries, peaches and plums were more or less injured, some reporting total loss, others very

garden stuff killed; late strawberries may make a partial crop; alfalfa, wheat, and oats not injured badly. Phillips.—Wheat and oats doing well; fruit about all killed by frost. Pratt.—Corn, potatoes, and gardens cut to the ground; fruit all gone and the trees will lose their foliage; the rain was very beneficial. Reno.—Corn, fruit, and gardens much damaged by frost; cut-worms have destroyed much corn and garden truck; wheat and oats much benefited by rain. Republic.—Wheat and oats doing well; apricots and most of the peaches killed; cherries and probably apples badly injured; corn planting delayed. Russell.—Fruit and all tender garden stuff badly injured; corn slow in coming up; wheat greatly helped by rain. Saline.—Fruit crop mostly destroyed, except possibly a half crop of apples; wheat remains in good condition. Sedgwick.—Wheat was greatly benefited by rain and looks fine; corn and oats slowly coming up; much fruit seems to be killed, but apples have probably escaped; tomato plants injured; some spring sown alfalfa is killed and some badly injured. Smith.—Great damage done to fruit and gardens; wheat uninjured; alfalfa tops frozen, but they have not yet turned black or fallen off; grass uninjured; early corn up and frozen to the ground; leaves on trees killed. Stafford.—Ground in fine condition since rain; fruit all killed. Sumner.—Very few if any peaches; can not as yet tell the damage to apples; potatoes and corn cut down; wheat and oats doing well. Washington.—Farm work at a standstill; peaches, cherries, and grapes mostly killed; apples damaged; wheat, oats, and alfalfa doing well; much corn yet to plant.

WESTERN DIVISION.

Wheat was generally improved by the rain and snow, though Thomas reports it very yellow yet. Oats are in good condition in Decatur but have suffered some in Finney, Ford, Ness, and Trego. Rye is nearly ready to head in Ness but was injured some. Barley has been injured in some of the counties and is in good condition in others. Alfalfa was more or less hurt. Stock suffered in all parts of the division. Fruits and grapes were badly damaged. Clark.—The rain was beneficial to crops; garden stuff damaged by frost; leaves of locust and mulberry killed. Decatur.—Wheat in fine condition; barley and oats still doing well; alfalfa somewhat retarded in growth; corn planting well under way; fruit all killed. Finney.—Fruit badly injured if not killed; barley, oats, and young alfalfa cut down; wheat not injured; ground well soaked; some loss in cattle on grass. Ford.—Fruit about all killed, and only the most hardy garden truck left; much barley and oats frozen to the ground; wheat not badly injured, as only a little was jointed; alfalfa injured. Hamilton.—Severe snowstorm; hard on stock. Grant.—Fruit killed; loss of cattle heavy; ground in fine condition; plowing and planting progressing rapidly. Kearny.—All kinds of fruit killed; gardens severely damaged; alfalfa injured; all small grains are doing well; many cattle that were out on range were lost. Lane.—Wheat and barley benefited by rain and snow; alfalfa slightly injured; corn not injured; early gardens destroyed; many light and some heavy losses in cattle. Ness.—Fruit about all killed; oats and barley damaged some; rye nearly ready to head, but not damaged much; wheat improved by the rain; plenty of water in ground; corn planting in progress. Norton.—Many cattle perished in the snowstorm; fruit all killed; farm work at a standstill. Sheridan.—Quite a loss in cattle; fruit mostly killed; young alfalfa injured; wheat in fine condition. Thomas.—All crops damaged; wheat yellow; barley all frozen down; gardens damaged; all fruit is killed; many cattle died during the storm. Trego.—All fruit killed; oats and barley damaged; storm hard on stock. Wallace.—All fruit that was in bloom killed; alfalfa damaged; some cattle lost; range-grass was protected by snow.

Shredding Corn Without Danger.

is now not only a possibility but is "easier than hot." The big Plano Hucker and Shredder (with almost unlimited capacity) has been designed that accidents are practically impossible. Instead of standing in within reach of the swiftly moving snapping rollers an extremely dangerous position the feeders of the Plano must stand (nearly six feet from them and entirely out of reach of danger while a machine belt carries the corn into the machine without effort on the operator's part.

The other most dangerous feature of the ordinary shredder, exposed husking roller, is eliminated from the Plano, for a patent Husking Belt so covers these rollers that careless hands are effectually barred out. Special attention has also been given to covering exposed gearing, until there is no more risk of danger in running a Plano Shredder than any other farm power machine.

\$2.50 Value for Only \$1.00.

The Western Swine Breeders' Journal, of Lincoln, Neb., is a very valuable publication for Western swine-raisers. The price is 50 cents a year. The Kansas Farmer is \$1 a year. For a limited time we make this great offer: To any of our subscribers who will send us two new subscribers for one year and enclose a dollar bill, we will make them a present of the Western Swine Breeders' Journal one year free, thus giving \$2.50 in value for only \$1. Address Kansas Farmer, Topeka, Kans.

When writing advertisers please mention Kansas Farmer.

THE WIND.

Have you ever heard the wind go
"Yoooooooooo?"
'Tis a pitiful sound to hear!
It seems to chill you through and through
With a strange and speechless fear.
It's the voice of the night that broods outside
When folks should be asleep,
And many and many's the time I've cried
To the darkness that brooded far and wide
Over the land and deep;
"Whom do you want, O linely night,
That you wail the long hours through?"
And the night would say in its ghostly way:
"Yoooooooooo!
Yoooooooooo!
Yoooooooooo!"

My mother told me long ago
(When I was a little lad)
That when the night went walling so,
Somebody had been bad;
And then, when I was snug in bed,
Whither I had been sent
With the blankets drawn up round my head,
I'd think of what my mother said
And wonder what boy she meant!
And "Who's been bad to-day?" I'd ask
Of the wind that hoarsely blew,
And the voice would say in its awful way:
"Yoooooooooo!
Yoooooooooo!
Yoooooooooo!"

That this was true I must allow—
You'll not believe it, though!
Yes, though I'm quite a model now,
I was not always so.
And if you doubt what things I say,
Suppose you make the test;
Suppose when you've been bad some day
And up to bed are sent away
From mother and the rest—
Suppose you ask, "Who has been bad?"
And then you'll hear what's true
For the wind will moan in its ruefullest tone:
"Yoooooooooo!
Yoooooooooo!
Yoooooooooo!"

—Eugene Field.

A nerve specialist of wide fame and extended practice recently stated that aside from continued, serious disorders there was no malady for which he was so frequently called upon to prescribe as that nameless, annoying condition usually described as "feeling all run down," "out of sorts," headache so often," etc. There are thousands of people who are ever on the verge of nervous prostration; yet because their symptoms seem more disagreeable than serious they become neglectful. The first time they are subjected to the slightest extra strain the collapse will come. For the relief from the headache, backache, nervousness and nervous exhaustion which accompanies this condition there is nothing to equal Dr. Miles' Anti-Pain Pills. Taken in time they will positively prevent an attack of headache and the relief experienced from their use is almost instant in all cases of sick, nervous, or tired, neuralgic, or catarrhal headache, sea sickness, car sickness, the pains of neuralgia, sciatica, toothache, or other pain from any cause. They are the only perfect remedy for the relief of pain because they contain no opiates and create no craving. They are non-laxative and do not affect the bowels in the slightest degree, never causing nausea or derangement of the stomach. Twenty-five doses for twenty-five cents. They are never sold in bulk. General Charles Dick, of Ohio, the eminent Congressman from the Garfield district, writes: "There is no remedy so efficient for headache as Dr. Miles' Anti-Pain Pills."

Wm. M. Bell, General Secretary Home, Frontier and Foreign Missionary Society of the United Brethren in Christ, Dayton, Ohio, writes as follows: "During my recent trips abroad I was subject to most severe strain upon the nervous system. Fortunately, I was never without a supply of Dr. Miles' Anti-Pain Pills and received most excellent results from their use. This remedy is standard in our home and has been especially helpful during the past season. It is a pleasure to recommend to suffering humanity these most meritorious medicines."
Dr. Miles Medical Co., Elkhart, Ind.

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The greatest and most successful Institute for Diseases of Men. Consultation free at office or by letter. BOOK printed in English, German and Swedish. Examining Health and Happiness sent sealed in plain envelope for four cents in stamp. All letters answered in plain envelope. Various cures in five days. Call or address
Chicago Medical Institute,
518 Francis Street,
ST. JOSEPH, MO.

The Overstocked Ranges.

FROM NEW MEXICO EXPERIMENT STATION.

Without doubt, one of the most important industries of New Mexico is its stock-raising industry. And the same conditions which cause this to be true with respect to the past and present will necessarily continue to make it so in the future.

The present method of management of—or rather failure to manage carefully—this one of our natural resources is a crying shame, when viewed from the standpoint of the best interests of the territory at large, both for the present and future.

Twenty or twenty-five years ago, practically all the ranges of New Mexico were capable of carrying from one-third to one-half more stock than they will carry to-day.

Particular inquiries among the older stockmen, on the question of the carrying capacity of the various ranges of the southern part of the Territory have invariably received the answer that a number of years ago the range was better than at present.

In reply to questions as to the present topography of the region compared with that of the same area fifteen or twenty years ago, the answer has usually been that in the past it was possible to drive over these areas in a buggy where it is now almost impossible to travel on horseback.

These two features of the roughness of a given area and the relative amount, and particularly the kind of vegetation present, tell very plainly about when and to what extent a range has been overstocked; they also suggest the kind of stock which were kept on that range.

Ranges that have been overstocked with cattle and horses are full of arroyos which are stony and more or less weedy. Where the slope is too gentle to produce marked arroyos, the broader, more moist, open valleys, and "draws" are filled with the common "careless weeds" (Amarantus spp.).

Level flats frequently have the perennial grasses replaced by some of the annual grasses which are either of very little value as feed because stock do not like them or are of very short duration, and furnish little feed.

Overstocking by sheep and goats is not so apt to affect the topography of the range, but they eradicate the perennial grasses more thoroughly when held too long in a given place, and their effect upon the low shrubs is much more noticeable.

The degrees of recovery of a range tells about how long since it was overstocked.

A noticeable amount of drying up of streams and springs, and bigger floods during the rainy season in any region, are good signs that the ranges of that region are overstocked. This is true because the grass tends to hold back the water from running rapidly off and allows it more time to soak into the soil, whence it may emerge as springs.

For Farmers.

The Union Pacific Railroad is issuing Agricultural Bulletins giving complete and accurate reports of experimental work carried on in the States of Nebraska, Kansas, Colorado, and Wyoming.

THE MARKETS.

Kansas City Live-Stock and Grain Markets.

Kansas City, Mo., May 4, 1903. With 29,000 cattle at Chicago to-day and a 10@15c decline, trade could not be expected to be brisk here.

Hog receipts here last week were the heaviest of the year, the run reaching a total of 49,500 head. The same period of 1902 only 43,000 head arrived.

Cattle receipts were liberal at 30,300 head. The market see-sawed each day of the week, varying with small or light receipts.

The sheep market started out mean but after the opening, the market braced up wonderfully and closed with a sensational advance.

Butter slid off a little here last week, and cheese followed with a half-cent decline. Creamery butter is now worth 20c and dairy 17c.

Wheat advanced 1@1/2c last week, while corn and oats declined a trifle.

South St. Joseph Live Stock Markets. South St. Joseph, Mo., March 4, 1903. Receipts of cattle last week, 8,447; previous week, 8,089; year ago, 4,981.

The only days that the hog market was not quoted lower was on Thursday and Friday, when, under reduced supplies, sellers were enabled to get a small portion of what they had to take off earlier in the week.

The quality continues to average good and the average weight was strong. Prices to-day ranged from \$6.70 @6.90, with the bulk selling at \$6.75@6.85.

New York Butter Market.

New York City, May 1, 1903. Creamery firsts, average for week ending May 2.....\$0.2258

When writing advertisers please mention Kansas Farmer.

Special Want Column

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short-time will be inserted in this column without display for 10 cents per line of seven words or less per week.

CATTLE.

FOR SALE—Registered Aberdeen-Angus cattle. Fifteen bulls of serviceable age, 9 from 18 to 24 months old, also my herd bull for sale or exchange.

WANTED—A registered Galloway bull over two years old. J. E. Moore, Maple City, Kans.

RED POLLED BULL for sale, 4 years old, dark red, good individual, gentle, sure breeder, weight 1800 pounds, price \$125.

WANTED—Five or six hundred head of cattle to pasture from May 1st to Nov. 1st, at 25 cents per month. Plenty of water and grass. Salt extra.

FOR SALE—Five good 1-year-old registered Hereford bulls. Will be sold low if taken soon.

FOR SALE—Two Scotch-topped bulls, from 10 to 18 months old, and a few cows with calves by their side.

FOR SALE—Red Poll bull, 3 years old, gentle, good all around, weight 1,650. Young stock at all times.

FOR SALE—2 good red Shorthorn herd bulls. Ebb Turner, Faucett, Mo.

FOR SALE—Thoroughbred Holstein-Friesian bull, 3 years old, of a great butter family.

BOTTOM OUT OF PRICES—Shorthorn bull and heifer calves, red with white marks, at \$50 net, the get of British Lion.

FOR SALE—10 head of registered Hereford bulls, 6 to 20 months old, good individuals, and in good condition.

FOR SALE—A few choice Shorthorn helpers and young bulls. M. C. Hemenway, Hope, Kans.

FOR SALE—A few young Hereford bulls from the Evergreen Farm herd, headed by Lee 121232.

FOR SALE—Guernsey bulls from best registered stock. J. W. Perkins, 423 Altman Building, Kansas City, Mo.

SWINE.

FOR SALE—Four Berkshire boar pigs, farrowed October 10, 1902; grandsons of imported Lustra's Bachelor 52282. G. D. Willems, Inman, Kans.

FOR SALE—Choice Poland-China males and gilts of fall farrow; first class breeding, some show pigs.

FOR SALE—A few nice young boars of October farrow, sired by Kansas Chief, a son of Chief Teoumsh 3d. C. M. Garver & Son, Abilene, Kansas.

FOR SALE—Duroc-Jersey boar, ready for service. He is from the famous Blocher-Burton stock.

FOR SALE CHEAP—Poland-China, boars and gilts; extra hams, backs, heads, spleen, ears, black coats. Some show pigs.

FARMS AND RANCHES.

SNAP No. 11—160-acre farm, 70 acres under cultivation, 5 room house and cellar, good stable, fair orchard, 2 good wells and pond.

FOR SALE—130 acre ranch, mile of river front, 1 1/2 mile from Syracuse; 140 head of stock, 23 mares.

FOR SALE—Wheat and stock arm, well improved, 460 deeded and leases to 1,560 acres.

FREE—State map, farm descriptions, reliable information about eastern Kansas.

RANCH FOR SALE—1360 acres, 1120 acres of creek bottom, with model improvements, 140 acres alfalfa, 600 acres pasture, balance number one farm land.

SOME BARGAINS in farm lands in Anderson County, Kansas, in farms ranging from 80 acres up.

FOR SALE—Farms and ranches in central and western Kansas. We have some great bargains in western ranches.

POULTRY.

EGGS—For hatching at half former price. To still further introduce my White and Barred Plymouth Rocks, I will sell eggs at \$1 per 15 from White Rocks scoring 94 to 96% and Barred 90 to 93.

B. P. ROCK EGGS—15, \$1.50; 100, \$4. Mrs. J. W. Holstinger, Cottonwood Falls, Kans.

FANCY Buff and Golden Wyandottes, and Rhode Island Reds. Bred from Boston and New York prize winners.

FOR SALE—Fine Buff Wyandotte eggs, \$1 per 15. Earl W. Ray, Delavan, Kans.

SINGLE COMB Brown Leghorn eggs, best laying strain \$1 for 15. Mrs. J. J. Corbett, 826 Clay street, Topeka, Kans.

BLACK LANGSHANS—Fine. Eggs 30 for \$1. Mary McCaul, Elk City, Kans.

CHOICE Black Langshan eggs, 15 for \$1. Mrs. Geo. W. King, Solomon, Kans.

HORSES AND MULES.

WANTED—To buy or trade, a Clydesdale stallion for a span of good mules. H. W. McAfee, Topeka, Kans.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORTHORN CATTLE and POLAND-CHINA HOGS. Write for prices of finest animals in Kansas.

SEEDS AND PLANTS.

MILLET SEED—500 bushels Big German, extra heavy and clean. Elijah McCaul, Elk City, Kans.

YELLOW JERSEY sweet potato plants at \$1.25 per 1,000 by A. G. Landis, Lawrence, Kans.

FOR SALE—Siberian millet seed, 50 cents per bushel, new sacks 15 cents extra.

FOR SALE—50 cents per bushel, 1000 bushels first class Siberian millet. Sacks 15 cents. E. D. King, Burlington, Kans.

CANE SEED—California Silver Tips, choice seed. Growth medium height, heavy foliage, great seed bearer, having this year made 30 bushels per acre.

TOMATO plants 4 to 10 inches at \$2 per 1,000 by express, 50 cents per hundred by mail prepaid.

ANY ONE wishing cedar-trees, please write Murray Weaver, Centerville, Linn Co., Kans.

FOR SALE—Golden Yellow popcorn, very productive, excellent for popping, very tender.

200,000 FRUIT TREES! Wholesale prices; new catalogue. Baldwin, Nurseryman, Seneca, Kans.

MISCELLANEOUS.

WANTED WOOL—Send us samples of your whole clip, we will pay market price.

500,000 POUNDS WOOL WANTED—Write us for prices; send sample and we will offer you the highest market price by return mail.

CREAM Separators Repaired at Gerdon's Machine Shop 820 Kansas Ave., Topeka, Kans.

WANTED—Money to get patent on a quick-selling toy. Will give 25 per cent of what it sells for.

PATENTS.

J. A. ROSEN, PATENT ATTORNEY. 418 Kansas Avenue, Topeka, Kansas.

The Stray List.

Week Ending April 23.

Sumner County—W. A. Lechtinberger, Clerk. MARE—Taken up by U. B. Hicks, in Falls tp. (P. O. Drury), March 20, 1903, one bay mare, weight 900 pounds, two white hind feet; valued at \$25.

MARE—Taken up by J. S. Potts, in Liberty tp., April 11, 1903, one roan mare, weight 950 pounds, fistula mark on right shoulder, light spot in forehead; valued at \$75.

Week Ending April 30.

Cherokee County—W. H. Shaffer, Clerk. MARE—Taken up by F. M. Gust, in Shawnee tp. (P. O. Messer), April 6, 1903, one red-roan mare, 4 1/2 feet high, letter F on left thigh; valued at \$25.

20-SHORTHORN BULLS FOR SALE-20

I have for sale 20 Shorthorn bulls, 8 to 12 months old, sired by Rosemond Victor 12th 136313. They are a good lot of bulls and I will sell very cheap as I have no pasture for them, and desire to close out my entire herd of 200 Shorthorn cattle.

RUPTURE Cured in 10 days

no ligature, no danger. The patient is required to come to the doctor's office, and by a novel process the rupture is closed and in 10 days he can return home sound and well.

Superfluous Hair Removed Forever.

I discovered a treatment which removes hair from face, neck, arm, or any part of the body instantly and permanently. Don't judge my treatment by unsuccessful attempts of others.

...IF THE... SMITH

gets you more Cream, better Butter, Milk fine, NO MIX, a separator that will last for 10 years, and no labor, what more could you ask.

2 Reasons Why the SOUTHWEST

(OKLAHOMA, INDIAN TERRITORY and TEXAS) is an attractive Mecca for the Homeowner and Investor.

CHEAPER LANDS. UNEQUALLED PROSPERITY. Go and See the Country for Yourself.

Low Rate Excursions on the first and third Tuesdays of each month.

Write for Descriptive Literature to "KATY," - St. Louis, Mo.

DUROC-JERSEY SWINE.

D. M. TROTT ABILENE, KAS., famous Duroc-Jerseys, Poland-Chinas. Registered Stock. **DUROC-JERSEYS**, contains breeders of the leading strains. **N. B. SAWYER, CHERRYVALE, KANSAS.**

G. W. BAILEY, BEATTIE, KANS. For Sale. Famous Pedigreed Duroc-Jersey Swine. Registered Scotch Terrier dogs. Fine, young stock, 6 months old. Nosegay Foxglove at stud. Correspondence solicited.

MAPLE AVENUE HERD **J. U. HOWE,** **DUROC-JERSEYS,** Wichita, Kansas. Farm 2 miles west of city on Maple Ave.

FAIRVIEW HERD DUROC-JERSEYS No stock for sale at present. **J. B. DAVIS, FAIRVIEW, BROWN CO., KANSAS.**

DUROC-JERSEYS. Duroc-Jerseys For Sale—Choice July, August and September pigs for sale, both sexes. Prices reasonable. **Newton Bros., Whiting, Kans.**

Large-boned and Long-bodied Duroc-Jerseys I have some choice fall pigs for sale. If you are looking for something good, write for prices. **E. S. COWEE, R. F. D. No. 1, CARBONDALE, KANS.**

DUCK CREEK HERD OF Duroc-Jersey Swine. 200 head to choose from. Write us your wants. **Mitchell Bros., Buxton, Wilson Co., Kans.**

ROCKDALE HERD OF Duroc - Jersey Swine. Everything is sold except a few pigs of September farrow. Am also offering one of my herd boar for sale. **J. F. Chandler, Frankfort, Kans.**

Maplewood Herd of... DUROC - JERSEYS -- HEADED BY OUR FINE HERD BOAR -- **MISSOURI CHAMPION 16349.** Have on hand some extra fine pigs of this spring's farrow, for which we are booking orders. Write for what you want. **J. M. IMHAUSER & CO., R. F. D. No. 4, Sedalia, Mo.**

Standard Herd of Registered Duroc-Jersey Swine, Red Polled Cattle, and Angora Goats.

Swine herd headed by Big Joe 7363 and Ohio Chief. Cattle herd headed by Kansas 8308. All stock reserved for October sale. **PETER BLOCHER, Richland, Shawnee Co., Kas.**

Golden Red Herd Prize-winning Duroc-Jerseys

VAN'S PERFECTION 11571, sweepstakes boar at all State Fairs of 1902, at head.

Gilbert Van Patten, Sutton, Neb.

POLAND-CHINA SWINE.

Dietrich & Spaulding, Richmond, Kas. For Sale—Imperial Chief 3d, litter brother to our great show sows. Some choice fall boars and gilts. Place your order for gilts—bred for fall farrow.

East Side Herd Poland-Chinas Combines the best strains of blood in the breed. 24 spring litters. Royal Blue 27642 by Big Chief Tecumseh 2d, first boar in service. Write for list of sires and dams in herd. **W. H. BARR, ELLIOTT, IOWA.**

Shady Lane Stock Farm **HARRY E. LUNT, Proprietor,** Burden, Cowley Co., Kans. A few choicely bred Poland-China Boars for sale; also fine B. P. Rock poultry.

Kansas Herd of Poland-Chinas Has some extra fine gilts bred; also some fall boars. Will sell Sen. I Know, he by Perfect I Know. Address—**F. P. MAGUIRE, -- HUTCHINSON, KANS.**

Elmdale Herd of High-Class POLAND-CHINAS Shawnee Chief 28502 at head of herd. A few choice fall boars for sale. **W. L. REID, Prop., R. R. 1, North Topeka, Kas.**

SHADY BROOK STOCK FARM POLAND-CHINAS.

I keep constantly on hand all sizes and ages of high-class Poland-China pigs. Quality high, prices low. Write for description and price to **H. W. CHENEY, -- North Topeka, Kans.**

..Oak Grove Herd.. OF PURE-BRED

Poland-Chinas For Sale—A few choice Boars and 50 Gilts, some bred for early spring farrow. Write, or come and see.....

E. F. D. 5, Gus Aaron, Leavenworth, Kas.

POLAND-CHINA SWINE.

FOR SALE Poland-China Hogs, Holstein-Friesian Cattle; also, Best strains represented. **H. N. HOLDEMAN, Rural Route No. 2, Girard, Kansas.**

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WAMEGO HERD ...OF... Poland-Chinas

With Black Tecumseh 25116 at head, he by Big Tecumseh 24429, a grand individual and sire of large, strong, growly fellows, nearly perfect in color, coat, and markings. Large M. B. turkeys and B. P. chickens for sale. Correspond with me at Wamego, Pottawatomie County, Kansas. **C. J. HUGGINS.**

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Our boars of serviceable age are all sold, but we have a number of good ones of September and October farrow; also a fine lot of bred gilts, sired by Model Tecumseh 64183, J. L.'s Best 70655, and U. S. Wilkes 25821.

J. N. WOODS & SON, R. F. D. No. 3, -- Ottawa, Kans.

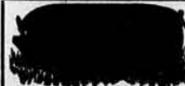
...THOROUGHbred... Poland-China Hogs.

I am cleaned up on boars and bred gilts. I have some nice open June gilts and can spare a few yearling bred sows. Orders booked for spring pigs by Keep On 61015, Imperial Chief 3d 28778, Black Perfection 27183, and Corwin Improver 25788. On Missouri Pacific R. R., one mile west of Kickapoo, Kans. **JOHN BOLLIN, R. F. D. No. 5, Leavenworth, Kans.**

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Correct by Corrector, Perfection Chief 2d by Chief Perfection 2d, Jewell's Silver Chief, and Kron Pring Wilhelm, herd boars. Up-to-date breeding, feeding qualities, and large, even litters in this herd. Young stock for sale. **J. L. STRATTON, One - Mile - Southwest - of - Ottawa, Kans.**

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Knollwood Farm Herd

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Five Yearling Registered Bulls For Sale. Best of breeding. Prices reasonable. Correspondence solicited. Address Ira D. Brougher, Great Bend, Kansas.

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Herd headed by the young show bull, Protocol 2d 91715, assisted by Major Beau Real 71621, a nephew of Wild Tom. Females largely the get of Bernadotte 2d 71634. A few choice young bulls for sale.

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Imported Scottish Knight 136371 heads the herd.

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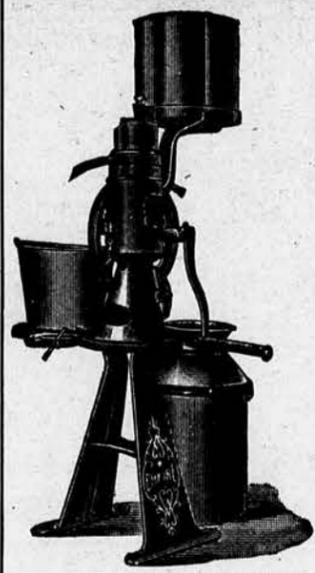
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It's a broad claim we make but We Deliver the Goods.

More up-to-date creamery men are pushing the Empire Cream Separator to-day than any other separator on the market. Why?

More up-to-date dairymen delivering cream to creameries are buying the Empire Cream Separator to-day than any other separator on the market. Why?

More farmers are perfectly satisfied with the Empire Cream Separator to-day than with any other separator on the market. Why?

It's Altogether a Question of Merit.

We do not expect to sell a separator to every farmer in the land. We do not expect every creamery to take up the sale of the Empire. We could not accommodate all of them either with territory or machines. We know some of them are tied up with other manufacturers and can not break loose, no matter how much they want to.

We do not bulldoze creamery men. We do not threaten "to ruin them" if they sell another machine. We do not appeal for patronage on any ground other than simple merit. We can take that position because the

Empire Cream Separator DOES THE BUSINESS.

We have never yet known a live creamery man who has thoroughly investigated the merits of the several hand cream separators on the market, to undertake the sale of another machine if he could get an agency for the Empire. Here are a few of the wide-awake fellows who are selling the Empire:

Hygeia Creamery Co., Omaha, Nebr.

Geyer Creamery Co., Storm Lake, Iowa.

Tri-State Creamery Co., Chicago.

J. D. Bickel Produce Co., McGregor, Ia.

Jahnke Creamery Co., Watertown, Wis.

J. P. Baden Produce Co., Winfield, Kas.

Blue Valley Cream'ry Co., St. Joseph, Mo

Central Michigan Produce Co. Alma, Mich

The Dodge Creameries of Wisconsin
and Illinois.

Des Moines Creamery Co., Des Moines, Ia

Longmont Creamery Co., Denver, Colo

Cedar Valley Creamery Co., Cedar
Rapids, Iowa.

Ernest Karow, De Forest, Wisconsin.

C. J. Dodge, Lodi, Wisconsin.

Osseo Creamery Co., Osseo, Wisconsin.

Comfort Produce Co., Bad Axe, Mich.

A. Nolting & Sons, Elgin, Illinois.

Oakdale Dairy, Fort Dodge, Iowa.

Townsend Creamery Company, Portland, Oregon. Mason City Cream Co., Mason City Iowa.

Many of the above institutions were users of other makes of power machines—all of them were most vigorously canvassed by other manufacturers—all of them have heard the stereotyped story of "ten times as many machines in use as all other makes combined," and about "protecting patents" which have expired and which no one wants to use. They have been bulldozed and have listened to threats that "another creamery would be started across the road;" they have been offered antiquated, complicated, "patent protected" separators at as low and lower prices than they are now paying for the Empire, but they chose the Empire on a merit basis alone after a thorough investigation. Look up these companies who handle the Empire. They are clean, reputable business men. Many of them are selling from 200 to 400 separators per month. In the State of Kansas alone more than two thousand Empires were placed during the past year. The volume of business done by creameries using the Empire separators is double that of the aggregate business done by any competing machine through like channels. Investigate this statement. The Empire Separators are now being manufactured at the rate of 100 per day and still the demand is not being fully supplied. The reason is simply this:

When an Empire Separator is placed in a community, a dozen always follow it.

It is a machine that sells itself. It is so much simpler in construction, so much more easily operated; so much more easily cleaned; and gives so much less trouble that most farmers say it is worth twice as much as any other separator they ever saw. Don't be misled. Investigate for yourself. Examine the Empire, its work and its record, and then if you don't decide that it's the best separator in existence we'll not have another word to say. We want you to satisfy yourself before you buy. We'll guarantee the Empire will keep you satisfied after you buy.

EMPIRE CREAM SEPARATOR CO.,

BLOOMFIELD, NEW JERSEY.

CHICAGO, ILLINOIS.

The Empire has more late improvements and labor saving conveniences, covered by late patents, than any other separator made. That's why it keeps so far in the lead.

