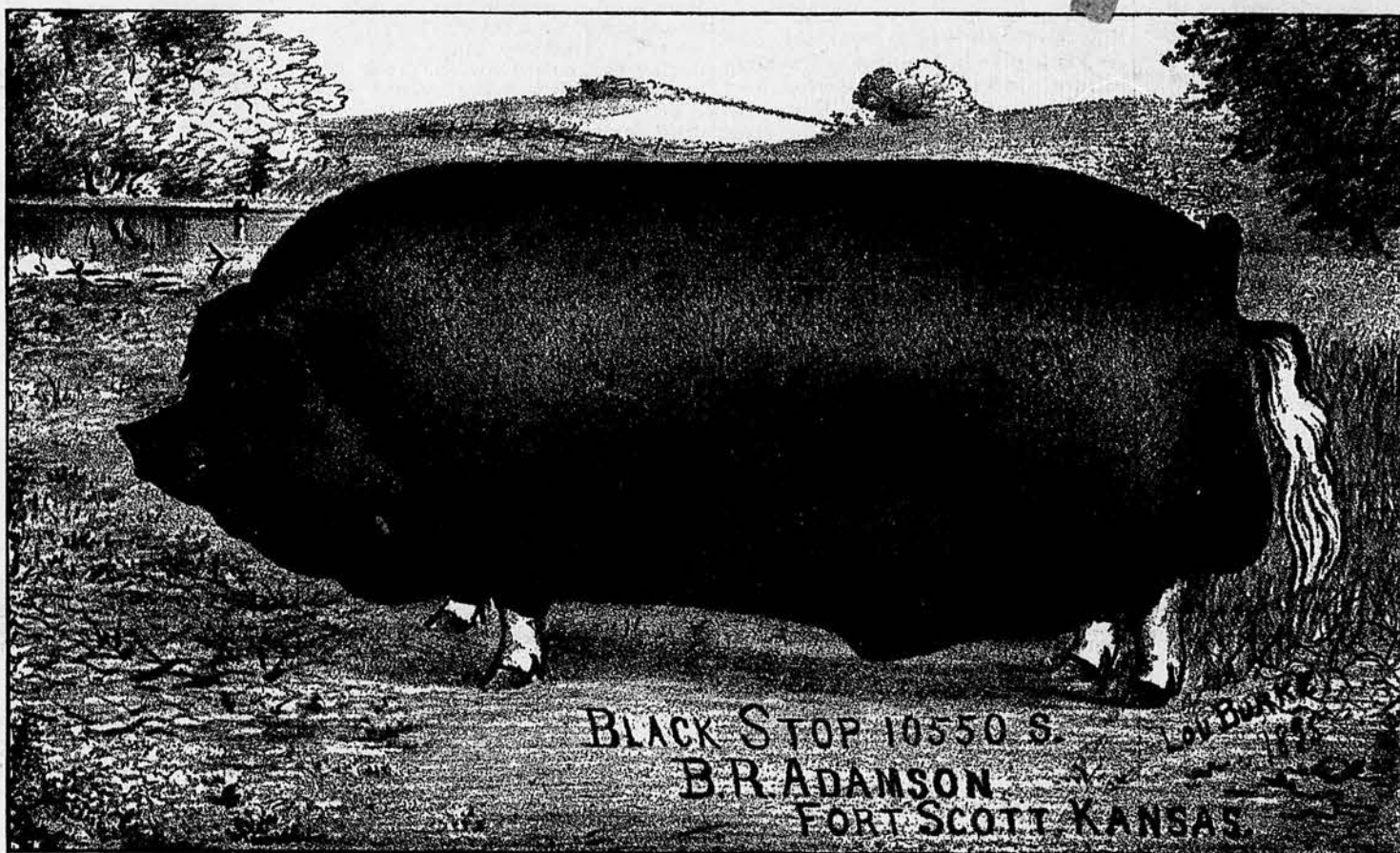


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Agricultural Matters.

EXPERIMENTS WITH CORN.

From Bulletin No. 56, Farm Department, State Agricultural College. C. C. Georgeson, M. Sc., Professor of Agriculture and Superintendent of Farm; F. C. Burtis, M. Sc., Assistant; D. H. Otis, B. Sc., Assistant.

Our last bulletin on corn, No. 45, details the experiments carried on in 1893. The corn crop was then only a partial success. In 1894 no bulletin on this crop was issued for the reason that the crop was a complete failure and there was hence nothing to report. In 1895 we succeeded in growing a moderate crop, and the experiments with this crop are reported in the present bulletin. In these experiments, we have followed the same general plan of former years. The conclusions are based on the average of several plats, usually five, each one-twentieth acre in extent, though sometimes only two or three plats are used when the available space, or the nature of the ground, does not admit of more. The plats in each series are so placed that they alternate with those with which they are to be compared, and all are distributed in such a manner that each series shall represent an average quality of the soil within the area covered by the experiment. Unfortunately the college farm is rolling, and it is, therefore, impossible to secure the same conditions for all experiments as regards soil and exposure. This will explain, in part, much of the variation which is apparent between different experiments. Variations may be due to treatment, but they may quite as often be due, in some measure, to differences in soil and exposure. In the case of cultivated crops, like corn, Kaffir corn, etc., it is our custom to use long and narrow plats in order to facilitate the work of the cultivator. And these, while they are always uniform in the same experiment, cannot always be uniform in shape for all experiments. There is, however, an exception to the long plats in the case of variety tests. To avoid cross fertilization as much as possible, each variety is grown in a compact body, that is, on a square, or nearly square plat; this does not prevent the evil, but it lessens it. All plats herein referred to are surface planted unless otherwise stated. The planting is done by hand, two kernels being dropped at places sixteen inches apart, and when the corn is up the plants are thinned to one in a place.

TIME OF PLANTING CORN.

Seven plantings were made at intervals of one week, covering the time from April 18 to May 30, these being the dates of the first and last plantings. Five one-twentieth acre plats were given to each planting. The rows were 3.5 feet apart, and the stalks sixteen inches apart in the row, and between adjoining plats was a guard row, which did not belong to the experiment. The ground was very dry when the first two plantings were made, on April 18 and April 25. Heavy rains fell on May 2 and 5, which proved of great advantage to the plantings of May 2 and May 9. Owing to the dry condition of the ground, the first two plantings were late in coming up, while the third and fourth plantings came up promptly, and by the end of May there was scarcely any appreciable difference between the four plantings. The plantings of May 16, May 23 and May 30 never attained the vigor of the earlier plantings, and they matured from a week to ten days later. The variety used was the Improved Leaming. The results are shown in table I, which gives the averages of each set of five plats.

TABLE I.—TIME OF PLANTING CORN.
Average of five plats for each treatment.—1895.

Date of seedling.	Rate of yield per acre in bushels.		
	Good ears.	Nubbins.	Total.
April 18.....	22.34	10.54	32.88
April 25.....	22.59	9.08	31.67
May 2.....	24.45	8.85	33.30
May 9.....	23.22	7.54	30.76
May 16.....	16.00	9.00	25.00
May 23.....	10.65	7.97	18.62
May 30.....	10.74	9.34	20.08

The planting of May 2 gave the best

total yield. The yield of good ears, shown in the first column, shows a regular gradation from the planting of May 2, with diminishing yields from this date, for both the earlier and later plantings. This does not, of course, prove that corn should be planted in the first days of May, but it proves that in 1895, under the conditions here obtaining, this was the best time to plant, and if subsequently the same results should appear during a series of years, it might be regarded as proof that early May is the time to plant in this latitude. Late planting, all will admit, is not desirable, and, on the other hand, the extra early spring planting, which is practiced by so many farmers, is of advantage in but few seasons. Ordinarily the ground is not warm enough to plant in April. Planted too early, the corn is slow in coming up, so that much of it rots in the ground, and what survives is apt to be stunted and sickly—conditions which will show in the yield, even though the rest of the season be favorable.

FREQUENCY OF CULTIVATION.

This experiment is designed to test the value of the theory often advanced that the proper way to treat the corn crop is to give it frequent and shallow culture. It has now been tested here for several years, and while these tests have not established just how often corn must be cultivated, they prove beyond a doubt, that it is possible to cultivate it too much. The drawback to the experiment is that frequent cultivation, as for instance twice a week or three times a week, necessitates the stirring of the soil at times when it is not in proper condition to be stirred. In the present case, when rains fell at such times that the ground would be too wet to cultivate on the assigned dates, the cultivation was postponed or omitted altogether. There were this year thirty plats devoted to the experiment, arranged as already explained. Each plat was a long narrow strip only four rows wide, and a guard row separated adjoining plats, so that the treatment of one plat could not affect its neighbor. The rows were 3.5 feet apart and the stalks sixteen inches apart in the row. The variety used was the Dole ninety-day, an early corn. It was planted on April 25 and harvested on September 6, when the crop was completely ripe and dry. The fact that it was an early variety and, therefore, a light yielder, also that it was planted perhaps a little too early, as frosts occurred after it was up, may account, at least in part, for the generally light yields.

TABLE II.—FREQUENCY OF CULTIVATION.
Average of five plats for each treatment.—1895.

Times cultivated.	Times cultivated during season.	Rate of yield per acre in bushels.		
		Good ears.	Nubbins.	Total.
Three times a week.....	22	1.60	3.40	5.00
Twice a week.....	15	2.60	4.20	6.80
Once a week.....	7	6.71	6.22	12.93
Once in two weeks.....	5	6.94	7.97	14.91
Once in three weeks.....	3	12.14	8.31	20.45
Once in four weeks.....	2	12.65	7.82	20.47

Averages for three years.

Times cultivated.	Total average per acre in bushels.	1895.		1893.		1892.		1891.	
		Times cultivated.	Rate per acre. Bushels.	Times cultivated.	Rate per acre. Bushels.	Times cultivated.	Rate per acre. Bushels.	Times cultivated.	Rate per acre. Bushels.
Three times a week.....	18.24	22	5.00	20	23.28	15	26.45	.....	.....
Twice a week.....	20.36	15	6.80	14	26.05	11	28.25	.....	.....
Once a week.....	22.89	7	12.94	7	28.65	6	27.08	.....	.....
Once in two weeks.....	21.80	5	14.91	4	22.25	3	28.25	.....	.....
Once in three weeks.....	22.88	3	20.45	3	21.34	3	26.85	.....	.....
Once in four weeks.....	21.43	2	20.48	2	18.02	2	25.80	.....	.....

Averages for four years.

Times cultivated.	Total average per acre in bushels.	Times cultivated.	Rate per acre. Bushels.	Times cultivated.	Rate per acre. Bushels.	Times cultivated.	Rate per acre. Bushels.	Times cultivated.	Rate per acre. Bushels.
Twice a week.....	31.93	15	6.80	14	26.05	11	28.25	9	66.63
Once a week.....	34.53	7	12.94	7	28.65	6	27.08	6	69.45
Once in two weeks.....	34.59	5	14.91	4	22.25	3	28.25	4	72.97

It will be seen that the yield from the plats most frequently cultivated was exceedingly light, and that the plats cultivated once in three weeks and once in four weeks gave much the best yields. This wide variation is, undoubtedly, in large measure, due to the nature of the season. Heavy rains fell on several dates during May and June. This frequent softening of the ground, and the tramping of the team soon after, compacted the layer of the soil immediately below the surface to an injurious extent; and frequent cultivation was thus a hindrance rather

than a help to the development of the crop. This result proves that iron-clad rules cannot be laid down for the handling of the corn crop. In a dry season frequent stirring of the surface answers a good purpose in serving to retain moisture in the subsoil.

In the table of averages for three years, it will be seen that in 1892 the plats cultivated once in two weeks gave exactly the same average as the plats cultivated twice a week. In 1893 the plats cultivated once a week gave the best yield, and there was a decrease by giving either more or less cultivation. The average for three years gives the best yield to plats cultivated once a week, though it is practically the same as the plats cultivated once in three weeks. We have averages for four years for cultivations of twice a week, once a week, and once in two weeks, the yields from the two latter treatments being the best and almost alike. The cultivator used on all occasions is the one known as the "Daisy Spring Tooth." The experiment should be studied in connection with the one on amount of cultivation, which follows.

AMOUNT OF CULTIVATION.

The plan of this experiment differs from the foregoing in that the cultivation is not given a set number of times a week, but a stated number of times during the entire season. It is thus possible to cultivate the ground when it needs it the most, namely, when the crust begins to form soon after a rain. In all other respects the conditions of the experiment were the same as in the previous one. The corn was planted on the same date, April 25; the same variety was used, Dole ninety-day, it was planted the same distance apart and it was located in the same field, though perhaps on a little better soil. There were thirty plats arranged as already described.

TABLE III.—AMOUNT OF CULTIVATION.
Average of five plats for each treatment.—1895.

Times cultivated during the season.	Rate of yield per acre in bushels.		
	Good ears.	Nubbins.	Total.
One time.....	16.34	7.08	23.42
Two times.....	23.77	7.11	30.88
Three times.....	18.45	8.00	26.45
Four times.....	12.65	8.11	20.77
Five times.....	13.74	6.77	20.51
Six times.....	10.37	6.71	17.08

Average for two years.

Times cultivated during season.	Total average per acre in bushels.	1895.		1891.	
		Rate per acre in bushels.	Rate per acre in bushels.	Rate per acre in bushels.	Rate per acre in bushels.
Two times.....	49.45	30.88	68.03	.....	.....
Four times.....	48.41	20.77	76.06	.....	.....
Six times.....	43.58	17.08	70.08	.....	.....

The above table gives the average

The Only One To Stand the Test.

Rev. William Copp, whose father was a physician for over fifty years, in New Jersey, and who himself spent many years preparing for the practice of medicine, but subsequently entered the ministry of the



M. E. Church, writes: "I am glad to testify that I have had analyzed all the sarsaparilla preparations known in the trade, but

AYER'S

is the only one of them that I could recommend as a blood-purifier. I have given away hundreds of bottles of it, as I consider it the safest as well as the best to be had."—WM. COPP, Pastor M. E. Church, Jackson, Minn.

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cultivation, twice during the season gave better results than four times and six times, respectively, though in 1891 the plats cultivated four times yielded better than those cultivated either oftener or less often. The general tenor of the results of these cultivation experiments is that frequent culture is not only not desirable, but may even be injurious. There is not only a loss of labor, but a loss in crop as well.

(To be continued.)

Wheat-Breeding.

From a paper read at the annual convention of the Michigan State Millers' Association, in Lansing, January 14, by Dr. R. C. Kedzie, of Michigan Agricultural college:

"Wheat-breeding is as legitimate a business as stock-breeding, and the same general principles apply to both. Some of our improvements in wheat have been secured by cultivating 'sports,' or accidental variations of marked character, as the stool of wheat found in New York which was the origin of the White Clawson, or the stool of wheat found by Mr. Robert Dawson, of Canada, which gave us the Golden Chaff. It is possible that these were produced by natural cross-breeding of different varieties of wheat. We have depended largely upon selecting such variations from the normal type and promoting by further selection and cultivation these variations in desirable qualities. The stock breeder also avails himself of all these individual variations, selecting and promoting those most desirable. But in addition to variation and environment the stock breeder has introduced more powerful influences by cross-breeding of his animals—a most efficient cause of variation.

"The wheat-breeder has made little use of this method, and with good reason. Animal cross-breeding is easily secured, but the structure of the wheat head is such that it is difficult to secure cross-breeding, and accidental or natural cross-fertilization is rare in the wheat plant, while very common in corn. But cross-breeding to secure the points of excellence in two varieties of wheat appears a most promising field for improvement of this grain.

CROSS-BREEDING IN AUSTRALIA.

"Mr. Wm. Farrer, of New South Wales, has turned his attention for several years to cross-breeding of wheat, particularly to develop a rust-proof wheat for Australia, and has been very successful in his efforts. Having had some correspondence with Mr. Farrer on the subject of improving wheat, I received from him, a few months ago, ten cross-bred wheats, all of them the first year's growth from the cross. He used the Improved Fife

as the parent stock in nine cases, and crossed this with some promising wheat of another kind.

"There was about a teaspoonful of each kind of wheat and they all looked promising. The precious seed was placed in the hands of Prof. Smith and planted separately under the care of Mr. Crozier. Each kernel will produce a stool of wheat, which will be gathered and examined separately. We shall thus have next harvest three or four hundred separate specimens of wheat, from which we may find thirty or forty kinds worthy of further testing. We shall probably find some new kinds of wheat, and possibly varieties of great value. It will take some years of cultivation to fix the character of any of these new varieties. It is a lottery of nature in which we may draw nothing but blanks, but we hope to draw a prize for the farmers and millers of Michigan."

Hay-Growing in Mississippi.

The eighth report of the Mississippi Experiment station shows great advancement in the production of hay in that State since the station's experiments were undertaken. It says:

"In 1888 the station commenced a series of experiments with grasses and forage plants with a view to determining—

"1. What plants will restore fertility to the soil most rapidly and at the same time give fair returns in hay or pasture.

"2. What plants will make the most permanent meadows.

"3. What plants will make the best permanent pastures, especially for winter grazing.

"4. What hay-producing plants are best for temporary use.

"Since the commencement of the work 586 species have been grown, many of them on soils widely different in character. Sowings have been made at different seasons and under different conditions; seeds of the more promising sorts have been distributed to planters in different parts of the State, and special attention has been given to the fertilizing and winter grazing values of each species.

"When this work was commenced almost no hay was grown in the State except what was used by planters for home consumption, and thousands of tons were shipped into the State annually. The census report for 1880 gives the yield of hay in Mississippi as being only .83 ton per acre, against an average yield of 1.14 tons per acre for the whole United States. In 1893 the yield of hay for this State had doubled, being then 1.66 tons per acre, against an average of 1.32 tons for the whole country. In 1895 the average yield in Mississippi had increased to 1.95 tons, against an average of 1.06 tons for the whole of the United States, or 84 per cent. above the average, and 114 per cent. above the average in the northern and central States of the Mississippi valley."

Important to Breeders.

Every one interested in improved stock should have the *Breeder's Gazette*, of Chicago, as well as the KANSAS FARMER, which we furnish for the price of one—both papers one year for only (\$2) two dollars; or we will supply the *National Stockman and Farmer*, of Pittsburgh, Pa. (the best general farm and stock journal in this country, price \$1.50), and the FARMER, for \$1.50. Send for sample copies to the papers direct, and save money and get a big benefit by sending your subscription to KANSAS FARMER, Topeka, Kas. No progressive farmer or breeder can afford at this low price to be without this great trio of farm magazines.

No Room for Doubt.

When the facts are before you, you must be convinced.

The facts are that the UNION PACIFIC is leading all competitors, is the acknowledged dining car route, and great through car line of the West.

The line via Denver and Kansas City to Chicago in connection with the Chicago & Alton railroad, with its excellent equipment of Free Reclining Chair Cars, Pullman Palace Sleepers and Pullman Dining Cars, demands the attention of every traveler to the East. Ask your nearest agent for tickets via this route.

E. L. LOMAX,
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The Stock Interest.

THOROUGHbred STOCK SALES.

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

SEPTEMBER 17—W. H. Wren, Poland-Chinas, St. Joseph, Mo.
OCTOBER 1—E. E. Axline, Poland-Chinas, Oak Grove, Jackson Co., Mo.

PROTECTION IS PROSPERITY.

EDITOR KANSAS FARMER:—A hint to the hog-raisers in reading all different journals, their continuous inquiry regarding the loss from hog cholera, swine plague, thumps, worms and many other diseases originating from a germ. A large number of hogs die daily from the above mentioned, and the largest loss comes from hog cholera or worms. It is a misfortune caused by carelessness that the owner does not protect his hogs and keep them in a healthy and clean condition, presuming the hog is an animal that can live and thrive in filth. This presumption is the means of great loss, as they should keep them clean and healthy, as it is an old proverb that "Cleanliness is next to godliness," and, if they would only adhere to this, the loss sustained each year would greatly diminish. Each and every man should do his part to bring about this state of affairs, as one grower neglecting the sanitary condition will cause his neighbors and the whole community to suffer loss through his neglect.

Every farmer and hog-raiser should use a positive disinfectant and germicide to kill the germ or germs; at the same time he should use a food composed of ingredients that, when fed, will kill the worms in the hog. They should not wait until they are so far gone that they commence to prove fatal, because the extra food taken to keep or support these worms, to say nothing about the loss, is a thousand-fold more costly than the article would be to prevent it, thus saving bother of mind, trouble of doctoring and loss of money.

It seems to me the number of years, one following after the other, with the same old story of all your energy, carefulness and zeal put forth in raising a large number of hogs or pigs in the spring, to be swept by these different diseases after you have spent all these months and just got them to the point of realization for labor, that you would not hesitate to drop these things that you have tried from year to year and found wanting and adopt a scientific and common sense remedy and make an effort to protect or save your coming crop of hogs. It seems that the average farmer or hog-raiser seems to hesitate and refuses to expend a few dollars in the proper time, that would save him hundreds and possibly thousands of dollars. If every farmer and hog-grower would only do as some of the large hog-growers do, and who have not had any loss from these different diseases any way from one to three years, simply from the fact that they use a disinfectant and germicide every day of the year. One large hog-grower wrote me, stating he would just as soon be without food for his hogs as without a disinfectant and germicide. Why? Because, for two years with hog cholera all around him, he has not met with the loss of a single hog. He well knows, as a large hog-grower, that the money spent was money saved. He clearly sees and realizes that the hog is not a scavenger, and filth is not his natural mode of living, but is positively inclined to be clean, if you will only give him a chance. If you will observe their habits in the pens, although they may be crowded, it will prove this to be a fact beyond a doubt. While the hog is the hog-grower's source of revenue and his financial friend, yet the average hog-grower treats him as a slummer or dumping ground; that which nothing else will eat, he will give to the hog. The average hog-grower does not seem to be willing to spend a few dollars to protect and save that which will make him money, but waits until the dread disease strikes the fatal blow, then he is willing and ready to spend money freely and does not seem to realize that he has let the golden opportunity pass by, when he could have action and re-

sults for his money. If you cannot see the common-sense plan of expending your money to kill the common enemy, which is lying, waiting, in decomposition about your barns, stable, hog sheds, or poultry houses, before the new crop sufficiently advances and commence to feed them, and their blood heats up and ripens the system to receive the germ. After you have allowed all this to take place, and the germs commence on their deadly march through your herd, for you then to commence wiring, writing and buying all kinds of so-called remedies, is simply nonsense, and if you cannot take it in the right time, do not pelt your money around like a drunken man, as that which you buy will only increase the loss—first, by the loss of your hogs, and then your money. Spend a few dollars in time, and if necessary a week, if needed to thoroughly remove all of this filth and decomposition from around your buildings and premises, disinfect it and bury it, and leave it in the earth, and let it produce corn to grow and fatten hogs, instead of what it is doing now—growing and producing hog cholera germs that will certainly wipe out your herd within the next nine months, if you do not give this both consideration and action.

WM. BANNERMAN.

113 Adams St., Chicago, Ill.

Kansas Sheep Husbandry.

Notwithstanding the various discouragements which have beset sheep husbandry in Kansas and the West generally, there is no question as to its importance as a permanent and profitable branch of the animal industry, and sagacious farmers coincide with this view and are acting accordingly.

One of the most extensive and successful breeders in Kansas is E. D. King, of Burlington, who wrote the following communication to H. A. Heath, Secretary of the Kansas Improved Stock Breeders' Association:

"From our proximity to the best markets in the country, our elevated and dry soil, our climate and our great wealth of native grasses and alfalfa, timothy and clover, we are better adapted to sheep husbandry than most of the States of the Union, and nothing will bring so much prosperity to the western and drier portions of our State as the wearing of the golden hoof. "Our energetic Secretary Coburn has shown the great value of wheat as feed, but to no class of stock is it so well adapted as to sheep, and for them it needs no grinding or other preparation, and the wheat plant is improved by being pastured by them in the fall. "Many have questioned whether wool-bearing sheep could be reared here of the best quality, but the fact that Kansas sheep captured more prizes at the Columbian show than any other flock and more than the State shows of New York and Vermont combined and that the prize-winners were all Kansas-bred but two out of forty head, should settle that question. Every one knows we showed more size. The representative of the largest sheep breeding company in Colorado, when selecting a car-load of rams at my place, said they should have been here before had they known we grew our sheep to such size, and also said they had imported two car-loads of French Merinos from California and did not get as much size as in our Kansas Merinos nor half the wool and quality.

"Our extra growth of fleece and carcass is due to the character of our soil and feed, and will apply with equal force to the improved mutton breeds of sheep if our people could be induced to give them mutton feed and mutton care. It is idle nonsense to claim that any section which will develop such beef cattle as Kansas does won't also carry to the highest perfection the Down breeds of sheep. All we need to develop an all-around sheep husbandry second to no State in the Union is to develop more wide-awake, thoroughbred shepherds—men so purely bred themselves that they will not tolerate a scrub on their farms. This must be the work of the Kansas Improved Stock Breeders' Association and farmers' institutes and KANSAS FARMER. Long may they all prosper.

"There never was a time when a

More

Medical value in a bottle of Hood's Sarsaparilla than in any other preparation.

More skill, more care, more expense in manufacture. It costs proprietor and dealer

More but it costs the consumer less, as he gets more doses for his money.

More curative power is secured by its peculiar combination, proportion and process.

More wonderful cures effected, more testimonials, more sales and more increase. Many more reasons why you should take

Hood's Sarsaparilla

The One True Blood Purifier. All druggists. \$1.

Hood's Pills are the only pills to take with Hood's Sarsaparilla.

good flock of sheep could be started so cheaply as now, and a short time will see them double in value. The time is coming when our farmers will awake to the folly of pouring more wheat into an overburdened world's market and purchasing abroad their wool at an immense cost for transportation both ways. They will raise their own sheep and feed their wheat to them at home, keep the money for both crops at home, enrich their farms and their pocket-books, develop home manufactures and clothe themselves with good, honest-grown wool instead of with the rags and shoddy gathered in the alleys and slums of Europe and reeking with pestilence. They will come to realize that every extra product raised on our farms and worked up in home factories calls for more human mouths to feed."

Adamson's Poland-Chinas.

It is generally conceded that if the breeder of pure-bred live stock desires success he must start right and always endeavor to stay right if he achieves distinction among the top breeders who are naturally his competitors. Among the professional breeders of pedigreed swine in Kansas that is rapidly coming into the inner circle, is Mr. B. R. Adamson, proprietor of the Poland-China herd at Fort Scott, known as the Tower Hill herd. It is eight years since the foundation was laid, and as time rolled on experience taught that in order to reach the top care and judgment must be exercised in all the details of the farm's breeding operations, even after good selections had been made in the foundation stock.

The Tower Hill herd now consists of about 175 head, all ages. The sires used last year were Black Stop 10550 S., U. S. Butler 13388 S., Star Wilkes (Vol. 10 S.), George Free Trade 21053 A. and Free Coinage 16 to 1 (Vol. 10 S.) At this time Black Stop holds the premier's position, and does so because of his great character and success as a sire. He is by the noted first-prize winner and sweepstakes boar, Short Stop 6988 S., and out of Lady Nelson 24648 S. Short Stop won first prize at the World's Fair on boar and four of his get, the greatest of all breeder's prizes. His son, Black Stop, possesses the leading characteristics of both his sire and dam, weighs in breeding condition about 800 pounds, and has a choice lot of extra good sons and daughters now to his credit in the herd. The chief lieutenant of the herd is U. S. Butler 13388 S., bred by Geo. C. Rankin, of Illinois, and sired by Last Look 2d 13389 S., he by Last Look 3044 S., and he by Success 277 S. His dam was Bess Butler 31475 S., she by Bill Tecumseh 11202 S. and out of Black Bess 76351 O. Now, Mr. Reader, where can one go for better breeding? and if you should chance to visit the herd you will find about fifty youngsters by him, and especially a litter out of Annette Wilkes 30197 S. that the writer thinks the best litter seen by him so far this year. The dam, 'tis true, is a very characteristic individual, but the result very strongly demonstrates what may be done by having both sire and dam good ones. The facts are that ten litters by him are as good, taken collectively, as can be found in all Kansas. The grandly-bred boar, George Free Trade 21053 A., bred by the noted Indiana breeder, George Bebout, has to his credit a ten score or more that at once prove him a great breeder. His sire was Free Trade 4420 S. and his dam Leda 64126 A., by Corwin Prince 1920 A. and out of Darkness 2d 17124 O. The well-up Poland breeder cannot help recognizing the value of his pedigree, and the visitor at Tower Hill the result of high-class brood sows that are grown out right nicked with such boars as are now doing service in the herd. The latest harem master recruit is a son of J. H. Sanders Jr. and a

grandson of J. H. Sanders, the most noted winner at the World's Fair, where the strongest swine exhibit was made ever in the history of the improved hog. He won first in class, boar 3 years or over, first money boar and three sows over 1 year, first prize boar and three sows bred by exhibitor, and sweepstakes boar any age bred by exhibitor. The grandson appears to inherit all the characteristics of his noted sire and grandsire. He will be nicked with the daughters of Black Stop and U. S. Butler, and of course something extra fine will be in expectancy. Space forbids an extended notice of the thirty brood sows and gilts, save to say that they are grown out right and are under the immediate care and supervision of Mr. Adamson's herdsman and manager, Mr. J. T. Gilmer, a successful breeder of forty years in Pike county, Illinois. It was he that grew out the eleven-month's pig that weighed 520 pounds, winning first premium at the World's Fair. The visitor finds three twelve-months boars and a string of extra fine gilts ready to go.

Irrigation.

FROSTED PLANTS DIE OF DROUGHT.

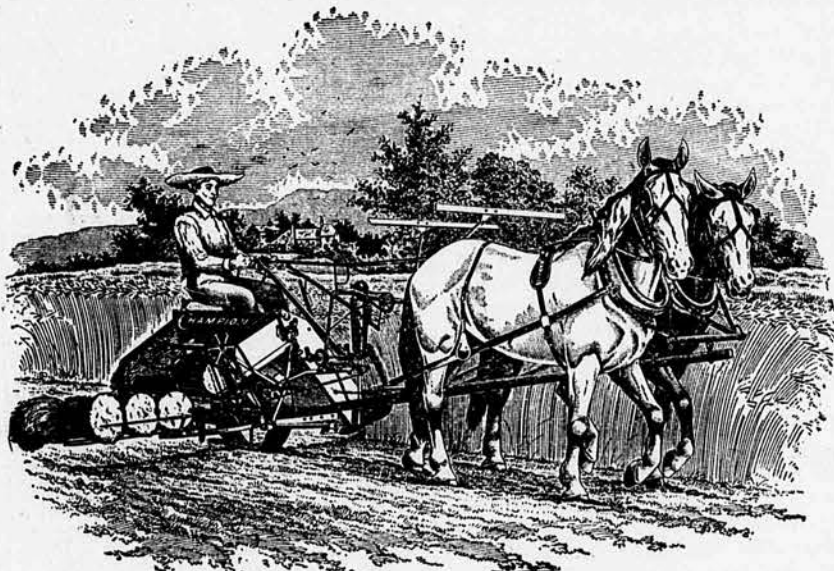
Frosts are generally classified in three groups. We have (1) early frost, which occurs in autumn before the growth of plants has been completed; (2) winter frost, during the period of vegetative inactivity; (3) late frost, which occurs in spring or early summer, after plants have resumed growth. The early and late frosts, coming as they do at a time when plants are unprepared to resist them, cause most damage, and for the most part it is frost in spring or summer, rather than frost in autumn, that the forester has to fear.

The way in which a young succulent shoot or leaf is affected by frost may be briefly described. Like all vegetable tissues, a shoot or leaf is made up of small microscopic chambers called cells, and these consist of a thin membrane which encloses protoplasm—the essential constituent of a living organism—and cell-sap, which is a watery solution of various sugars, salts, etc. In certain parts of shoots and leaves the cells are not in contact with each other on all sides, like close-fitting bricks, but are only in contact at certain points, like eggs in a basket or marbles in a jar. The open spaces between the cells are known as intercellular spaces, and in a normal state of the plant they only contain air. When the temperature of such a plant tissue falls ever so little below 32° F., the cells are induced to part with some of the water which they contain; and this water, passing through the cell-walls, becomes converted into ice in the intercellular spaces. The solution of cell-sap in the cells themselves is not frozen, because, being a solution, it does not freeze at 32° F., but only at a somewhat lower temperature. As the temperature falls further and further below the freezing point, more and more water is abstracted from the cells and converted into ice; and, of course, the more water is withdrawn from the cell-sap, the stronger does the remaining solution become, and the lower falls its freezing point. This abstraction of water from the cells results in an important change occurring in the cells; for whereas at first they were quite full of protoplasm and cell-sap, and their walls distended like an inflated balloon, the distention is relieved by the loss of water, and the cells shrink somewhat and assume the condition of a balloon that has partially collapsed. In their distended state the cells are said to be turgid; in their shrunken condition they are said to be plasmolyzed. Now, whereas a young succulent leaf or shoot with all its cells turgid is able to hold itself erect, it will become limp and drooping when the turgidity is replaced by plasmolysis. It is owing to this cause that the young leaves and shoots of plants droop or become prostrated under the influence of frost.

So long as the frost continues, the condition of shrunken cells and ice in the intercellular spaces will be maintained, but what will occur when the temperature rises above the freezing point will depend very much upon whether the thaw is slow or rapid. It is a well-known fact, that the effect of early or late frost on plants depends

not so much on the actual intensity of the frost as upon the character of the morning that succeeds the frosty night. Should the morning be dull and cloudy—that is to say, should the rise in temperature be very gradual—little or no harm may result; whereas should the sun rise bright in a cloudless sky, the worst effects are to be feared. We shall best appreciate the results if we look at the two cases separately. When a frozen plant is thawed very gradually, the ice in the spaces between the cells is very slowly reconverted into water, the reconversion, in fact, being effected at a rate which enables the shrunken cells to re-absorb their lost moisture and to return to their originally turgid condition. In such a case, frozen plants may not suffer at all, and the frosty night may pass without leaving any appreciable effect.

Very different, however, may be the case where a frozen plant is rapidly thawed. As before, the ice is reconverted into water; but if the change takes place quickly, the cells are unable to re-absorb the moisture, which has thus the opportunity of escaping through the myriads of minute apertures that occur on the surface of leaves and young shoots, and of being lost to the plant. In this case the shrunken cells do not again become turgid, and therefore the affected leaf or shoot, instead of resuming its nor-



NEW CHAMPION BINDER.

Very strong claims are made for the peculiar merits of the CHAMPION Binders and Mowers, and some features are so radically different from all others that they are well worth investigating. A great saving of labor is claimed in the Binder, because the lower elevator canvas extends only to the top of the master wheel, and by an unusual easy slope, while the upper canvas forces the grain from the top of the lower canvas across the master wheel and clear down to the packers, so there can be no delay of grain from the time it is cut until it is bound and the bundle discharged. And in the binding a peculiar wheel is used where the hub is not

mal condition, droops limp and lifeless until the plant pushes it off, and it falls to the ground.

In the majority of cases, therefore, plants affected by late frosts die indirectly of drought. If, however, the frost should be very severe, the protoplasm may be affected in such a way as to be completely disorganized, in which case the rate of thawing can make but little, if any difference to the plant. As a general rule, however, the protoplasm of our hardy plants does not suffer in this way under the influence of spring and autumn frost; that is to say, it is the rate of thawing, rather than the actual degree of cold, which determines the ultimate result.—Dr. Somerville, in "Transactions of English Arboricultural Society," vol. iii., 1895-96.

Secretary Coburn, of the State Board of Agriculture, has just issued his first crop report of the season. He says that reports from the 105 counties show condition of wheat to be at a percentage of 97, with a range of 72 per cent. in Cherokee to 117 per cent. in Gove. He places the net area of wheat at 3,321,500 acres, with much of it well advanced toward heading out. The condition of spring wheat is placed at 102 per cent., rye at 98.5 per cent., oats at 97 per cent. The corn area is placed at 8,680,000 acres and the conditions "invariably favorable."



The WITTE ALWAYS TAKES FIRST PREMIUM.
The only engine for successful IRRIGATION. Can be used for feed-grinding, shelling, etc.
WE GUARANTEE RESULTS!
WITTE IRON WORKS, Kansas City, Mo.

Weather Report for April, 1896.

Prepared by Chancellor F. H. Snow, of the University of Kansas, from observations taken at Lawrence:

The temperature of the past April exceeds that of any other April on our record. This, together with an excessively high relative humidity, made the month an extraordinarily hot one. The run of the wind, too, was high, being exceeded by only two Aprils in the past twenty-nine years. The rainfall and cloudiness were about normal.

Mean temperature was 61.43°, which is 6.65° above the April average. The highest temperature was 86.5°, on the 15th and 16th; the lowest was 23.5° on the 1st, giving a range of 63°. Mean temperature at 7 a. m., 55.51°; at 2 p. m., 69.05°; at 9 p. m., 60.58°.

Rainfall was 3.66 inches, which is 0.55 inch above the April average. The entire rainfall for the four months of 1896 now completed is 5.71 inches, which is 2.44 inches below the average for the same months in the twenty-eight years preceding. Rain in measurable quantities fell on eleven days; in quantities too small for measurement on three days. There were five thunder showers during the month.

NERVOUS DEBILITY.

Chronic Catarrh a Cause—A Malady Peculiar to the United States and Canada.

Debility of the nervous system from intemperate habits of any kind or exposure to cold is quite likely to cause a condition of the nervous membranes of the nose and throat so nearly resembling catarrh that they are practically identical. Also chronic diseases which depress the system will produce the same results, notably female weakness. They cause a fleshy, pale condition of the mucous surfaces, with a sticky, stringy mucous secretion, which produces much hawking or coughing, generally called catarrh; but the whole trouble is caused by nervous depression, pure and simple.

Beside the usual symptoms of catarrh, the patient has brown specks before the eyes, slight dizziness, roaring in the ears, attacks of nervous headache, palpitation of the heart, flashes of heat, followed by slight chilly sensations, faintness, depression, despondency, foolish fears, and many other similar symptoms. In such cases local treatment can do nothing but harm—the only hope of cure being the internal use of Peruna according to the directions on the bottle.

A book by Dr. Hartman devoted to spring nervousness and spring diseases generally will be sent free on application by The Peruna Drug Manufacturing Co., of Columbus, Ohio.

Send \$1.35 to KANSAS FARMER office for one year's subscription to KANSAS FARMER and Chicago Weekly Inter-Ocean.

LIVE STOCK AUCTIONEERS.

LiveStockAuctioneer. JAS. W. SPARKS, Marshall, Mo.
Sales made everywhere. Refer to the best breeders in the West, for whom I sell. Satisfaction guaranteed. Terms reasonable. Write before claiming dates. Mention KANSAS FARMER.

ELI ZIMMERMAN, Hiawatha, Kansas, Live Stock and General Auctioneer.
Pedigreed and registered live stock a specialty. Write for dates. Sales conducted anywhere in the country. Best of references and satisfaction guaranteed.

S. A. SAWYER, FINE STOCK AUCTIONEER—S. Manhattan, Riley Co., Kas. Have thirteen different sets of stud books and herd books of cattle and hogs. Complete catalogues. Retained by the City Stock Yards, Denver, Colo., to make all their large combination sales of horses and cattle. Have sold for nearly every importer and noted breeder of cattle in America. Auction sales of fine horses a specialty. Large acquaintance in California, New Mexico, Texas and Wyoming Territory, where I have made numerous public sales.

VETERINARY SURGEON.

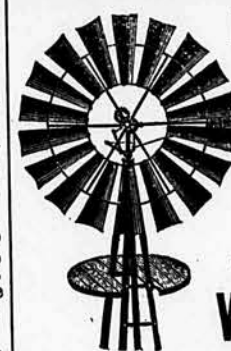
DR. U. B. McCURDY, Veterinary Surgeon. Graduate of Ontario Veterinary College, Toronto, Canada. Can be consulted on all diseases of domestic animals at office or by mail. Office: 114 West Fifth Street, Topeka, Kas.

DOGS.

HIGHLAND KENNELS, TOPEKA, KAS.—Great Danes and Fox Terriers. The first prize and sweepstakes winner, Great Dane King William, in stud. Dogs boarded and treated for all diseases; also, remedies by mail. Correspondence solicited.

Every Home Seeker

should investigate the lands of the Mobile & Ohio R. R. in southern Alabama and Mississippi. Delightful climate and bountiful crops the year round. Sold in tracts to suit purchasers. Write for full particulars. Address **HENRY FONDE, President, Alabama Land and Development Co., Mobile, Ala.**



IT DOESN'T COST YOU ONE CENT

TO GET OUR CATALOGUE OF

WINDMILLS,

Pumps and Gasoline Engines

FAIRBANKS, MORSE & CO., Station "A," KANSAS CITY, MO.

Salvation oil should always be kept in the kitchen. For the ready cure of scalds and burns it has no equal. 25 cents.

Send for new program, including list of trotting purses offered, for inaugural meeting of the El Paso County Horse and Bicycle Association, May 30, June 1, 2 and 3, 1896, to J. W. Miller, Secretary, Room 2, Bank Building, Colorado Springs, Colo.

To Destroy Gophers.

EDITOR KANSAS FARMER:—Will you please let me know through your paper how to destroy gophers in the vineyard and garden?
JULIUS RAHE.
Parallel, Washington Co., Kas.

Similar inquiries have been answered several times in the KANSAS FARMER during the last few months. On page 818 of the 1895 volume ex-Gov. Geo. W. Glick gave his method. On page 12 of the current volume, several methods from the United States Department of Agriculture were given, and on page 50, a careful letter from F. C. Sears, of the Agricultural college, was given.

The method which will probably be easiest for most farmers is that of poisoning with strychnine. Have the strychnine thoroughly pulverized by the druggist. Take pieces of potatoes, sweet potatoes or parsnips, about an inch cube or this size in other shape, split them and place a little of the powdered strychnine on the freshly-cut surfaces, pin the pieces together in original position with a wooden peg, and drop into the run-ways of the gophers. Do not fail to place the poisoned bait in the run-way. To find this, which is usually six inches to a foot below the surface, dig down at a fresh gopher hill, and, with a pointed stick, probe the ground to ascertain the direction of the hole filled with loosened soil from the mound to the run-way. The mound is usually on a branch and at a little distance to one side of the main run. Use the probe and find the run, then open it, clean out the loose dirt and drop in the bait. Cover the opening to prevent the loose

"barrier" method remains. By this method it is often possible to trap and destroy the bugs almost entirely.

The following is a brief description of the method of forming and operating the "barrier." Turn a double furrow with a plow, thus forming a ridge. Smooth and pack down the top and sides of the ridge. Along the top of the ridge pour from a watering-pot a narrow line of coal tar. Where coal tar is not available, crude petroleum or kerosene mixed with common coarse salt may be substituted, and a line of the mixture may be strewn on the ridge with the hand. These substances are offensive to the bugs and they seldom attempt to cross them or even to come close enough to touch them, but they turn and run along the ridge in the evident hope of finding a gap through which they may pass. If now post-holes, broadening toward the bottom, be dug at intervals of seventy-five or 100 feet on the side of the ridge towards the small grain, the bugs will crowd one another into the holes, where they may be killed, when the holes are nearly full, by earth thrown in and packed down or by pouring in a little petroleum. If the salt and petroleum mixture be used on the top of the ridge, it will need to be renewed after each rain, but the coal tar will require no renewal for several weeks.

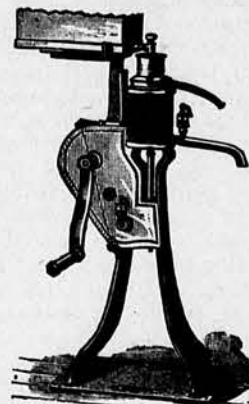
F. H. SNOW.

University of Kansas, Lawrence.

"The Best Farm in the World."

Possibly there are many of the readers of the KANSAS FARMER who would be loath to admit that the best farm in the world

IMPROVED United States Separator.



Users are enthusiastic in its praise on all points that go to make a first-class Separator.

One says:

"We make 15 per cent. more butter."

Another writes:

"0.03 of 1 per cent. was the test of the skim-milk to-day, running the Separator as it runs every day."

Says another:

"It's a fine running machine. Can be easily turned with one hand, and only takes from 3 to 5 minutes to clean it."

"And there are others," hundreds of them, in our special catalogue. Have you one? If not, ask for it and we will gladly send one.

We furnish the best Babcock Tester, the best Churn, as well as the best Butter Workers, Butter Printers, Cooley Creamers, Butter Packages of all sorts, Vats, Engines and Boilers, and everything for the Creamery and Dairy.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

earnings at Longbeach." The Press representative was impressed with the long line of McCormick harvesters and binders at work in the various paddocks, "there being as many as seventy reapers and binders, and a corresponding number of drays, with upwards of 1,000 horses, and quite an army of men. This season, it is said, the area in wheat, oats and barley amounts to somewhere about 7,000 acres, and the crops are as promising as have ever been seen on this fertile estate. The McCormick harvesters, as they came up side by side, following one after the other, cutting, tying and delivering the big, heavy sheaves of grain with the most perfect regularity, and without the slightest trouble or the least sign of hitch, presented a very pretty harvest picture. During the

Gossip About Stock.

Adam Rankin, the veteran poultryman of Olathe, Kas., has just received his World's Fair prizes awarded him in 1893.

J. M. Stonebraker, of Panola, Ill., shipped to California four of his fine pigs May 4 and on same day one to Missouri. He reports orders from the West are coming "thick and fast."

The annual meeting of the American Southdown Breeders' Association will be held in the Secretary's office at Springfield, Ill., Wednesday, May 27, 1896, at 10 o'clock a. m. At this meeting the regular annual election of officers will be held, and other matters pertaining to the association will receive attention.

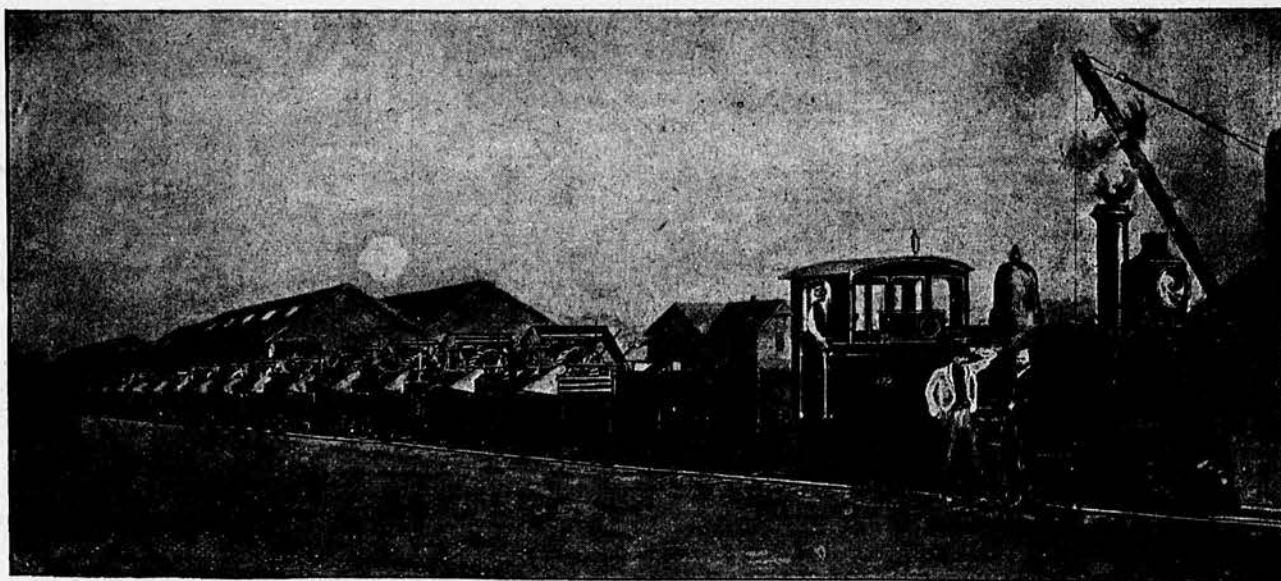
The anti-cholera pig trough made by the Topeka Foundry and advertised in this issue is well worthy the attention of every swine raiser, on account of its sanitary and other good qualities. There is nothing on the market that seems to meet every natural want as does this one. Write the Topeka Foundry for particulars.

The Maple Grove herd of Poland-Chinas, owned by Wm. Plummer & Co., Osage City, Kas., reports the spring pigs as coming on in fine shape. Last week from his poultry advertisement, besides his Kansas sales of eggs, he sold fourteen sittings to KANSAS FARMER subscribers in Arizona. Who says it don't pay to advertise in the "Old Reliable?"

ONE HONEST MAN.

DEAR EDITOR:—Please inform your readers that if written to confidentially, I will mail in a sealed letter the plan pursued by which I was permanently restored to health and manly vigor, after years of suffering from Nervous Weakness, Loss of Manhood, Lack of Confidence, etc. I have no scheme to extort money from any one whomsoever. I was robbed and swindled by quacks until I nearly lost faith in mankind, but thank heaven, I am now well, vigorous and strong, and anxious to make this certain means of cure known to all. Having nothing to sell or send C. O. D., I want no money. Address
JAS. A. HARRIS, Box 807, Delray, Mich.

The method pursued by the Nickel Plate Road, by which its agents figure rates as low as the lowest, seems to meet the requirements of the traveling public. No one should think of purchasing a ticket to Buffalo N. E. A. convention, during July, until they first inquire what the rate is over the Nickel Plate Road. For particulars, write J. Y. Calahan, Gen'l. Agent, 111 Adams street, Chicago, Ill. 94



SPECIAL TRAIN MCCORMICK BINDERS EN ROUTE FROM CHRISTCHURCH, N. Z., TO LONGBEACH.

dirt from filling the run and fill up the opening you have made.

Another method is to saturate a small ball of cotton—dry horse manure is just as good—with bisulphide of carbon and place it in the run, covering as with the strychnine. Except for the explosive character of the bisulphide of carbon, it is safer to handle than the strychnine. It must be kept away from fire.

How to Fight Chinch Bugs.

EDITOR KANSAS FARMER:—It appears from an extensive correspondence that the chinch bugs are unusually numerous in many parts of Kansas, and that they are likely to do much damage unless checked by disease or by mechanical devices. The greatest loss is inflicted by the bugs during the last two weeks of their stay in the wheat fields before the harvest, and during the first two weeks of their stay in the corn fields after they have left the wheat fields. During these four weeks they are mostly without wings and cannot fly, so that they are more readily reached by infection or kept from entering the corn fields by the barrier method. At this critical time the efforts of the individual farmer may often be successful in protecting his own fields although his neighbors may not co-operate in the warfare against the bugs. I would therefore advise the use of the infection in the infested wheat fields. If the meteorological conditions are favorable, the bugs may be destroyed by disease before they reach the corn fields. If these conditions are not favorable, the

cannot be found in some part of the United States—and it is just possible that the particular spot of ground entitled to this eminent distinction would be variously designated according to the individual views of the particular reader. However, we may state in all fairness, and certainly without desire to belittle our American agriculturists—and even granting them the opportunity to defend themselves against the charge of not being the owners of the "best farm in the world"—that this title has for some time been held by what is known as the world-famed Longbeach Estate and that it is located in New Zealand. Early in February the harvest season was at its full height at Longbeach, and the enterprising Weekly Press, published at Christchurch, sent a special representative with instructions to furnish the paper with a replete report of the interesting event, as disclosed by the operations upon this renowned estate. "Longbeach," says the Press, "is a busy place at almost all times of the year, and particularly so during the harvest. Plowing, sowing and other operations occupy large numbers of men and horses, but they are spread over several months of the year, whereas the climate of the district brings the crops to maturity within a period of less than a month, and in that space of time the grain must be secured. Small farmers, contractors and others—many from the immediate vicinity, others from almost all parts of Canterbury and some as far as Otago—find work at Longbeach during this busy time and useful harvest hands flock thither sure of a job. Employment at Longbeach has always been sought after, there being no better employer in New Zealand than Mr. John Grigg, the owner of the estate, and it can be said that no employer has better workers, whether permanent or casual. Many under both categories have worked for him for a great number of seasons, and many snug farms and homes in various parts of the colony were founded by the

three or four days I was there I saw them working in heavy, tangled crops, with a good deal of undergrowth, in heavy, bright, clean crops, and in crops of such a nature as would most thoroughly test the strength and general capabilities of any machine. They did really good work in the heavy, tangled crops, but when they got into a clean piece, the 256 acres of Tuscan, for instance, they delivered most neatly-bound, even-butted sheaves, leaving a beautifully clean, close stubble, with a very marked absence of litter. Each machine, drawn by a team of two horses only, cut, tied and delivered the heavy sheaves of grain with the greatest regularity, everything running smoothly and almost noiselessly, and the draft being so light that even in the heaviest and greenest of the crops the two horses were never distressed, blazing hot as the weather was." Just prior to the harvest season Mr. Grigg bought a train-load of McCormick harvesters from Messrs. Morrow, Bassett & Co., of New Zealand, "and," continues the writer, "this house is to be congratulated on having so many of the McCormick machines holding the pride of place on this splendid estate, for if they give, as they are doing, unqualified satisfaction on Longbeach, there is no fear of anything approaching failure in any other direction. As an instance of the produce which annually goes off Longbeach it may be stated that at Winslow, a small hamlet, and the nearest railway station to Longbeach, there is yearly paid a sum of £5,000 (about \$25,000) for freight. Where the interest involved is of such magnitude every risk is, of course, reduced to a minimum. Men—as already mentioned—horses and machinery must all be of the best type. The break-down of a single reaper and binder for a day might expose a hundred pounds' worth of grain to danger from the capricious elements. Consequently no visitor should miss seeing the implements and machinery, for what finds favor at Longbeach may safely be taken as thoroughly reliable and efficient."

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MOST PRACTICAL AND MOST POPULAR

AS ARE ALSO THE
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ENGINES

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J. I. CASE THRESHING MACHINE & RACINE WIS.

The Home Circle.

LET THE DREAMER DREAM.

Do not try to blind your brother
To the rubrics of your creed;
Do not preach to him a sermon
Upon everything you read.

If he's thoughtful, give him leisure
To search out what in him lies;
In his soul he may find pinions
That shall lift him to the skies.

Do not scorn the brooding moment
When he sits before you dumb,
For his song may yet go ringing
Round the earth like trump and drum.

Or it may be sweet and tender,
And not still be wholly lost;
It may soothe some weary mortal
Sick at heart and tempest-tossed.

So let every dreaming brother
Dream what dreams his days may bring,
Madrigal or mighty chanson,
Dirge or anthem, let him sing.

HENRY W. ROBY, M. D.

Written for KANSAS FARMER.

REST WHILE YOU WORK.

"Keep your mind right on your work," is an oft-repeated injunction to girls who are passing through an apprenticeship in housekeeping under the mother's eye. I am prepared for a charge of heresy when I take exception to this well-meant advice. I do not sympathize with the dawdler whose hands fall listless while her thoughts "go a wool-gathering," but the mind cannot grow, at least not a healthy growth, without food; and what poor starved or dyspeptic minds we should have if our mental diet consisted of cooking, cleaning and canning alone.

Yet many housewives get scarcely an hour in the week to sit quietly with their thoughts. There is nothing which requires more attention than the preparation of many of our foods, and every housekeeper knows that a clear head and a present mind are essential to her success as such; but there are kinds of work that can be done just as well with no thought, by following a routine. The moments thus gained may be well spent in thinking over the surprising or puzzling events taking place in other places. Reading does not give its full benefit if one does not spend thought upon the subjects read. Unfortunately, there is much in our periodicals which is not worthy any considerable thought. By this I do not mean that because a story is light it is not to be read and enjoyed in after-moments of mind leisure. Some of these stories have a sweet and restful influence which can be found by busy women in no other way. A safe guide in this matter is the direction which St. Paul gave to the Philippians: "Whatsoever things are true, honest, pure, and of good report," he says, "think on these things."

I was once, when quite a young girl, helping an experienced friend get her parlor ready for the weekly sweeping. She directed me to put certain ornaments, after dusting them, here, others there and so on. I thought "How queer, as if it could make much difference where they are put?" My friend worked rapidly, talking the while, and as the last print cover was carefully tucked under the edges of a pile of music, she explained: "I always put things away just like this; I've done it so many times I never have to think where anything is, but can have my mind on something ever so much pleasanter while I spin around and do the work like a machine. When the dust is settled and the covers shaken and laid away in their drawer, I can put everything back in its place in the same way." It was an eye-opener to my simplicity. Since then I have conceived a great respect for the institution known as "ruts." There is nothing more useful, provided you are content to wheel only your work in them, remembering that a rut is but a means to an end, that end being to preserve cheerful comfort in your home.

ADDIE CABOT.

Manhattan, Kas., May 1, 1896.

Parsnips and Walnuts.

Parsnips are sometimes served at elaborate dinners in the form of English walnuts; they are first boiled and mashed fine. Then to each pint there is added a teaspoonful of salt, two tablespoonfuls of melted butter, a dash of pepper and two tablespoonfuls of milk. Mix well over the fire, and when smoking hot add a thoroughly beaten and very fresh egg. Spread the mixture on a dish to cool, then take the nut of an English walnut, an almond, or a pine nut and roll around it the parsnip pulp until you have a good-sized nut. Roll in egg and in cracker dust as you would croquettes, fry a light brown in deep fat that is smoking, and serve hot.

The use of Hall's Hair Renewer promotes the growth of the hair and restores its natural color and beauty, frees the scalp of dandruff, tetter and impurities.

AMUSING ACCIDENTS.

Attending One of Queen Victoria's Drawing-Rooms Is a Serious Matter.

It is no easy matter to handle the huge court train at first, and how to make a courtesy gracefully and rise again without tripping over the train, or disturbing the set of it, is an art which has to be regularly learned by the young ladies who go to court for the first time.

The usual plan is to go and learn from a dancing mistress; other girls are learned by their mothers. But, in any case, the form of practice is the same. A heavy tablecloth is pinned on to the girl's dress so that it sweeps along the ground like a train, and, thus arrayed, the girl advances, courtesies, rises and backs again and again until she is able to manage her appendage with ease.

The business of making a courtesy also requires practice and muscle, for it consists in sinking down almost on the knees, bending the head forward the while. On one occasion when a very stout lady had reached the lowest point of the courtesy, she found that she had lost control over her muscles, and, instead of rising, rolled over on the floor, from which she was assisted to rise by the lord chamberlain.

A similar accident happened to another very stout lady, but she always declared that she would have been all right but that as she rose she distinctly felt a tug at her train, just as if some one had trodden on it, and she was sure that Lady X., who came after her, had done it on purpose, in order to gratify a little private vengeance by causing poor Lady Y. to make an exhibition of herself before her sovereign.

In consequence of these accidents one of the lord chamberlain's subordinates, selected for his strength, is now chosen to stand facing the queen, so that he is just behind each lady as she courtesies. It is his business to catch any lady who may overbalance herself, and to avert any similar catastrophes.

The most startling incident that has occurred at a drawing-room of late years was the queen's refusal to receive



LATEST PICTURE OF QUEEN VICTORIA.

a certain lady just at the moment when she was advancing in full court array to kiss her majesty's hand. The queen knew of her private reputation, and so, though the lord chamberlain protested that, having been passed by the office and by the queen herself at the scrutiny of candidates for presentation, the lady was entitled to be presented, her majesty persisted that she had not understood before, but now that she did understand, that particularly lady should not pass her. "I will not receive Mrs. —," said the queen, in her most peremptory tone. And in the end Mrs. — had to turn back and leave the palace unrepresented.

On one occasion some excitement was caused by the appearance of a black poodle in the corridors. He was cut and curled in the most approved fashion, and the ladies would have been delighted with him at any other time, but on this occasion they were all in mortal fear that he would spoil their dresses. He made his way gradually toward the throne room, and was just trotting gayly into the presence of his sovereign when, luckily, one of the officials of the entrance saw him, and with a well directed kick headed him back into the ante-room. He retired with a yelp which was audible to all the drawing-room, including the queen, who looked toward the sound. Then he disappeared just as he had come, without anyone seeing how he got in and out of the palace.

Many ludicrous and undignified accidents have occurred at drawing-rooms. One lady of the highest rank, considerable age and equal vanity, as she bent

Neglected Colds

mark the beginning of every Spring time, and only too often they are the beginning of the story of which Consumption is the end. Scott's Emulsion of Cod-liver Oil with Hypophosphites will soothe a cough, heal the inflamed membranes and restore the parts to a healthy condition. It will do this promptly and permanently if taken in time.

Don't experiment with substitutes when you can get Scott's Emulsion for a few cents more.

50c. and \$1.00 at all Druggists.

An ounce of prevention
—is a bottle of—
Scott's Emulsion

over the queen's hand had the misery of feeling the golden wig which she was in the habit of wearing slip down over her eyes, completely blinding her for a time.—Cincinnati Enquirer.

The Origin of Oxtail Soup.

During the reign of terror in Paris in 1793 many of the nobility were reduced to starvation and beggary. The abbatoirs sent their hides fresh to the tanneries without removing the tails, and in cleaning them the tails were thrown away. One of these noble beggars asked for a tail and it was willingly given to him. He took it to his lodging and made (what is now famous) the first dish of oxtail soup; he told others of his good luck, and they annoyed the tanners so much that a price was put upon them.

Chocolate Bavarian Cream.

For one large mold of cream use half a package of gelatine, one gill of milk, two quarts of whipped cream, one gill of sugar and one ounce of chocolate. Soak the gelatine in cold water for two hours. Whip and drain the cream, scrape the chocolate and put the milk on to boil. Put the chocolate, two tablespoonfuls of sugar and one of hot water in a small saucepan and stir on a hot fire until smooth and glossy. Stir this into the hot milk. Now add the soaked gelatine and the remainder of the sugar. Strain.

Baked Halibut.

Select a solid piece of halibut weighing about two pounds. Wash and dry it and place in a baking pan, with the flesh side up. Season with salt and pepper, sprinkle with cracker crumbs and lay soft strip of fat salt pork about two inches apart. Bake three-quarters of an hour, garnish with slices of lemon and serve.—Good Housekeeping.

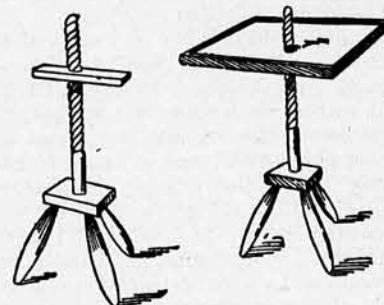
How to Prepare Baked Tomatoes.

Take six large ripe tomatoes, skin and cut into small pieces. Spread a layer in the bottom of a bake dish, season well, put a layer of coarse bread crumbs over the tomatoes, with plenty of butter. Continue this until the dish is full, having bread crumbs on top. Bake one hour.

GRANDMOTHER'S TABLE.

Of Particular Interest to Those Who Delight in Old Furniture.

The illustration will prove of interest to those who delight in old furniture, and to those who both delight in it and like to reproduce it in actual wood, paint and varnish; This table is known to be over a hundred years old. Its



GRANDMOTHER'S TABLE.

construction is quite plainly shown in the two cuts, the screw standard being designed to afford opportunity to raise or lower the table. The top is about fifteen inches square and has a slightly raised edge. The whole is exceedingly quaint in appearance, and ought not to prove difficult to construct if one could have the assistance of a lathe in working out the screw part of the standard. — Rochester (N. Y.) Landscape Architect.

There is more Catarrh in this section of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease, and prescribed local remedies, and by constantly failing to cure with local treatment, pronounced it incurable. Science has proven Catarrh to be a constitutional disease, and, therefore, requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, is the only constitutional cure on the market. It is taken internally in doses from ten drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials. Address, F. J. CHENEY & CO., Toledo, O.

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The Young Folks.

A FLORAL LOVE STORY.

Fair (Marigold) a maiden was, (Sweet William) was her lover;
Their path was twined with (Bitter Sweet),
It did not run through (Clover).
The (Ladies' Tresses) raven were, her cheeks
a lovely (Rose).
She wore fine (Lady's Slippers) to warm her
small (Pink) toes.
Her (Poppy) was an (Elder) who had a (Mint)
of gold.
An awful old (Snapdragon), to make one's
blood run cold!
His temper was like (Sour Grass), his daughter's
heart he wrung
With words both fierce and bitter—he had an
(Adder's Tongue)!
The lover's hair was like the (Flax), of pure
Germanic type;
He wore a (Dutchman's Breeches), he smoked
a (Dutchman's Pipe).
He sent (Marshmallows) by the pound, and
choicest (Wintergreen);
She painted him (Forget-me-nots), the bluest
ever seen!
He couldn't serenade her within the (Night-
shade) dark,
For every (Thyme) he tried it her father's
(Dogwood) bark!
And so he set a certain day to meet at (Four-
o'clock)—
Her face was pale as (Snowdrops), e'en whiter
than her frock.
The lover vowed he'd (Pine) and die if she
should say him no,
And then he up and kissed her beneath the
(Mistletoe).
"My love will (Live-for-ever), my sweet, will
you be true?
Give me a little (Heartease), say only 'I love
(Yew)!'"
She faltered that for him aloneshe'd (Orange
Blossoms) wear,
Then swayed like supple (Willow), and tore
her (Maidenhair)!
For (Madder) than a hornet before them stood
her Pop.
Who swore he'd (Cane) the fellow until he
made him (Hop)!
Oh, quickly up (Rosemary)! she cried, "You'll
(Bue) the day,
Most cruel father! Haste, my dear, and
(Lettuce) flee away!"
But that inhuman parent so plied his (Birch)
rod there
He settled all flirtations between that hap-
less (Pear).
The youth a monastery sought and donned a
black (Monkshood)!
The maid ate (Poisoned Ivy) and died within
a wood.
—Catherine Young Glen, in March Ladies'
Home Journal.

Written for KANSAS FARMER.

REMINISCENCE OF SHAWNEE CENTER.

We all love to hear of the past, and are highly entertained when our grandparents tell of days long ago, when they wore homespun garments, wrote their letters with quills, and read them by the feeble light of a pitch pine fire or tallow dip candle; and when they relate anecdotes of husking-bees, apple-cuts and log-rollings, we are inclined to think that they, in their youth, made more of time, socially, than we do. I have often thought that in this age of reunions, I should like to attend one for the purpose of commemorating the early settlement of Kansas, a reunion of those rugged adventurers who staked claims and kept them through war, pestilence and famine.

Shortly before Kansas was admitted into the Union, and prior to that little misunderstanding our fathers had with the Southern Confederacy, a number of enterprising farmers and mechanics, by united efforts, erected a building on the high prairie, about twelve miles south of Topeka. Shawnee county at that time extended far to the south of the present boundary, and this being near the center of settlement, and the only public building in this part of the country, they gave it the appropriate name of "Shawnee Center." A meeting house it was, built of walnut logs, chinked with blocks and mortar, roofed with shingles of native oak, floored with rough walnut boards, and furnished with a stationary desk, a platform which served for pulpit and rostrum, some twenty or more benches of oak slabs six feet in length. A room 20x30, fronting east and lighted by windows north and south, planned to serve for all kinds of public meetings—school, church, elections, exhibitions, lectures, theatricals and various social entertainments.

During summer and winter a teacher was employed, and all the young people living within a radius of five miles attended school, some going from even greater distance. Then, every Sunday morning, in clean calico and blue jeans we wended our way across the prairie to church and Sunday school. Our Sunday school supported a library, and we received papers semi-monthly, but such lesson helps as we have to-day in the form of journals, leaflets, and teacher's Bibles with concordance, were unknown. I remember that we owned one small book called a Bible Dictionary. I also remember that we had so few Bibles and Testaments that a class of six or more were required to read to read from one book. Father Green, an aged minister who lived at Leocompton, once visited our Sunday school with cheap Bibles and Testaments for sale, but few could afford to buy them. Doctor Moore, of Auburn, was a missionary and visited our Sunday school quarterly. We were always glad to see Dr. Moore, hear the story of his travels, and receive from his hands pretty books and pictures.

I have now in my library a little book entitled "Self Control," presented by that good man.

So much for the old-time Sunday school at Shawnee Center, yet I cannot well afford to leave the place until I speak of the good woman who taught our day school for several consecutive terms—Miss Elizabeth Simmerwell, of Auburn. You will find her name and an account of her life in histories of Kansas. According to history she was the first white girl born in Kansas. For teaching our school she received the subscribed salary of \$20 a month and board, boarding around, and I remember with what a cordial welcome my mother greeted her when she came to board at our home. Miss Simmerwell was a devoted Christian and lived all of her exemplary life in Shawnee county. A marble slab in the Auburn cemetery now marks the place where a few years ago she stopped to rest.

Shawnee Center is gone and our old playground is now an orchard. While pleasant recollections linger, we see in schools and school houses vast improvement.

JAY VEE.

Carbondale, Kas., May 1, 1896.

VERY QUEER ANIMAL.

The Great Ant-Eater is a Funny Combination in Every Way.

With the exception of the jaguar, the great ant-eater, the ant-bear, or crested ant-bear, whichever you choose to call him, is the most showy quadruped in all South America; nor am I at all sure he is not entitled to first place. In height and bulk a full-grown specimen is about as large as a Newfoundland dog, and is really quite bear-shaped in body and legs. Its tail is long and strong, and bears a tremendous brush of coarse, wiry, brown-black hair, which makes this organ very noticeable. Its head is so small, and its muzzle so fearfully prolonged, that it reminds one of the head and beak of an ibis. Its mouth is a narrow slit across the end of that curious muz-



GREAT ANT-EATER.

zle, its tongue is like a big angle-worm a foot long, and it has no teeth whatever! Its covering is a rough coat of long, coarse, brown hair, most strangely marked by a black band underneath the throat, which on the chest divides into a long, wedge-shaped stripe of black that extends backward and upward across the shoulder.

To me it has always been a puzzle why this creature should possess such a luxuriant coat of hair in so hot a climate. Another point still more open to criticism is his clubbed fore feet. He walks on his claws, and the outer edge of his fore feet, in a most awkward and even painful way, for which there seems to be no adequate excuse—unless his feet were formed that way to vex the souls of wicked taxidermists. Put them as you will, they will not look right; but to the living animal their big, strong, hooked claws are very useful in tearing the bark on decayed logs, or ripping open ant hills for the insertion of that sticky, worm-like tongue. I have often been told by South American hunters that the ant-bear uses his long, bushy tail to sweep up ants with, so that they can be devoured more expeditiously; but I fancy that is only a "yarn."

Even when it is most plentiful, the great ant-eater is a rare animal. Although I have hunted it many days, I never saw but two specimens alive, one of which was a young one in captivity at Ciudad Bolivar, on the Orinoco, and the other was a magnificent large specimen in Forepaugh's menagerie. Owing to their lack of teeth and the peculiarities of their diet, they are difficult to keep alive in captivity. North

of Panama this species is found only in Guatemala and Costa Rica, and is very rare in both of those countries. It lives upon the ground, and its worst enemies are the jaguar and the puma. —William T. Hornaday, in St. Nicholas.

COW'S QUEER APPETITE.

Among Other Things She Ate Her Owner's Best Umbrella.

An English publication tells a story of a cow's remarkable appetite. The animal, a large Holstein, broke into the yard and ate a pair of trousers, a vest, a cardigan jacket, two silk handkerchiefs and a pair of lady's walking boots. She was engaged upon the leg of a boot when interrupted. A slight attack of indigestion followed, but the village "vet." gave her some soothing drops in a bran mash and she recovered.

A day or two afterward the cow was again found upon the poach. Nobody seemed sure what she had eaten this time, but as she was taken ill the "vet." was again summoned, and this time was obliged to perform an operation. He extracted from the cow a rib, not one of her own, but one of the ribs of her owner's best umbrella. The rib was 25 inches long, besides the hinged part, which gives us some idea of the cow's power of digestion, for the remaining ribs, as well as the stick, handle and cover, seemingly gave her no inconvenience at all.

A List of State Flowers.

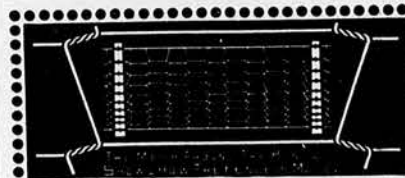
The following "state flowers" have been adopted by the votes of the public school scholars of the respective states: Alabama, Nebraska and Oregon, the golden rod; Colorado, the columbine; Delaware, the peach blossom; Idaho, the syringia; Iowa and New York, the rose; Maine, the pink cone and tassel; Minnesota, the cypripedium or moccasin flower; Montana, the bitter root; North Dakota, the wild rose; Oklahoma territory, the mistletoe; Utah, the lego lily, and Vermont, the red clover. In addition, Rhode Island and Wisconsin have adopted a state tree, the maple being selected by both.

Boy Snowballs an Emperor.

The German emperor is very much of an autocrat, but he has many kindly as well as kingly traits. One day he and the empress, while out sleigh-riding, came across three little boys in the Thiergarten, who were so busy snowballing as to overlook the imperial couple's approach. In consequence, one of the snowballs hit the monarch on the nose. "Did it hurt you, Herr Kaiser?" asked the little culprit, in an anxious tone. "If so, you can hit me and call it square." At this the royal couple laughed merrily, and, taking the boy's address, the emperor next day sent him a comical memento of the incident.

Why He Is Careful with Cents.

A gentleman standing in a hotel lobby, while taking a match safe from his pocket, accidentally dropped a cent on the floor. He picked it up carefully, and as he did so said: "I have only lately realized the value of a cent. I have a small account with a trust company, and the other day I received my book, with interest computed at \$13.99. I worked at the figures quite awhile, and found that the exact amount was \$13.99½. Then I argued with the secretary that it ought to be \$14, but he would not consent to the increase. So I came to the conclusion that if a company with a capital of \$1,000,000 can figure on half cents I ought to be careful with cents."



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has always merited condemnation.



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The new McCormick Light-Running Open Elevator Harvester and Binder, the McCormick No. 4 Steel Mower and the McCormick Corn Harvester are unequalled for capacity, light-draft, efficiency of service and long life. Built, sold and guaranteed by the McCormick Harvesting Machine Co., Chicago.

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KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Thursday by the

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OFFICE:

No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

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KANSAS FARMER CO., Topeka, Kas.

The Kansas State Horticultural Society will hold its nineteenth semi-annual meeting at Iola, on June 11 and 12, 1896.

The Australian wool crop is very short, having been greatly reduced by the drought. By some it is even thought that the limit of Australian wool production has been reached.

In New York city the Hotel Marlborough's steward was arrested, recently, for serving oleomargarine instead of butter to his boarders. He was held in \$100 bail for trial in the court of Special Sessions.

The Garden City *Imprint* says the alfalfa of that vicinity is making an exceedingly fine growth. The first crop—they have four alfalfa harvests in a season—will be ready about the middle of May. This is some two weeks earlier than usual.

The *Hay Trade Journal* gives a table comparing top prices of hay, at the great markets, for the year 1895 and for the forty-one weeks ending April 12, 1896. In every market except San Francisco the prices are higher this year than last. The advance varies from 87 cents per ton at St. Louis to \$1.23 per ton at Montreal. The average advance is \$2.83 per ton.

Thoman, a professional crop reporter, has issued a report of the condition and average of growing wheat. He estimates that the acreage about equals that of last harvest and that the condition of the crop is two points below the condition at this time one year ago. The States that show a gain over the condition of a year ago are: Tennessee 4, Michigan 4, Illinois 5, Missouri 7, Kansas 5 points.

There is a discouraged tone in the editorials of the *American Wool and Cotton Reporter* of April 30. Of flannels it says: "The opening prices on wool flannels for the fall of 1896 are about 5 per cent. lower than those for the fall of 1895. Much uneasiness is expressed as to the course which prices are liable to take on account of the cramped financial condition in which some of the weaker manufacturers find themselves."

Those of our friends who are about to renew their subscriptions will do well to note the following clubbing list—KANSAS FARMER one year and any of the following at prices named: The *Weekly Inter Ocean*, \$1.35; *New York Tribune*, \$1.25; *Topeka Capital*, \$1.50; *Topeka State Journal*, \$1.50; *Topeka Advocate*, \$1.50; *Kansas City Journal*, \$1.30; *Kansas City Star*, \$1.25. Our columns have been so crowded for the last few weeks that it has not been possible to run advertisements of our premium offers. But by referring back a few weeks you will find them. Our subscription list is doing remarkably well, but we can always stand a little more of this kind of prosperity.

LOW PRICES.

There are, every season, two questions of grave importance to farmers. The first is as to the harvest, the second as to prices. For Kansas, the question as to the harvest of the great wheat crop is almost answered with a promise which can scarcely fail of yields unsurpassed in the experience of the State.

The figures on supplies and demands have shown, by the most reliable statistics, that there should be advances in prices of wheat. But in the face of these showings, prices are again declining. There is no flaw in the reasoning of those who find that expansion of production is not now keeping pace with increase of population, and that the era of great extensions of grain-producing areas is at an end. There is no gainsaying the fact, that, while man can expand manufacturing facilities, and while the mining resources of the country and of the world have as yet been but slightly touched, expansion of agricultural productions cannot be made at will. The arable lands are already possessed, and man cannot increase their area. The decline in the prices of other than agricultural products should even now, be in contrast to a rise in the prices of the products of the soil. That there must ere long be a change, and if not a rise in the prices of food supplies, at least less decline in these than in other commodities, is a proposition which no one has cared to controvert.

But lest farmers conclude that they are the only sufferers from the present depression, and that other vocations are reaping rich rewards, we reproduce from last Sunday's *Chicago Inter-Ocean* a few statements, showing the universality of disappointment:

"The revival of trade that ought to come with spring has not brought reaction from the low prices of commodities, and consequently of the low wages of labor. Indeed, the revival is, as *Dun & Co.'s Weekly Review of Trade* puts it, 'less than there was reason to expect.' The retail trade has increased largely enough to lessen the stocks of manufacturers, but not enough to supply them with new orders, nor, as this high authority on mercantile affairs says, 'to prevent the closing of some works.'

"It is not to any one branch of trade that this stagnation is confined. 'Substantially the same state of things exists in all the great industries,' says *Dun's Review*, 'notwithstanding the strong combinations in some.' But *Dun's Review* tells us that the 'strong combinations' in some of the chief industries are the result of abnormally low prices, which men vainly strive to correct by combinations.

"These low prices are not the result of improved machinery or of any healthful cause; they come, as *Dun's Review* says, from 'inadequate consumption.' Manufacturers are in many instances selling at a loss, farmers are selling without profit. The general range of prices of farm, mining, and manufactured products has been lower on the first day of May than that of April; the decline since October, 1892, has averaged nearly 17 per cent."

The recognition of the fact of "inadequate consumption," or, as Ben Butler once put it, "under-consumption," and that it is not "over-production" that ails the world, is a hopeful indication.

In this connection it is well to turn to the published April *Notes* of the New York "Association for Improving the Condition of the Poor." In a very able address by George T. Powell, published in these *Notes*, the following sentence occurs:

There can be no over-production so long as large numbers of men, women and children are living from year to year in an underfed condition.

It is humiliating to the boasted civilization of this age to have to admit that our social organization has not kept up with the requirements of properly distributing and making applicable to the comfort of man the bounties of production.

The conditions complained of are not confined to Kansas or to the West. In the *Notes* above referred to, it is stated that in New York State farm lands have depreciated in value in the last twenty-five years 48 to 50 per cent.

England is a great manufacturing country. Her factory people consume many times the agricultural product of the island. Her farmers have a near-by market for all they produce and much more. But the same cry of distress goes up in England as in other countries.

Is there a remedy? Is there a way to apply such wisdom to the situation as shall give the eater plenty to eat,

the wearer plenty to wear, and shall thus relieve the overstocked markets?

In England they have organized what they call an Agricultural party. Its purpose seems to be, not to propose candidates of its own, but to throw its votes for such candidates of the other parties as pledge themselves to support remedial measures. Not only do they exact pledges, but they demand their fulfillment, as is seen by the following, which we clip from the latest number of the *Agricultural Cable*, of London:

THE AGRICULTURAL PARTY.

The following five-lined Whip has been issued to the members of the Agricultural party:

LONDON, April 23, 1896.

Important.

AGRICULTURAL RATING BILL.

DEAR SIR:—I am desired by the Council of the National Agricultural Union to remind you that Mr. Chaplin's Agricultural Rating Bill is down for second reading on Monday next, and to express a very earnest hope that you will be able, in fulfillment of the pledges you were good enough to give to us on the eve of the general election, to be in place to support the bill in all its stages.

I am, yours faithfully,

WINCHILSEA,

President N. A. U.

This may not be the best way to get wisdom instead of political interests into legislation in this country but it is worth while to observe what are the conditions and how they are proceeding in other countries.

But the anomaly of the situation is, that after legislating for a generation to lower prices there should be any astonishment that prices fall.

SPRAY THE CANKER WORM.

Judge F. Wellhouse, the great apple-grower, called at the FARMER office, a few days since, to urge the importance of prompt action in destroying the canker worm. After an experience of fifteen years, and a most careful and exhaustive study of all that has been written on the subject, Judge Wellhouse finds that the only safe reliance is through spraying with strong poison. He has tried the various methods proposed for preventing the wingless female moths from ascending the trees, but with patient and persistent efforts was unable to make these methods successful. He is of the opinion that those who rely on such methods will be disappointed. The little pests crawl under the obstruction. In this climate any sticky substance soon hardens on the surface, so that the females crawl over it. If a weed leans against a tree they crawl up the weed.

But spraying is cheaper and is entirely successful, not only in protecting the trees now, but also in exterminating the pest from the orchard.

The expense of spraying large trees amounts to about 25 cents per acre. In the Wellhouse orchards there are now running six power spraying machines.

A pretty strong poison is necessary to kill the canker worm. Half a pound of London purple to 100 gallons of water may be used and will generally be efficient. Nearly double this amount of the poison may be used if lime be added at the rate of a pound per 100 gallons. Spraying should begin with the first appearance of the worm and be repeated every ten days for three or four times.

SPRAY WITH LONDON PURPLE.

EDITOR KANSAS FARMER:—We have in our neighborhood a worm that is taking all the leaves off the apple trees. I send you a few of them. Will you tell us, through the FARMER, what they are? Will they kill the trees and what can we do to stop their progress? JAMES BOTTOM.

Onaga, Kas.

The specimens arrived in lively condition. They are the much-dreaded canker worm. Spray them with London purple. See communication from Acting Secretary Barnes, of the State Horticultural Society, also editorial containing advice from Judge Wellhouse.

If you want KANSAS FARMER and Semi-Weekly *Capital*, send us \$1.50. Or, KANSAS FARMER and Topeka *Advocate*, send \$1.50.

KANSAS FARMER and Semi-Weekly *World* (N. Y.), you can have for \$1.65 one year.

GOVERNMENT CROP REPORT FOR APRIL, 1896.

CONDITION OF WINTER GRAIN.

Consolidated returns from township, county and State correspondents show a condition of winter wheat in nine leading States as follows: Pennsylvania, 64; Ohio, 56; Michigan, 82; Indiana, 77; Kentucky, 70; Illinois, 81; Missouri, 75; Kansas, 88; California, 91. Average for the entire country, 77.1; last year, 81.4, and 86.7 in 1894.

The condition of rye was: In New York, 91; in Pennsylvania, 78. Average for the entire country, 82.9.

The soil was generally well prepared for winter grain; but dry weather at seeding time, from which scarcely a county was exempt, largely retarded or prevented germination throughout the winter grain producing region, except near the Pacific and near the Missouri river, where there are many local reports of more favorable conditions. Snow covering on the whole exceptionally scanty. There was little or none anywhere in December and January, while the only considerable snowfall in February reached a depth of three inches only in the neighborhood of the Great Lakes. In the earlier part of March the Northern Pacific Slope was covered, and about the middle of the month the North Atlantic region for a short time. This lack of snow was severely felt in the northeastern States, especially in March; while near the Mississippi, and still more to the west of that river, the mild winter rendered its protection less necessary. From want of moisture in the early winter, and alternate freezing and thawing afterwards, by which the wheat condition by April 1 was so greatly reduced, rye suffered in most States much less. The Hessian fly is noted in a few county reports from Atlantic States.

The following table gives the present condition, as compared with previous years, for the more important winter grain States and for the entire country:

Condition of wheat April 1 for the six years 1891-1896.

States.	1891	1892	1893	1894	1895	1896
Connecticut.....	97	85	96	96	87	87
New York.....	92	97	88	99	92	93
New Jersey.....	96	89	100	98	92	91
Pennsylvania.....	97	84	87	98	92	94
Delaware.....	90	87	95	95	85	82
Maryland.....	93	86	89	91	85	87
Virginia.....	96	79	87	88	89	87
North Carolina.....	94	85	90	72	85	84
South Carolina.....	94	93	98	72	80	90
Georgia.....	90	90	94	81	69	94
Alabama.....	88	90	93	81	79	90
Mississippi.....	80	92	100	84	70	95
Texas.....	97	89	100	84	57	96
Arkansas.....	96	80	100	95	82	86
Tennessee.....	98	78	83	66	81	83
West Virginia.....	93	77	75	96	85	60
Kentucky.....	97	83	83	83	86	70
Ohio.....	98	71	87	90	86	56
Michigan.....	93	83	74	83	78	82
Indiana.....	99	78	82	90	83	77
Illinois.....	97	82	72	87	87	81
Missouri.....	96	72	76	88	89	75
Kansas.....	99	77	62	72	53	88
Oregon.....	97	98	99	95	94	99
California.....	99	99	67	87	54	91
Average.....	96.9	81.2	77.4	86.7	81.4	77.1

The date of seeding for winter wheat differs little from that reported last year, but nearly half of the States in the table make the average a few days later.

Average date of seeding.

States.	From—	To—	Average.
Connecticut.....	Sept. 1	Oct. 15	Sept. 28
New York.....	Sept. 5	Oct. 6	Sept. 21
New Jersey.....	Sept. 11	Oct. 18	Sept. 30
Pennsylvania.....	Aug. 1	Oct. 28	Sept. 18
Delaware.....	Sept. 20	Oct. 25	Oct. 5
Maryland.....	Sept. 1	Nov. 20	Oct. 7
Virginia.....	do.	Dec. 1	Oct. 15
North Carolina.....	do.	Dec. 25	Oct. 30
South Carolina.....	do.	Jan. 1	Nov. 15
Georgia.....	do.	Feb. 1	Nov. 12
Alabama.....	Oct. 1	Dec. 15	Nov. 11
Mississippi.....	Oct. 15	do.	Nov. 15
Texas.....	Aug. 10	Jan. 15	Nov. 5
Arkansas.....	Sept. 1	Dec. 20	Oct. 22
Tennessee.....	do.	Jan. 1	Oct. 26
West Virginia.....	do.	Dec. 1	Oct. 7
Kentucky.....	do.	Dec. 20	Oct. 14
Ohio.....	Aug. 20	do.	Sept. 24
Michigan.....	Aug. 15	Oct. 25	Sept. 17
Indiana.....	Aug. 20	Dec. 5	Oct. 7
Illinois.....	Aug. 10	Nov. 20	Sept. 27
Missouri.....	do.	Dec. 20	Sept. 29
Kansas.....	Aug. 15	Jan. 1	Oct. 16
Oregon.....	do.	Dec. 31	Oct. 25
California.....	Aug. 1	May 20	Dec. 17

FARM ANIMALS.

Horses.—The average condition of horses reported last April was 96.9, of cattle 94.6, of sheep 95.5, and of swine 92, so that this year's conditions are improved by 0.7, 34.3, and 1.3 per cent., respectively. Correspondents of the department testify almost unanimously to the effort made by farmers

within the last year to improve the quality of their stock and to look after it with better care. This improvement is especially noted in cattle and hogs, and the higher condition reported this month is partially to be ascribed thereto. A contributing cause, however, is found in the mild winter. The percentage of loss of horses in 1895 was 2.2, from which this year's figures (2 per cent.) show a very slight improvement. The most prevalent disease in nearly all parts of the country was distemper. Eating straw without other food, also wormy and moldy corn and corn stalks, have in many counties caused colic and other disorders. Blind staggers, and, to a considerably less extent, pink eye and glanders are also mentioned.

Cattle.—The losses from winter exposure and from all causes combined are shown to be 3.1 per cent. and to number 1,477,442. Last year's losses were 2.1 from winter exposure and 4.2 from all causes, from which it appears that the better percentage for all losses in 1896 is entirely explained by the mild winter. The most prevalent disease reported among cattle throughout the country was blackleg, but the great corn States make considerable complaint of a fatal trouble brought on by eating corn stalks. Murrain is often mentioned, also hollow-horn, lumpy-jaw, and milk fever occasionally. Texas fever is almost entirely absent from correspondents' reports.

Sheep.—The percentage of loss is 4.8 per cent. and the total loss in number, from winter exposure and from all causes, is 1,834,379. Losses in 1895 were reported as 2.9 per cent. by winter exposure and 5.5 by all causes. Among diseases from which sheep have chiefly suffered, scab, rot, and grub in the head find general mention; though there are also many complaints of scarcity of feed, distemper and predaceous dogs.

Swine.—The losses in percentage and in number from all causes, but chiefly in the more important States from cholera, are stated in the following table:

States and Territories.	Number of swine.	Losses.	
		Per cent.	Number.
Maine	78,403	2.0	1,568
New Hampshire	56,400	2.2	1,241
Vermont	78,572	1.8	1,414
Massachusetts	60,726	1.6	972
Rhode Island	14,433	2.1	303
Connecticut	53,737	1.0	537
New York	645,433	3.2	20,654
New Jersey	163,231	6.5	10,610
Pennsylvania	1,033,104	3.6	37,192
Delaware	52,167	4.0	2,087
Maryland	338,659	3.5	11,853
Virginia	985,748	6.5	64,074
North Carolina	1,427,345	11.0	157,008
South Carolina	945,662	11.0	104,023
Georgia	1,954,241	11.5	224,738
Florida	395,254	13.0	47,430
Alabama	1,848,898	13.0	240,357
Mississippi	1,940,755	12.0	232,891
Louisiana	888,720	11.5	102,203
Texas	3,035,119	8.0	242,810
Arkansas	1,563,166	18.0	281,370
Tennessee	1,910,749	12.0	229,290
West Virginia	375,042	5.0	18,752
Kentucky	1,688,594	10.5	177,302
Ohio	2,456,626	8.2	201,443
Michigan	720,694	3.8	27,386
Indiana	1,654,772	14.8	244,906
Illinois	2,392,980	24.2	579,101
Wisconsin	902,507	4.1	37,003
Minnesota	560,957	5.3	29,731
Iowa	4,854,507	20.7	1,004,883
Missouri	3,169,411	20.0	633,882
Kansas	1,676,487	13.0	217,943
Nebraska	1,289,726	13.6	175,403
South Dakota	160,064	9.0	14,406
North Dakota	117,949	2.0	2,359
Montana	52,087	.8	417
Wyoming	15,834	1.7	269
Colorado	23,419	6.0	1,405
New Mexico	31,787	2.6	826
Arizona	20,695	1.3	269
Utah	56,621	2.0	1,132
Nevada	11,590	2.3	267
Idaho	77,518	2.0	1,550
Washington	239,413	3.0	7,182
Oregon	252,685	2.2	5,559
California	507,461	8.0	40,597
Oklahoma	62,811	2.5	1,570
Total	42,842,759	12.7	5,440,168

The losses reported last year were but 9.2 per cent. Tennessee, Kentucky and Wisconsin show a slightly reduced percentage, but the instances of a lower figure than in 1895 are otherwise confined to unimportant States. Iowa, Missouri and Illinois, ranking respectively first, second and fifth in number of swine, report losses of 20 per cent. or over. Some of the deaths are from pulmonary or parasitic disorders, but the great prevailing complaint is cholera, from which all parts of the country have suffered with greater or less severity.

HEALTH OF THE PEOPLE.

In answer to the general question

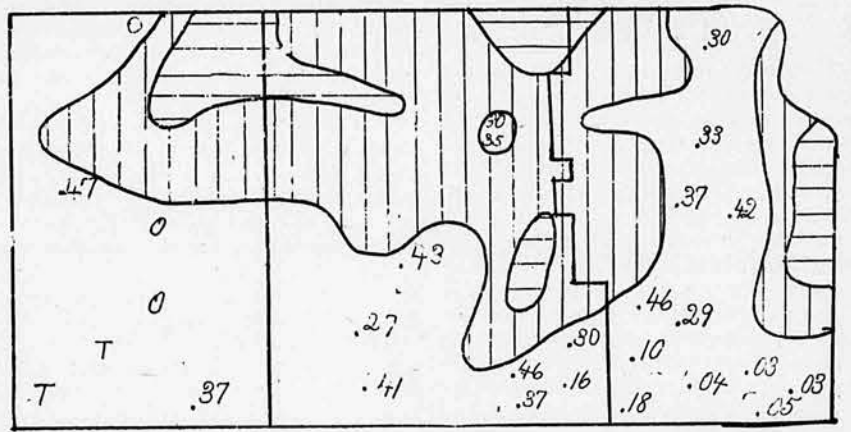
whether or not the past year has been a healthful one for human beings, the estimate from about 72 per cent. of the counties reporting is that the people's health is equal to an average, while 28 per cent. put it below average. Six hundred and fifty-four counties throughout the country make mention of special diseases, the leading complaints being grippe from 305 counties, or 47 per cent. of the whole; pneumonia from 228, or 35 per cent.; typhoid fever from 212, or 32 per cent.; measles from 138, or 21 per cent.; malarial fever from 90, or 14 per cent.; diphtheria from 78, or 12 per cent.; lung troubles from 60, or 9 per cent., and scarlet fever from 58, or 9 per cent. Typhoid fever seems to have been especially prevalent in Ohio, where its ravages are explained by contamination of the water supply resulting from the long-continued drought. Measles were epidemic chiefly in Georgia and the Carolinas, and malarial fever in the Gulf and lower Mississippi States. Pneumonia and lung troubles appear from the reports to have been proportionally more prevalent in the middle Mississippi valley—Kentucky, Illinois, Missouri and neighboring States—than in the region north of it.

Weekly Weather-Crop Bulletin.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending May 4, 1896, prepared by T. B. Jennings, Section Director:

GENERAL CONDITIONS.

The temperature has been more nearly normal than for the past few weeks. Good rains have been more general than last week, but below nor-



ACTUAL RAINFALL FOR WEEK ENDING MAY 2, 1896.

mal except in Decatur, Norton, Thomas, Sheridan, Rooks and Osborne in the northwest, Marion in central, Washington in the north, and Wyandotte, Johnson, Miami and Linn in the east. Light rains have fallen in the south and very light showers in the southwest.

RESULTS.

EASTERN DIVISION.

Crops in general have made rapid growth. Wheat and rye have begun heading in the central counties and are in excellent condition. Corn mostly planted and up, and cultivation has begun in the Kaw river counties, while most of it has been cultivated once south of those counties. Oats and pastures are growing rapidly, with good promise of fruit except where injured by the worm.

Allen county.—All crops and fruit doing well; farm work well along and every one pleased; canker worm is in some orchards.

Brown.—Crops of all kinds in excellent condition, pastures fine, gardens splendid.

Chautauqua.—A good week on all growing crops; corn has made a good growth and looks well, about half of it now plowed; oats fair but some damage done by high winds; wheat is fine and is now heading; chinch bugs numerous but not doing any damage yet; worms have ruined the apple crop; pastures first-class.

Cherokee.—A fine week except the high winds first of week; ground too wet to work first of week; fruit crop promises well.

Coffey.—Fine growing weather; much of the corn has been cultivated once, much yet to plant; wheat, oats and pastures fine; larger part of the apple crop ruined by worms.

Franklin.—Corn-planting is nearly done; all crops doing well.

Greenwood.—Growing conditions good; pastures excellent; stock seems to be all out; southwestern gale on the

28th that damaged crops and trees some.

Johnson.—Prospects for fruit and crops of all kinds never more flattering on the 1st of May; corn all planted and up, wheat fine and growing rapidly.

Labette.—Crops have advanced rapidly the past week: wheat heading very fast; corn a good stand generally and coming on fairly well, some of the bottoms not planted yet; pastures doing well; a good prospect for berry crop; canker worm bothering some orchards.

Lyon.—Crops of all kinds have grown rapidly, weeds too; too wet to cultivate.

Marshall.—All crops doing fine; corn cultivating begun.

Miami.—Some ground too wet; much corn not planted yet, most early-planted looks well; all other crops uninjured and look well; pastures excellent; fruit promising.

Montgomery.—A good growing week with but little rain to interfere with work; wheat and all other doing extra well; some fruit blown off and tender leaves damaged by the high winds of 27th and 28th, also many canker worms.

Neosho.—A good growing week; wheat and oats looking well; no damage by hail on 30th, some injury to fruit by strong wind of 27th.

Osage.—Fruit, gardens and pastures fine; chinch bugs injuring some oat fields; ground too wet to cultivate corn.

Pottawatomie.—All crops growing fine; corn nearly all planted, some cultivation begun; alfalfa nearly in bloom, chinch bugs very thick.

Riley.—A good growing week; corn-planting nearly finished; wheat and rye heading and looking excellent; oats and pastures fine; canker worms bad.

Woodson.—Oats and flax doing well; too cold and windy for corn; apple leaves burned by cold, dry southwest wind of 29th.

MIDDLE DIVISION.

The winds of 27th and 29th were generally severe on young plant, leaf and fruit. Wheat is heading in the south and jointing in the north. Corn is a good stand and, except where threshed by wind and dirt, is growing rapidly. Oats, grass, gardens and fruit are coming forward rapidly. Chinch bugs are appearing in localities in large numbers. The canker worm is devastating many orchards.

Barber.—Rain and very severe wind on 28th, followed by severe cold wind on 29th, destroying peaches, apricots, nectarines, cherries and small fruits generally and filling lister furrows to a level, which will necessitate much replanting.

Barton.—Everything suffered to some extent from this windy week, especially the blossoms and top leaves of fruit trees, though peaches are all right; high winds have dried the ground rapidly.

Butler.—Wheat heading out and looking fine; oats first-class; most corn looking well, but some damaged by the high wind of the 28th; alfalfa in good condition.

Cloud.—Very favorable week; everything in fine condition.

Cowley.—The bad winds this week have injured some corn and plums; wheat heading nicely; pastures getting good.

Dickinson.—Vegetation could not look better; a large acreage of corn being planted, much of it already up; much sorghum going in; will have an early harvest.

McPherson.—Fine growing weather; everything looking fine; corn up nicely and being worked; wheat knee-high and jointing; wind blew off some fruit.

Marion.—Wheat improved over last week but oats have not; corn about all planted, is making a good stand; fruit damaged some by worms; pastures good.

Mitchell.—Crops all doing well; or-

chards looking well generally and mostly loaded with fruit, but the canker worm has been reported.

Osborne.—Vegetation making rapid strides; week favorable to work, and farmers pushed it.

Ottawa.—Corn-planting nearing completion, some fields being cultivated; a good week for wheat and oats; a worm is doing great damage to orchards; fruit of all kinds falling badly.

Phillips.—Wheat, rye and oats doing finely; fruit prospects never better; grass growing rapidly.

Pratt.—High winds damaged fruit and garden stuff; short wheat and oats; all vegetation backward; ground getting dry.

Reno.—Three days high wind did some damage, otherwise good growing week.

Rice.—The bulk of the corn crop planted and coming up nicely; wheat fine; the high winds 28th and return winds 29th threshed off much young fruit.

Saline.—Windy week; farm work progressing; chinch bugs numerous in some wheat fields; canker worm devastating orchards.

Sedgwick.—Wheat heading and looks well; some listing in corn, others cultivating for the first time.

Sumner.—Wheat short but growing well; high winds have injured some corn by blowing dirt over it and other corn by threshing the leaves—it looks frost bit.

Washington.—Busy planting corn; wheat and oats look well but the old chinch bugs quite plentiful in the fields.

WESTERN DIVISION.

With the exception of the high winds of the 28th this has been a fine growing week. Alfalfa and the small grains have made fine progress. Corn-planting continues and the corn is coming up, showing a good stand. Range grass is very good. Fruit prospects very promising.

Clark.—Wheat, oats and barley looking well; high wind on 29th damaged orchards, gardens, etc.

Decatur.—Very fine week for the crops; wheat up nicely; alfalfa a foot high; corn-planting half through; ground wet over three feet on prairie; gardens and fruit doing well.

Finney.—Crops and fruit considerably damaged by high winds of 28th, but prospects are still good for heavy crops.

Ford.—Prairie pasture first-class; all farm work going rapidly ahead; windy week; alfalfa, wheat and oats looking first-class; fruit prospects good.

Graham.—Very fine growing week, but too wet part of time to list corn; small grain looking extra fine.

Grant.—Crops badly injured by high wind of 28th, wheat, oats and barley cut off to the ground but will start again in most places; the highest straight wind ever known here.

Morton.—Very high wind on 28th, veering from south to northwest; bad dust and sand storm, great damage to young trees, fruit, gardens and newly-plowed and planted soil.

Rawlins.—Heavy wind on 28th bad on crops.

Scott.—Heavy winds did some damage to spring crops, but the total was small compared with the acreage; local rains in the county first of week; crop prospects continue fine.

Thomas.—Wheat, oats and barley doing finely; early-planted corn coming up; the cold wind and rain of 28th damaged fruit and garden vegetation considerably.

Trego.—Weather unfavorable for farm work, good for barley, oats, wheat and rye; early corn in some fields will have to be replanted.

Wallace.—Fine growing week barring the wind of the 28th, which damaged fruit trees and grain by threshing the leaves; alfalfa fine, will begin to cut by 15th; range grass fine; oats, barley, wheat, growing nicely; corn-planting in progress, some up.

When fevers and other epidemics are around, safety lies in fortifying the system with Ayer's Sarsaparilla. A person having thin and impure blood, is in the most favorable condition to "catch" whatever disease may be floating in the air. Be wise in time.

People who wish to go to Buffalo to attend the N. E. A. convention, who want fast time, the most excellent train service and superior accommodations, will do well to consider the Nickel Plate Road before purchasing tickets. A fare of \$12 for the round trip will apply with \$3 added for membership fee. Tickets will be on sale July 5 and 6 with liberal return limit and with privilege of side trip tickets to Chautauqua Lake and Niagara Falls and return without additional cost. Additional information cheerfully given on application to J. Y. Calahan, Gen'l. Agent, 111 Adams street, Chicago, Ill.

Horticulture.

HOW A PRIZE MELON WAS GROWN.

EDITOR KANSAS FARMER:—I was curious, just as all Yankees are, and wrote to Mr. Guyman and asked him to tell me how he raised the big eighty-seven and one-half pound prize McIver melon, and his two replies are rather shrewd and interesting reading.

CLARENCE J. NORTON.
Morantown, Kas.

HARRIS, Mo., January 20, 1896.
Mr. Clarence J. Norton, Morantown, Kas.:

SIR:—In answer to your request of the 13th inst., as to how I raised that eighty-seven and one-half pound McIver Sugar melon, I will say that I am an old man and have gained my knowledge by experimenting and growing large vegetables. You see what my experimenting has been worth to me in the melon line, and now, Mr. Norton, if I should tell you how I did it, you would get all my knowledge for nothing, and the next time you would beat me with my own plan. This would hardly be fair. But if you are a mind to send me a postoffice money order for \$1, I will send you my mode of cultivation and treatment.

Yours respectfully,
SAMUEL GUYMAN.

HARRIS, Mo., February 2, 1896.
Mr. Clarence J. Norton, Morantown, Kas.:

SIR:—After some unavoidable delay, I herewith answer your letter, in which was an order for \$1, and now I will give you my mode of cultivating the McIver melon.

In the first place, I dug a hole in the ground deep enough to hold a five gallon jar, so the top of the jar would be nine or ten inches below the top of the ground. Then I put in a good stone jar and filled it with liquid manure obtained from manure that was something like a year old. Then I covered the jar with a piece of plank that was bored full of three-eighth inch holes, and after removing the dirt for about two feet all around the jar and as low as the top of the jar, I made up a composition from an old sheep house (well-rotted) and well-rotted hen manure and well-rotted stable manure and good strong fresh soil and sand, say about one-tenth sand. Then I filled in over the jar all the low place that I had made by removing the dirt, so when I had my hill finished and moderately pressed down it was a little below the top of the ground. On the 10th of May, I planted six seed, having the ground damp enough to sprout the seed easily; then I covered the hill with the tops of some hazel bushes, taking care not to have them too thick. My object in this was to keep the ground from baking and also to retain the moisture. When the plants began to come up I moved the covering back far enough to give each plant room enough to keep the ground in good growing condition. When the plants were about three inches high, I pulled all out but three, and when the vines were about four feet long, I pinched off the tips and I did not allow but one melon to each plant or vine. I was very careful to keep the hill covered the best I could and to water often enough to keep the ground in good growing condition, and not allowing the ground to get hard for some distance around the hill. When the melons were as large as quart tins, I dug a hole by the side of two of them large enough to hold a gallon jug, and placed it so its mouth would be under the stem of each melon, and filled them with water, and then I split the stems with the little blade of my knife. The splits were about one and one-fourth inches long, directly over the mouth of the jug, and when the split grew up I split it again. About a week before I thought they were ripe, I let the stems grow up again. It was very dry here last summer and I watered every other day. Sometimes I mixed liquid manure with the water, taking care not to have it too strong. I kept the hazel tops (mostly leaves) all summer on the hill and when the leaves dried down so the ground got partially naked around the plants, I put in some more around the roots, having the ground a little the lowest at the roots of the vines,

and put the water on slowly, without moving the leaves that were on the hill around the roots of the vines. I only had three melons on the vines that grew in that hill. I had three other hills in another place, that were not managed the same way that did not do half as well. Now I have written you how I raised that eighty-seven and one-half pound McIver melon, and I hope you will succeed in raising one as large.

Yours respectfully,
SAMUEL GUYMAN.

Spring Canker Worm.

EDITOR KANSAS FARMER:—This worm is now doing great damage throughout the State and should have immediate attention, as it will become mature and pass into the earth near the middle of May, to come out as mature insects next spring; and two or three visitations will greatly weaken and in some cases destroy the trees.

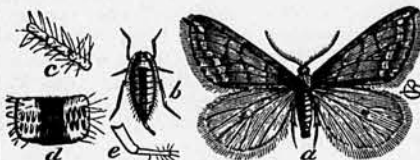


FIGURE 1.

a, is the male moth; b, the female moth; c, joints of antennae of female moth; d, joints of abdomen of female moth; e, retractile ovipositor of female.



FIGURE 2.

a, larva; b, magnified egg and small cluster of eggs; c, magnified portion of side of larva, and d, same of back, showing markings.

The moths issue early in the spring from chrysalids which have passed the winter in the ground. The female crawls up the tree and deposits her eggs in small masses on the twigs or branches. The young larvae or caterpillars issue just as the leaves begin to unfold from the bud. They feed voraciously and in this latitude are usually full grown by the middle of May, when they enter the ground to pupate, remaining there until the following spring. This worm is about an inch long; the head mottled and spotted; the body striped lengthwise with many pale lines. These worms are prime favorites with the birds. Hence encourage the birds.

Remedy.—Spray as soon as first seen. Use one pound of London purple to 150 gallons of water, and any good spraying machine. If spraying is thoroughly done it may not be necessary to do it again for this pest for several years. As the females are wingless, this pest spreads slowly, and it is among the possibilities to thoroughly conquer it if the local horticultural society would stir up the horticulturists.

WILLIAM H. BARNES,
Acting Secretary Kansas State Horticultural Society.

OUT OF WEAKNESS comes strength when the blood has been purified, enriched and vitalized, the appetite restored and the system built up by Hood's Sarsaparilla.

HOOD'S PILLS cure nausea, sick headache, indigestion, biliousness. All druggists. 25 cents.

Millions of Gold

In sight at Cripple Creek, Colo. Only twenty-three hours from Topeka by the Santa Fe Route, the only broad-gauge route passing right by the "Anaconda" and all the famous mines. See the nearest Santa Fe agent for all particulars, or write to Geo. T. Nicholson, G. P. A., Chicago, Ill., or W. J. Black, A. G. P. A., Topeka, Kas.

A Look Through South Missouri for Four Cents.

The Kansas City, Fort Scott & Memphis Railroad Company has just issued a magnificent book of sixty or more photo-engraved views of varied scenery in south Missouri. From these views an accurate knowledge can be obtained as to the productions and general topography of that highly-favored section that is now attracting the attention of home-seekers and investors the country over.

The title of the book is "Snap Shots in South Missouri." It will be mailed upon receipt of postage, 4 cents. Address J. E. LOCKWOOD, Kansas City, Mo.

Experience With Subsoiling.

EDITOR KANSAS FARMER:—There will probably be quite a large amount of evidence presented this year in favor of subsoiling. Your readers will remember that I last year stated that I should subsoil every four feet in my oats, and that I expected big results. I put my oats in on corn ground, having first cut the stalks, then sowed the oats and cultivated twice and harrowed twice. I could still distinguish the old corn row, and with three horses I run the sub-breaker once between the rows and put it sixteen inches deep. The plow left a track just like a big mole would, and of course the oats were disturbed and moved to one side. Later on these tracks looked like narrow paths run through the crop, and I was not at all proud of them. This field was near a big hedge, and one very windy day countless millions of chinch bugs drifted to the hedge in their flight and they took possession of the field, these paths soon becoming highways for them. I could never see that the oats were improved any, yet my crop was a little above the average.

I might here mention that this field was completely seeded down to blue grass (English) from a patch that stood just 160 rods away. This grass and weeds made a big growth and I have just finished listing it for corn. Right here I will add that with a sharp cutter, ground can be listed that is too foul to plow. I listed with two big horses, and followed with the sub-breaker with two more big horses, the last team walking on the ridge and the plow going eight inches deep. As I listed four inches, it gave me twelve inches. I then split the ridges and subsoiled as before, and then run a one-horse corn drill, drawn by two horses, they walking on the ridges, which they also smoothed by a plank that ran along just ahead of the drill.

The seed was soaked twenty-four hours in coal oil and I will report the result later on.

But what I started to tell was about last year's subsoiling. Wherever the lister passed over the old track, it was firm on top of the soil, but my heel would settle down in the furrow under the lister. Upon digging down, the soil became very damp, until the bottom of the old track was reached, when pure, clear water would slowly ooze in from the sides. This water would continue until an inch stood in the excavation. This was repeatedly tried all over the field, and many passers-by stopped to see it. The team did not settle in, nor was plowing at all hindered, yet there was a lake of fifteen acres that was one inch deep, that would have been in the creek had I not subsoiled. Now, brother farmers, what do you think of this for tiding over the dry spell in July and August?

I write this because many have written to me, asking me if I thought it would do any good to go once between the stalk rows with the subsoiler. It really seems to me that providence has put in our way a chance to always control moisture enough to make a full crop. There is not a reader of this but what would gladly pay more money to an irrigation company for water in a dry time, than this water would cost them, and they would have to put it on the surface and suffer evaporation. How much better to have it down where the roots can get it.

CLARENCE J. NORTON.
Morantown, Kas.

A COUGH, COLD OR SORE THROAT requires immediate attention. "Brown's Bronchial Troches" will invariably give relief. 25c. a box.

Ho! for Cripple Creek.

Remember that the Chicago, Rock Island & Pacific is the only line running directly from the East to Colorado Springs, the natural gateway for the Cripple Creek district.

Colorado Springs lies at the foot of Pike's Peak at its eastern base, and Cripple Creek is part way down the southwest slope of Pike's Peak and near its western base.

Two all rail routes from Colorado Springs are offered you. One by the Midland railway up Ute Pass, via Summit, to Cripple Creek. Another over the Denver & Rio Grande, via Pueblo and Florence, to Cripple Creek. Take the Great Rock Island Route to this wonderful gold mining camp. Maps, folders and rates on application. Address JNO. SEBASTIAN, Gen'l. Pass. Ag't, Chicago.



AN OFFER.

We make strong claims for the New CHAMPION Binder,

and in order to make it perfectly plain to the public that we know our claims to be well founded, we hereby agree to give one of our New CHAMPION Binders, or its equivalent in cash, to any person who can prove that there is any other Binder in the market for sale that has as low an elevator, as much capacity in the elevator or back of the needle, as high a master wheel, as steep a binder deck and as much power when compressing and binding a bundle as the New CHAMPION.

The New CHAMPION Mower is unlike any other Mower. It has no long pitman to break, no fly-wheel to give the pitman an up-and-down motion during half of its revolution, and therefore can use only the other half for moving the knife back and forth for cutting the grass; no steep pitman to waste power by driving the knife down into the guards or destroy the shear cut by pulling it up; but instead, the pitman is a short link that moves only forward and back, and the pitman, knife and shoe are hinged at one place, so that all move together, and there can be no breaking of knife heels or pitmans. The CHAMPION has less gearing than any other Mower, and the gearing conveys the power direct to the knife without waste or noise or lost motion. Should any wear or lost motion ever occur, the turn of a set-screw will take it up and make the parts work like new. To any person who can show that any other Mower now in the market possesses these very necessary and important features to the same extent as the CHAMPION, we will give one of these celebrated Mowers free of charge, or its value in cash. Examine these machines. Satisfy yourselves that our claims are facts, and then if competitors dispute them remember our offer.

The Warder, Bushnell & Glessner Company

MAKERS.

SPRINGFIELD, OHIO.

CHICAGO.



Garnahan's Tree Wash and Insect Destroyer

Destroys the bore worm and apple root louse, protects the plum from the sting of the curculio and the fruit trees from rabbits. It fertilizes all fruit trees and vines, greatly increasing the quality and quantity of the fruit. Agents wanted everywhere to sell the manufactured article. Address all orders to John Wiswell, Sole Mfr., Columbus, Kas., and Cleveland, Ohio.

\$3.10 FOR THE BEST

BRASS BUCKET SPRAY PUMP on the market. It is fully described in our SPRAY PUMP CATALOGUE. Another valuable work is our handsome ILLUSTRATED BOOK ON GIDER PRESSES AND FRUIT MACHINERY. Both will be sent FREE. DAVIS-JOHNSON CO. 41 W. Randolph St. CHICAGO, ILL.

SPRAY PUMPS

21 STYLES. BEST and CHEAPEST. Catalogue and full treatise on spraying fruit and vegetable crops mailed free. Address WM. STAHL, QUINCY, ILL.

In the Dairy.

Conducted by A. E. JONES, of Oakland Dairy Farm.
Address all communications Topeka, Kas.

Teaching Calves to Drink.

Teaching calves to drink is a part of farm work which few men covet, and one which often sorely tries the patience of even good-natured men. I have had experience in this work for nearly twenty years, and have tried about all the different ways known to man.

The plan above all others ever tried by me is to let the calf run with the cow until the milk is good. By this time the calf will have gained strength enough to be able to stand going without feed for twelve hours, and in case it does not get something the first time, it will not suffer much.

Don't try to force the calf to drink, by holding its head in the pail; it won't work. The best success comes from having an attendant to hold the pail up to the calf's mouth, so that the nose will come in contact with the milk. Some calves will drink at once. If it does not, give it a finger, and when it sucks it draw the hand gradually toward the milk. If all efforts to get the calf to follow the finger to the pail fail, and the calf persists in elevating its nose as if to reach for the dam's udder, keep the finger in the mouth and with the other hand dip up a little milk. After it gets to taking the milk slip the finger out of the mouth, keeping the hand on the calf's nose. If the calf throws up its head repeat the above and you will soon be rewarded by seeing it drink. I have tried every conceivable way of teaching calves to drink and the one above described has given the best of satisfaction. One thing in this, as in all other things connected with dairying, is never lose your temper. Abuse of farm animals never puts a penny in the farmer's pocket nor increases his chances for happiness in the world to come.

Cold Churning.

Among the steps that mark dairy progress churning at much lower temperatures than was formerly thought possible is not the least important or least interesting, and it indicates that the dairy world is learning the "whys" of things. That which makes cold churning desirable is the demand of the market for butter having at once good flavor and good keeping quality. The requirements of the butter-consuming world are becoming more exigent. As the proportion of good butter increases consumers are becoming more critical. At the old temperatures it was easy to make butter with good flavor by reducing the washing to a minimum. It was also easy to secure good keeping qualities by more thorough washing, but to obtain both was more difficult. The keeping quality depends upon the thorough removal of the casein, but to effect this removal by washing carried with it the delicate aroma so highly valued. On the other hand, if care was taken to leave the highly-prized flavor some casein was necessarily left with it and this affected the keeping quality. Of course, we do not mean that any discovery has been made which will retain all of the delicate aroma of new-made butter for a very protracted period, but the cold churning approximates this result to a greater degree than churning at the old temperatures. By making a very thick cream, say 30 per cent. or over, it is found that at a temperature of about 50, churning is as readily and quickly accomplished as it formerly was at 62, with the further advantage that the casein is thoroughly separated and the keeping quality of the butter is increased without washing away the flavor by repeated washings. Of course, this method is possible only with a separator. By the gravity system cream of the thickness required cannot be obtained, but with a separator the creaming can be very close, and 30 per cent. can be as easily reached as the old 16, 18 and 20 per cent. by the gravity system.

There is no better proof of the excellence of Dr. Bull's Cough Syrup than that it is recommended by leading physicians.



HAVE YOU ONE OR MORE COWS?

If so, whether for pleasure or profit, household or dairy, you should know of the **CENTRIFUGAL CREAM SEPARATORS.**

The De Laval Separators save at least Ten Dollars per Cow per year over and above any other Separator or Creaming System. All other Separators are merely inferior imitations or infringe the De Laval patents. Many users have already been enjoined.

SEND FOR CATALOGUE and any desired particulars. SATISFACTION GUARANTEED as a condition of sale.

BRANCH OFFICES: **THE DE LAVAL SEPARATOR CO.** 74 Cortlandt St., New York. ELGIN, ILL.



Dairy Notes.

Geo. H. Keller, the well-known dairyman, living near Bald Mound, Ill., reports that during the year 1895 he milked an average of eighty cows, and shipped to Chicago 8,963 cans of milk, for which he received \$6,379.72, besides taking to the creamery 57,578 pounds and receiving for this \$485.11, making a total of \$6,864.83, or an average of \$85.81 per cow for the year.

At a meeting of the National Dairy Union, Mr. Edson, of Pennsylvania, said that oleomargarine has a contaminating effect on the man who handles it. No matter how honest he may be before beginning the business, it has a demoralizing effect on him and his character degenerates. Oleomargarine is one of the greatest educators in crime. One who deals in it loses all ideas of right and wrong.

By a vote of 160 to 58 the national House recently passed a bill imposing internal revenue taxes on the manufacture and sale of "filled cheese," which means cheese made up in imitation of the genuine article, from milk with a mixture of animal or vegetable oils. This proposed law is patterned on the oleomargarine act of 1886. That was an innovation in federal legislation and the proposed act follows logically from the other.

Ten years ago I began looking for the same kind of cows that the K. Bros. are asking about, so I sold my Jerseys and began buying cows of the Holstein, Devon and Ayrshire strains, and found the longer I tried for that general-purpose cow, the farther I was from having any cows at all. At the end of seven years I began trying to get back the dairy that I had to start with, and now, at the end of ten years, I have another flock of Jerseys, but it cost me one thousand dollars to learn that I could not make it pay me to try to do two things at once—if it was to grow beef and make butter from the same cows.—Green Vermonter, in *Hoard's Dairyman*.

REFINING RANCID BUTTER.—An Iowa paper speaks of an invention by J. W. Turner, of that State, for refining rancid butter by reducing it to oil by heat, clarify it, then cooling the same and granulating it by means of electricity. With the exception of the electricity, this is an old system in use among the Swiss. A Detroit firm has for years practiced melting cheap, rancid butter, clarifying it and mixing it with fresh milk. From this the fat is taken by means of the separator and the product churned in the regular way. Quite clean sweet butter can be thus obtained, but it seems to lack the original fine butter flavor. It is neutral in flavor like oleomargarine.

Butter and cheese-making at the Dakota Agricultural college is becoming quite an industry. Last month the net profits were \$80. A New York firm, to which the output was shipped, says that it is of excellent quality, nicely packed, gives splendid satisfaction and sells at the top figure. The purpose of the dairy department, however, is not to make butter for market, but to teach young farmers. In this department Prof. J. M. Trueman is very successful. Students who have learned are in demand by creamery companies both in his and neighboring States. A large number of farmers have taken special courses in the dairy department, and the progress made is surprising. The 180 mark has been passed in enrollment of students up to this time.

Mr. A. E. Jones, Dairy editor of the *FARMER*, has been confined to his bed since April 4, on account of an accident, but hopes to be out again by the 15th of May and renew his acquaintance with the *FARMER* family and other friends.

The Apiary.

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

Bee-Keeping in Kansas.

Seeing your writings on bees in the *KANSAS FARMER*, and being very much interested, I have a few questions to ask.

First.—Can we succeed with bees in this climate, with our severe extremes and sudden changes from heat to cold in the spring of the year, with cold winds, etc.?

Second.—We have perhaps thirty or forty acres of alfalfa within a radius of from two to three miles, and also fifty or sixty orchards of apples, peach, plum, pear, apricot, blackberries, cherry, black currant, etc. Would this amount of forage support bees, and about how many colonies? I never saw Italian bees, but formerly kept the black bees in Illinois, and brought a colony with me here in 1873, but it was affected with a disease called dysentery, of which nearly all the bees in Illinois died and my colony also.

Mitchell, Kas. J. CARNEHAN.

Answer.—There is nothing wrong about Kansas climate for successful bee culture, and in this respect is much ahead of the Northern and Eastern States, on account of the mild winters. It is true that bees should have the protection of chaff hives here in winter, the same as are used in the North and East, and when prepared in this way, the sudden changes do not impair them.

A locality with the forage you describe is a good one for bees, and forty or fifty colonies ought to do well and give a good surplus. The amount of fruit bloom you would have would furnish considerable honey, and that very early in the spring, so that the bees would breed up rapidly and have a large working force when the alfalfa blossoms would open. With such a source of honey from fruit blossoms, and a large acreage of alfalfa, it would be a first-class location for a large apiary. Plenty of alfalfa alone is all that is necessary to make bees profitable.

Dysentery, is a disease produced in winter, by long confinement, on account of continuous cold weather and heavy snows. If bees can get a good flight once a month during winter, they are seldom affected with dysentery, but this may be prevented, even with long confinement, by proper protection and good honey. In many cases bees are wintered in cellars, and are confined from the first of November until the first of April, in a temperature of about 45°, and show but little signs of dysentery. But where bees are wintered out of doors, in an uneven temperature, they require a fly often to be in a healthy condition; but this may be improved upon greatly by chaff hive protection.

A child was cured of croup by a dose or two of Ayer's Cherry Pectoral. A neighbor's child died of the same dread disease while the father was getting ready to call the doctor. This shows the necessity of having Ayer's Cherry Pectoral always at hand.

Millions of Gold

In sight at Cripple Creek, Colo. Only twenty-three hours from Topeka by the Santa Fe Route, the only broad-gauge route passing right by the "Anaconda" and all the famous mines. See the nearest Santa Fe agent for all particulars, or write to Geo. T. Nicholson, G. P. A., Chicago, Ill., or W. J. Black, A. G. P. A., Topeka, Kas.

Union Pacific Route.

What you want is the through car service offered between Denver and Chicago via the Union Pacific and Chicago & Alton railroads, which is unexcelled by any other line. Magnificent Pullman sleepers, dining cars and chair cars, run through daily without change, Denver to Chicago via Kansas City.

Make Cows Pay.



Twenty cows and one **SAFETY HAND CREAM SEPARATOR** will make more butter than twenty-five cows and no separator. Sell five cows; the money will buy a separator and you save cost of their keep, while the butter you make sells for two cents more per pound. Send for circulars. Please mention this paper.

Rutland, Vt.
Omaha, Neb.,

P. M. SHARPLES,
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Elgin, Ill.

WOVEN WIRE FENCE
Over 50 Styles. The best on Earth. Horse high, Bull strong, Pig and Chicken tight. You can make from 40 to 60 rods per day for from 14 to 22c. a Rod. Illustrated Catalogue Free. KITSILMAN BROS., Ridgeville, - Indiana.

FENCING
For HOGS, POULTRY, and all fence purposes.
Standard Fencing of U.S.
Thousands of Miles in Use.
Always gives satisfaction. Sold by dealers. Freight paid. Take no other. Catalogue free.
McMULLEN WOVEN WIRE FENCE CO., CHICAGO, ILL.

AN IRISHMAN'S REASON.
A group of Kentucky farmers were discussing fences. One only, defended a ratchet device, all the others preferred "the Page." Each in turn gave his reasons, a son of the "ould sod" last. "Begorra!" said he, "I'd rather hev a cov that I coud up herself than be goin afther her twice a day."
PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

PURE ITALIAN BEES.

Full colonies of pure Italian bees, in the latest improved hives, shipped to any point, and safe arrival guaranteed. Bee Hives and supplies. Have twenty years experience in bee-keeping and manufacturing hives. Write us for prices.

A. H. DUFF & SON, Larned, Kansas.

VINELESS SWEET POTATO
Our "GOLD COIN" PRO-LIFIC is the Greatest Sweet Potato on earth. No one can offer it this year but ourselves. It's a fortune to any one. Yields 20 times its cost in increased yield and cheapness of production. Quality the very best. Leading horticulturists say nothing equals it. Every farmer and gardener should grow it. No vines to bother. It's marvelous. Nothing before ever equaled it. Order immediately before stock is exhausted. We offer \$100 for the largest yields. Our book, "40 years experience in growing Sweet Potatoes," Free. Price prepaid 1 lb. \$1.00; 2 lbs. \$1.50; 3 lbs. \$2.00; 50 plants \$1.00; 100, \$1.50; 500, \$5.00; 1000, \$9.00. Send club orders.
HUNTINGTON SEED CO., Indianapolis, Ind.

CORK FACED COLLAR
showing exact amount and arrangement of GRANULATED CORK FACING.
This collar will not only save your horses' shoulders, but being hand-made and hand-stuffed will last much longer than any machine-made collar.
Cork-Faced Collar Co. Lincoln, Ills.

Increase of Bees.

If we expect to make a specialty of increasing our number of colonies, it requires quite a different preparation of management than it does if we propose making honey the sole object. Either of the two methods requires a building up of colonies to their best possible condition in strength and as early as possible.

If I were to run the apiary for increase alone, I would adopt something like the following plan: As early as the weather will permit, I would commence the rearing of queens. This is the first and most important step in increase. From the time we commence this work until these queens are any benefit to us will be nearly one month. Hence you can see the importance of getting them out as early as possible. However, we are at times caught with unfavorable weather when commencing operations too early. So that I find but little is gained in operating before settled warm weather has come in.

In operating for increase, we should be governed by this same rule, and not commence dividing until the season is suitable and colonies are ready. Every colony to be divided should be strong and the hive crowded with bees and brood. It is down-hill business to divide weak stocks, as we cannot succeed, and besides lose all benefits of the honey flow. If we have not been successful in getting them strong early, we should wait, even if it be two weeks or a month later. The strength of the colony determines the amount of brood therein, and on a large amount of brood depends the amount of increase. A colony of bees may be divided in as many parts as we see proper, but in order to keep up the right amount of brood we would not make too many divisions at one time. I think separating a colony in two parts is enough at one time. A laying queen should be introduced in the queenless half. This leaves each part sufficiently strong, so that the queens will deposit a large amount of eggs that will be properly protected by the bees. In a week or ten days those same colonies may be divided again as before, and so on. In making up a new colony, and placing it in a new location, it should be borne in mind that the largest portion of bees should be taken with the same, for the reason that many of the older bees will return to the old location. It is also necessary that the largest portion of the oldest, or just hatching brood, should accompany the same. This will give them equal strength. All vacancies may be filled up with either frames of empty comb or foundation. It will not pay to allow bees to make their own comb. Dividing may be continued as long as the honey flow lasts, and if afterwards we desire more increase it may be secured by feeding. During the past season of 1895, from the first day of June until the first day of September, I increased six colonies to forty-five colonies, all good strong colonies, that averaged forty pounds of honey per colony, on the above plan. All this time I had a continuous honey flow from alfalfa. While the above is a very fair increase, yet it has been many times surpassed possibly by other methods, in the hands of experienced apiarists; but for the amateur or general bee-keeper, this may be considered a safe plan to follow.

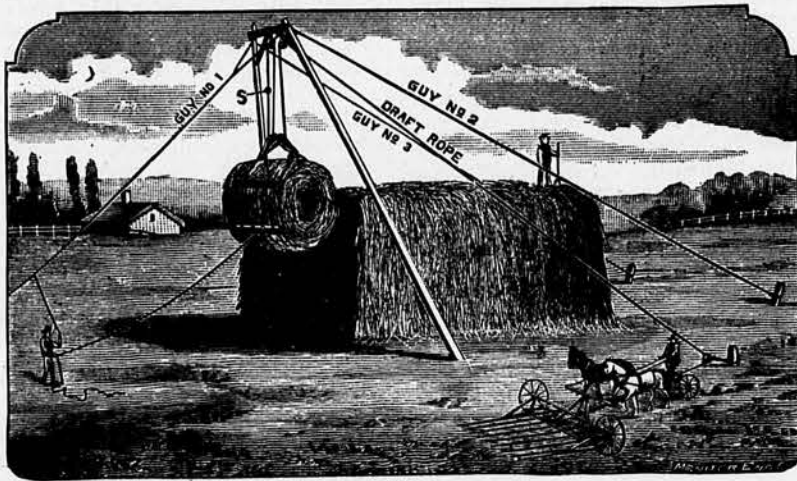
The Use of the Bee Smoker.

The smoker should be used very sparingly. There is, in most cases, nothing gained in dashing great columns of smoke among the bees; but it is rather damaging to them. A very little puff from the smoker, in most cases, is all that is needed, especially with Italian bees. This will leave them in much better condition to handle than if too much severity is used in smoking. Occasionally we find a colony, especially hybrids, that is very hard to conquer, and which requires heavy smoking to bring it to terms. During the honey flow it is but occasionally I use the smoker at all, and, I think, with Italians it is not necessary, if we handle them with the care that they deserve. I think it is much the best way to always ascertain after opening the hive if the colony really needs smoking before turning

the smoker upon them. If they show no disposition to harm us we should not fire the first gun, but use them mildly, and better results will be obtained in return.

Prevention of Increase.

The prevention of increase is much more worked for and sought after than the best methods of increasing. The greatest profits are derived from the honey produced, and when honey is the sole object but little if any increase is desired. If bees are increased to a great extent, we can expect nothing in the way of surplus honey; or even allowed to swarm naturally, we can secure but little. Hence the greater portion of increase is a barrier to a honey crop and must be controlled. To effect this requires careful study and a thorough knowledge of the business connected with the interior workings of the bee-hive. Why do bees swarm? First, because they become so numerous and are crowded for room; second, because they have a plurality of queens. The first cause produces the second. It may be said that bees will swarm when abundance of room is given them. This may be true to some extent, but it is the exception and not the rule. "Give bees abundance of storage room and it will go a long ways in preventing swarms," is the golden rule in bee-keeping. This is certainly a good rule to work to, as it not only prevents in-



MODERN HAY-MAKING.

The pleasant, if not poetic side of hay-making, that has been so long apparent to the one who sits on the fence and watches the process has been discovered to the worker by Louden's Hay Tools.

The Stacker is one of the most important of these and the above illustration explains it fully without any words of ours. It is thoroughly practical; a simple device and capable of a great amount of work, with a small force of men. The following letter provided us by the company, shows the success of their machinery in the heaviest kind of work, and from it farmers can judge for themselves of its merits. The other machines mentioned in the letter are also manufactured by the Louden Machinery Co., Fairfield, Iowa.

crease but is undoubtedly the key to large honey crops.

Then, we say, the first step to be taken is to give abundance of room for storing honey. This will arrest the first cause of swarming to a great extent. But I heartily concur in saying that we will have exceptional cases, which will require a little different engineering when the first project fails. Preparation for swarming will be commenced, as a rule, eight days previous to the swarm's issuing, by the construction of queen cells. Removing these queen cells will hold them in check, and tends to discourage their issuing. The removal of the same may be followed by another effort on their part to raise more, which may be followed up by another removal, and so on. This is likely to be the means of keeping them down to business, but in this we find a few exceptions. Sometimes a colony apparently gets out of patience at such tinkering, and will finally swarm without leaving any trace of queen cells in the hive. In this case we can return the swarm and compel them to stay at least eight or ten days longer, by taking away their queen. Young queens will be raised from the brood already in the hive, and a surplus of queen cells may be expected in eight days more, when they will again swarm if the season continues favorable. At this stage of proceedings we would remove all queen cells, and introduce a laying queen.

I do not consider it the best policy to

FAILING MANHOOD

General and Nervous Debility.



Weakness of Body and Mind, Effects of Errors or Excesses in Old or Young. Robust, Noble Manhood fully Restored. How to Enlarge and Strengthen Weak, Undeveloped Portions of Body. Absolutely unfailing Home Treatment. —Benefits in a day. Men testify from 50 States and Foreign Countries. Send for Descriptive Book, explanation and proofs, mailed (sealed) free.

ERIE MEDICAL CO., Buffalo, N. Y.

insist too strongly on these persistent swarms to remain at home, if they show such a determination to object to it. I have had better results from such bees in hiving them in a new home, and if need be strengthen them up from other colonies, so they may be ready to occupy surplus boxes at once, when they will almost without exception work with a vengeance and renewed energy.

Do you smoke a pipe? If so, you should send to a reliable maker like B. F. Kirtland, 45-49 Randolph street, Chicago. As an inducement for a trial order, send 50 cents and get a genuine Meerschaum pipe with amber mouthpiece. This factory is all right and sells direct from factory to consumer, giving purchaser all benefits.

KIOWA, KAN., January 2, 1896.—Louden Machine Co.—Gentlemen: The Two-Pole Stacker, Ground Sling and Alexander High-Wheel Sweep Rake have been used by me the past season with perfect satisfaction.

I had 110 acres of Sorghum that stood full ten feet high and as thick as it could stand on the ground. When it was all cut I thought I had an elephant on my hands, but I took the two Sweep Rakes, Sling and Stackers, five boys and one man and handled it easily, swiftly and successfully, making stacks from 100 to 250 feet long, 20 feet wide and over 20 feet high. I most heartily commend this outfit to the use of Western ranchmen who have large quantities of hay of any kind to handle.

Respectfully yours, M. J. LANE.
Every farmer should write for their large illustrated catalogue of their immense line of Hay Tools.

For the N. E. A. Meeting

at Buffalo, N. Y., July 7 to 11, it will be of interest to teachers and their friends to know that arrangements have been successfully accomplished by the Nickel Plate Road providing for the sale of excursion tickets at \$12 for the round trip with \$2 added for membership fee. Tickets will be on sale July 5 and 6 and liberal return limits will be granted. For further information as to stop-overs, routes, time of trains, etc., address J. Y. Calahan, Gen'l. Agent, 111 Adams street, Chicago, Ill. 93

THE STRAY LIST.

FOR WEEK ENDING APRIL 23, 1896.

Wabunsee county—J. R. Henderson, clerk.
STEER—Taken up by F. L. Raymond, in Maple Hill tp. (P. O. Vera), February 3, 1896, one red steer, left ear cut and dewlap cut, bunch off end of tail, branded T. I. on left side; valued at \$25.

FOR WEEK ENDING APRIL 30, 1896.

Wallace county—W. E. Ward, clerk.
MARE—Taken up by F. F. Cutler, one brown mare, age unknown, white spot on face and on nose, left hind foot white; valued at \$10.

FOR WEEK ENDING MAY 7, 1896.

Cowley county—S. J. Neer, clerk.
THREE MARES—Taken up by A. A. Knox, in Bottom tp. (P. O. Gauda), April 11, 1896, three bay mares, two blaze face.

HORSE—By same, one cream-colored horse, no marks or brands; four animals valued at \$60.
Thomas county—J. W. Crumly, clerk.
MARE—Taken up by H. J. Davis, (P. O. Mingo), April 15, 1896, one black mare, fifteen hands high, weight 950 pounds, scar on left front foot made by wire; valued at \$20.

Neosho county—W. P. Wright, clerk.
PONY—Taken up by J. F. Heinewright, Jr., in Erie tp. (P. O. Erie), April 12, 1896, one gray pony mare, 12 years old, branded P. P. on left hip and unknown brand on left shoulder; valued at \$10.
PONY—By same, one brown pony mare, 8 years old, unknown brand on left shoulder; valued at \$10.

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. Initials or a number counted as one word. Cash with the order. It will pay. Try it!
SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with the order. Stamps taken.

YELLOW MILK MAIZE, RED AND WHITE KAF—Mr. Amber sorghum, Golden millet, each 35 cents per bushel, sacked. Black rice corn, 75 cents per bushel, sacked. Willis K. Folks, Wellington, Kas.

EGGS—From choice S. L. Wyandottes, Light Brahmas and Black Langshans, \$1 per fifteen, \$1.75 per thirty. Wm. Plummer, Osage City, Kas.

FOR SALE—The young Poland boar, Kansas King Wilkes, 16192 S., sired by King Wilkes 9588 by Dandy Wilkes by Geo. Wilkes; dam Black Romany 29608 by Kansas King 8911, owned and used by Mr. Wren and at Sunny Slope. He is sure a good one. Address Riverside Herd, Council Grove, Kas.

FOR SALE—Four registered Jersey bulls (three young and one old) from the best milking families in the United States. T. P. Crawford, Manager Deer Park Jersey Farm, Topeka, Kas.

WESTERN POULTRY SUPPLY CO.—Fourteenth and Main Sts., Kansas City, Mo. Ozark grits, 75c. per cwt.; Dead Easy Disinfectant, 1 gallon 75c.; Roup Paste, 25c.; chick markers, 25c.; oyster shells, 100 pounds \$1.75; incubators, brooders, drinking fountains, etc. Send stamp for price list and sample Midland Poultry Journal.

WANTED, SALESMEN.—To sell a fine line of lubricating and special oils and greases on commission. Good chance to the right party. Buckeye Refining Co., Cleveland, Ohio.

FOR SALE—A hedge-trimmer which can be attached to a McCormick mower. Will be sold at a bargain if taken quick. Inquire at KANSAS FARMER office.

PURE FOLGERS, COLMAN, COLLIER SORGHUM seed for sale, raised from pedigreed seed. Mary Best, Medicine Lodge, Kas.

FOUND—A sorrel horse, about 7 years old. Apply at 708 Kansas Ave., Topeka.

200,000 TEN BEST KINDS SWEET POTATO plants for sale during May and June at low prices. Inquire of N. H. Pixley, Wamego, Kas.

JERSEYS FOR SALE—Three bulls, nearly 1 year old, good individuals and finely bred, at \$25 each. J. W. Babbitt, Hiawatha, Kas.

EGGS FROM PRIZE-WINNERS.—Langshan, Leghorn, Plymouth Rock, Minorca, Wyandotte and Hamburg fowls, bred in the purple. A few more pedigreed Yorkshire boars for sale. James Burton, Jamestown, Kas.

FARMERS, SETTLERS, HEALTH-SEEKERS IN Florida. Write us for information and low prices on homes, orange groves, grape vine, pineapple, fruit, vegetable and farming lands. State requirements. Stapylton & Co., Leesburg, Lake Co., Florida.

DISEASES OF YOUNG AND OLD MEN—Private and skin diseases a specialty. Wm. H. Righter, Ph. G. M. D., 503 Kansas Ave., Topeka, Kas. Correspondence solicited.

PLANTS BY MAIL.—Fuchsias, Coleus, Geraniums, Roses, Begonias, Carnations, etc., assorted, strong, well-rooted. Will send as samples, fifteen for 50 cents (2-cent stamps); for clubs of five, these (separate) for \$2. Satisfaction and safe arrival guaranteed. Try them. Tyra Montgomery, Box 186, Larned, Pawnee Co., Kas.

AUBURN POULTRY YARD.—Eggs for sale from prize-winning B. Langshans and S. S. Hamburgs. B. Langshan pen headed by first premium cock at the State poultry show at Topeka, 1896; first on Hamburg breeding pen. A few cockerels left for sale. Write for prices. Address W. E. McCarter & Son, Auburn, Kas.

WANTED—Buyers for Large English Berkshire gilts, bred or ready to breed to son of imported boar. Bargains! O. P. Updegraff, North Topeka, Kas.

EGGS.—Barred Plymouth Rocks, \$1 per fifteen. Mammoth Bronze turkey, \$1.50 per nine. Selected stock. D. Trott, Abilene, Kas.

A. B. DILLE & SON—Edgerton, Kas., will sell a choice Barred Plymouth Rock eggs for hatching at \$1 per thirteen; M. B. turkey eggs at \$2 per eleven. Satisfaction guaranteed.

MANUFACTURER—Wants agents to sell the combination lock pin clevis direct to farmers (the only combination clevis and pin ever patented); self-locking; always secure; sells at sight; 150 per cent. profit; no competition; exclusive territory. Cormany Mfg. Co., 225 Dearborn St., Chicago, Ill.

I HAVE SOME NICE POLAND-CHINA SOWS—Of Wilkes strain, bred, eligible to register, with good pedigrees. F. P. Maguire, Haven, Kas.

S. C. B. LEGHORN EGGS—For hatching. Ninety, one point cock at head of flock. \$1 per fifteen. Clarkson Hodgkin, Dwight, Morris Co., Kas.

CHICKEN LICE KILLER—Sure destroyer. Large package by express, 35 cents. Guaranteed. Acme Specialty Co., Atchison, Kas. Agents wanted.

WANTED—Buyers for Large English Berkshires and improved types of Poland-Chinas, from prize-winners, at farmers' prices. Riverside Stock Farm, North Topeka, Kas.

FOR SALE—One hundred and sixty acre farm, one and a half miles from Bushong station, Lyon county, Kansas. Good spring. Price \$8 per acre. J. B. McAfee, Topeka, Kas.

WANTED—Sale bills, horse bills, catalogues and other printing. A specialty at the Mail Job printing rooms, 900 North Kansas Ave., North Topeka.

WANTED—Readers of the KANSAS FARMER to try our "Special Want Column." It is full of bargains and does the business. For less than one dollar, 2-cent postage stamps are acceptable.

EGGS FOR HATCHING.—See advertisement elsewhere. Belmont Stock Farm.

WE MAKE A GOOD FARMER'S SPRING WAGON, on two lay backs and let-down end-gate, for \$55. Warranted. Kinley & Lannan, 424-426 Jackson street, Topeka.

SORGHUM SEED FOR SALE.—For prices, write J. H. Foote, Fort Scott, Kas.

SHORT-HORN BULLS—Crucikshank-topped, for sale. Choice animals of splendid breeding. Address Peter Sim, Wakarusa, Shawnee Co., Kas.

Salesmen Wanted!

\$100 to \$125 per month and expenses. Staple line; position permanent, pleasant and desirable. Address, with stamp, King Mfg. Co., P. 29, Chicago, Ill.

AGENTS To sell cigars to dealers; \$18 weekly, experience not required. Samples free. Reply with 2c. stamp. National Consolidated Co., Chicago, Ill.

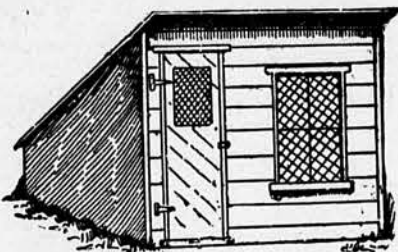
The Poultry Yard

ALMOST A NECESSITY.

No Poultry Raiser Should Try to Do Without Breeding Houses.

Small breeding houses have come to be considered almost a necessity upon the average farm as well as in the yards of the fancier. The farmer has learned that it is economical and much more satisfactory to pick from his flock the most promising pullets and a well-bred male and place them in a commodious yard with a snug little house of their own. From this yard will come all the eggs that can be used for hatching. The eggs from hens having the entire range of the farm may be disposed of in the general market and used for household purposes.

The accompanying illustration is of a small breeding house which has been in use for three years. It was originally a large organ box and has been made over somewhat. Very little extra material was needed to complete it. A half sash, tar paper, hinges, hook and staple, and a few boards picked up about the farm were all the extras needed. This house accommodates in perfect comfort a pen of eight or ten hens and a rooster. The tar paper we have found expensive and shall never purchase more of it. It is rotten, does not wear



A SMALL BREEDING HOUSE.

well, and for outside purposes it is worthless. For covering, stretch muslin over the top and tack it on firmly. Apply one coat of hot tar, let it dry, then put on another. If to the tar a small proportion of fine wood ashes is added, the coat will be firmer and more lasting. Upon the last coat as fast as put on, sprinkle sand plentifully. Such a roof is windproof, waterproof, and with the addition of a new coat of hot tar every year, becomes practically indestructible.

Such houses are ideal homes for broods of chickens. Two or three hens with their flocks may occupy such a house, and with the addition of roomy yards are well provided for until the chicks are half grown. If not crowded they may remain there until removed for winter quarters. When three weeks old, the gates are opened and they go hunting all day long when the weather is suitable. When weaned they have a comfortable, permanent home to return to. I have used these houses with marked success.—Orange Judd Farmer.

NEW FORM OF ROUP.

If Not of Very Virulent Nature the Disease Is Curable.

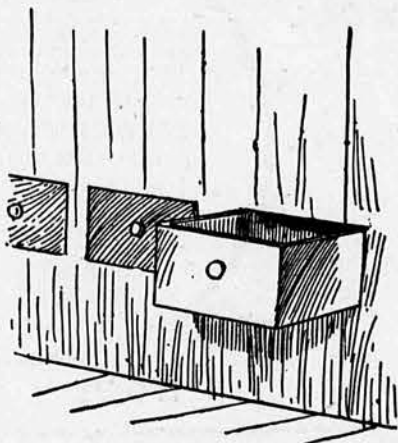
A new disease has appeared among fowls. They have trouble in breathing, keep their mouths open the greater part of the time and are constantly swallowing. There seems to be a yellowish growth in the roofs of their mouths. This is a form of roup, which may have been formed by keeping the fowls in unclean quarters or where cold night winds can blow upon them, or in a close, damp house; or by the attacks of lice, or any one of a dozen different things. It is curable if not of a very virulent nature. The best plan is to separate the diseased fowls from the others at once and place them in a coop by themselves where the remainder of the flock cannot get at them. Feed in a small trough, giving wheat, cracked corn, table scraps chopped fine, to which charcoal broken to the size of wheat kernels has been added, a heaping teaspoonful to a pint of food. Add 20 drops of kerosene to each pint of drinking water. Clean out the house and burn half a pound of sulphur in it with the doors closed. Then batten up all the chinks to stop drafts, and spread air-slacked lime over the floor. Spray or swab the walls with kerosene. Remove the old perches and put in new ones. Feed the hens as above described, give an abundance of clean wa-

ter, keep their quarters neat, dry and clean as your own house, and there will be no trouble. There is always something wrong in the management when the fowls have roup. Study it out and make the necessary changes. Always keep an eye on the fowls, and when one becomes sick, place it by itself.—American Agriculturist.

MOVABLE NESTING BOX.

Good Thing Where Poultry Quarters Are Within a Building.

The sketch shows a convenient plan for arranging nesting boxes where the poultry quarters are within a building, and separated from the remaining space by an inside partition. In this partition are arranged drawers of the



proper size, as shown in the diagram. These project into the poultry house, where they are supported by a light framework with grooves in which the drawers run smoothly. One can thus gather the eggs without entering the poultry quarters, and without soiling one's shoes and frightening it may be, the fowls. The nests being unfastened can be removed and cleaned at any time, as permanent nests cannot be.—Orange Judd Farmer.

AMONG THE POULTRY.

Air-slaked lime is a good disinfectant. Young ducks should not be allowed to run to water.

Coarse oatmeal is a splendid feed for young poultry.

One of the important items in securing the best results with ducks is not to allow them to get wet.—St. Louis Republic.

The only Binders and Mowers.

With Roller and Ball Bearings are the **DEERING**

These bearings save one-third of the draft. They make Deering Binders "TWO-HORSE" machines in all but the most extreme conditions, and Deering Mowers so light of draft that ONE MAN can pull the 5-ft. machine and cut grass.

They save draft because they overcome friction and prevent wear. That means less noise and longer life.

The Roller Bearing idea has seized hold of the whole mechanical world, and Roller Bearings or Ball Bearings are now used in every class of machinery from locomotives to typewriters. The "Deering Farm Journal" for February has an interesting article discussing the whole field of Roller Bearings. It is sent FREE on application, to farmers, together with a handsome catalogue called "Roller and Ball Bearings on the Farm." Say where you saw this ad.

DEERING HARVESTER CO.,

Fullerton & Clybourn Aves.,
CHICAGO.

ARMSTRONG & McKELVY
Pittsburgh.
BEYMER-BAUMAN
Pittsburgh.
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JEWETT
New York.
ULSTER
New York.
UNION
New York.
SOUTHERN
Chicago.
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JOHN T. LEWIS & BROS. CO.
Philadelphia.
MORLEY
Cleveland.
SALEM
Salem, Mass.
CORNELL
Buffalo.
KENTUCKY
Louisville.

MONEY IS MADE by saving it, and there is no better way to save it than in preserving your buildings by having them well painted with Pure White Lead and Pure Linseed Oil. They cannot be well painted with anything else. To be sure of getting

Pure White Lead

examine the brand (see list genuine brands). For colors use NATIONAL LEAD CO.'s Pure White Lead Tinting Colors; they are the best and most permanent; prepared expressly for tinting Pure White Lead.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

NATIONAL LEAD CO.,
1 Broadway, New York.

Lameness Cured

By a few applications. If your horse is lame and you cannot locate it, apply the Elixir, which locates lameness by remaining moist on the part affected, the rest drying out. A few more applications will effect a cure. Never scars or changes the hair.

TUTTLE'S ELIXIR

Is the standard remedy for Colic, Curbs, Splints, Contracted and Knotted Corde, Shoe Bolls, Callous of all kinds, etc. Will relieve all Spavins, Ring Bone, Cockle Joints, etc. It is warranted to give satisfaction. Highly endorsed by prominent horsemen.

Tuttle's Family Elixir cures Rheumatism, La Grippe, Pneumonia, Lameness, all Joint Affections, etc. Sample of either Elixir sent free for three 2-cent stamps to pay postage. Price of either Elixir is only 50 cents, and they can be bought of any druggist, or will be sent, charges paid, on receipt of price.

DR. S. A. TUTTLE, Sole Proprietor, 27 G. Beverly St., Boston, Mass.

SPRAY WITH THE EMPIRE KING

KENDALL'S SPRAIN CURE. Certain in its effects and never blisters. Sold everywhere.

THOS. B. SHILLINGLAW, Real Estate and Rental Agency, 115 East Fifth St., Topeka, Kas. Established in 1884. Calls and correspondence invited.

Wanted, an Idea. Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write John Wedderburn & Co. Patent Attorneys, Washington, D. C., for their \$1,800 prize offer and list of 200 inventions wanted.

CORRUGATED STEEL IRON ROOFING
\$1.75 PER SQUARE.

The above, partly from World's Fair Buildings, we guarantee good as new. We have only a limited amount on hand and would advise forwarding orders at once. CHICAGO HOUSE-WRECKING CO., Largest Second-hand Depot in the World. 3025 S. Halstead street, Chicago, Ill.

"JONES HE PAYS THE FREIGHT." Farm and Wagon SCALES.

United States Standard. All Sizes and All Kinds. Not made by a trust or controlled by a combination. For Free Book and Price List, address JONES OF BINGHAMTON, Binghamton, N. Y., U.S.A.

SUCCESSFUL INCUBATOR
Our magnificent new catalogue giving full information regarding artificial hatching and brooding and treating on poultry raising sent for 4c stamps. Circular free.

Every Farmer an Irrigator!

The Atchison, Topeka & Santa Fe Ry.
Is offering for sale on easy terms and at reasonable prices

100,000 ACRES

Choice farming and grazing lands in the fertile Arkansas River Valley in South-Central and Southwest Kansas.

These are not cullings, but valuable original selections which have reverted to the company. No better lands can be found for general farming and grazing purposes or investment.

Every farmer in Western Kansas either is irrigating or is going to irrigate. Practically all of our lands are susceptible of irrigation by the use of individual irrigation plants, such as are coming into general use in Southwestern Kansas. The portions that cannot be advantageously irrigated are fine grazing lands.

A combination of crop-growing and stock-raising is the most profitable method of successful farming, for which these lands afford unsurpassed advantages.

For free pamphlets, address JNO. E. FROST, Land Commissioner the A., T. & S. F. Railway, Topeka, Kas.

WELL DRILLS

awarded Highest Medal at the World's Fair. All latest improvements. Catalogue free. F. C. AUSTIN MFG. CO., CHICAGO, IL.

Portable Well Drilling MACHINERY

Established 1867. Covered by patents. Machines drill any depth both by steam and horse power. We challenge competition. Send for free illustrated catalogue. Address, KELLY & TANEYHILL, WATERLOO, IOWA.

Piles Cured for \$25

Without Knife or Ligature. CURE GUARANTEED OR NO PAY. Book on Rectal Diseases, with Testimonials, Free—Sealed. Call or address

DR. GIBBS & CO., 10 West Ninth St., Kansas City, Mo.

COOPER DIP

KILLS AND PREVENTS TICKS, LICE AND SCAB. MAKES WOOL GROW.

Dipping pamphlet free from COOPER & NEPHEWS, Galveston, Tex.

\$2 packet makes 100 gallons; 50c. packet, 25 gallons. If druggist cannot supply, send \$1.75 for \$2 packet to Evans-Gallagher Co., Kansas City, or J. W. Allen & Co., Atchison, Kas.

MEN BE HEALTHY
We will send you the marvelous French Preparation CALTHOS free, and a legal guarantee that CALTHOS will Restore your Health, Strength and Vigor. Use it and pay if satisfied. Address VON MOHL CO., Sole American Agents, Cincinnati, Ohio.

PENNYROYAL PILLS

Original and Only Genuine. Save, always reliable. LADIES ask Druggist for Chichester's English Diamond Brand in Red and Gold metallic boxes, sealed with blue ribbon. Take no other. Refuse dangerous substitutions and imitations. At Druggists, or send 4c. in stamps for particulars, testimonials and "Relief for Ladies," in letter, by return mail. 10,000 Testimonials. Name Pennyroyal Pills. Chichester Chemical Co., Madison Square, Philada., Pa. Sold by all Local Druggists.

Experience

has proven conclusively that better grapes and peaches, and more of them, are produced when Potash is liberally applied. To insure a full crop of choicest quality use a fertilizer containing not less than 10%

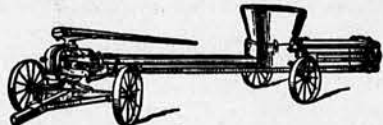
Actual Potash.

Orchards and vineyards treated with Potash are comparatively free from insects and plant disease.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
63 Nassau St., New York.

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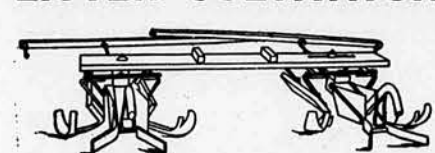
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Official Receipts for 1895.....	1,689,652	2,457,697	864,713	52,607	103,368
Slaughtered in Kansas City.....	922,167	2,170,827	567,015		
Sold to feeders.....	392,262	1,376	111,445		
Sold to shippers.....	218,506	276,869	69,784		
Total Sold in Kansas City, 1895.....	1,533,934	2,446,202	745,244	41,588	

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BREEDERS' DIRECTORY.

(Continued from page 1.)

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