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KANSAS FARMER.

Established in 1863.

Published every Thursday by the
KANSAS FARMER CO., - - TOPEKA, KANSASE. B. COWGILL.....President
J. B. MOAFER.....Vice President
D. C. NELLIS.....Secretary and Treasurer**SUBSCRIPTION PRICE: \$1.00 A YEAR**E. B. COWGILL.....Editor
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H. A. HEATH.....Advertising Manager

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Every advertiser will receive a copy of the paper free, during the publication of the advertisement.

Address all communications to

KANSAS FARMER CO.,

116 West Sixth Ave., Topeka, Kans.

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The Kansas State Horticultural Society is holding its semi-annual meeting at Wichita this week, June 7, 8, and 9.

Estimates of the Treasury Department place the population of the United States, June 1, at 83,143,000. Money in circulation is estimated at \$31.09 per capita.

"The Kansas Agricultural Review" is the name of a new periodical published

lished at the Agricultural Colleges. It is a neat magazine. It contains able articles by strong writers. The college tone which is naturally derived from its environment will not be found objectionable by any well-balanced reader and will be appreciated by all who have ever been connected with the college.

The National Live Stock Association has just issued its Eighth Annual Report. This is a book of some 400 pages and contains much interesting matter. In addition to the report of proceedings of the meeting there is included a report of proceedings of the conference between the special land commission appointed by President Roosevelt and the live-stock interests of the West. There are also included lists of State and county live-stock organizations; pedigree register associations of all breeds; stock yards companies and live-stock exchanges. The report is rounded out with statistical tables regarding number and value of farm animals in the United States, together with the receipts and shipments at the various stock yards.

THE KANSAS GOOD ROADS ASSOCIATION.

Under the provisions of its constitution, the Kansas Good-Roads' Association will hold its second annual meeting at Topeka on August 8. All granges, fair associations, commercial clubs, farmers' institutes, live-stock associations, horticultural societies, State educational institutions and county commissioners are entitled to send delegates. Questions of special importance to the good-roads movement and to the association will be up for discussion and papers will be read by experts on road- and bridge-building, drainage, etc. Provision for reduced railroad and hotel rates will be announced in due time. Secretary I. D. Graham, Topeka, will furnish desired information.

THE DAIRY EXHIBIT AT THE KANSAS STATE FAIR.

The Kansas State Exposition Company in preparation for its next annual fair to be held at Topeka, September 11 to 15, 1905, has made special arrangements for more extensive exhibits than ever before in all the departments of live stock, agriculture, horticulture, the dairy, the apiary, poultry, etc. In addition to the regular prizes offered by the association for both dairy and creamery butter, and for cheese, there will be a number of special exhibits which will be of more than general interest. Negotiations are now pending with a large manufacturing concern for the erection and maintenance of a model dairy. It is expected to have this in operation during the entire week. It is also planned to arrange for a four-days' butter test in two classes. In one of these classes only registered animals will be admitted and they will be judged on the amount and quality of milk they give during the test and on the percentage of butter-fat derived therefrom. The other class will

be the farmers' cow class, in which only unregistered cows will compete.

It is proposed to establish a pro rata exhibit in which the ten exhibitors making the highest total score of butter exhibits, shall divide the gross premium pro rata. Then there will be a county exhibit limited to dairy butter in eight-pound pails and in prints. The classification for butter is as follows:

	1st prem.	2nd prem.
Eight-lb pail dairy butter.....	\$5.00	\$3.00
Eight-lb pail creamery butter.....	5.00	3.00
Five 1-lb prints dairy butter.....	5.00	3.00
Five 1-lb prints creamery butter.....	5.00	3.00
Granulated butter in glass.....	3.00	2.00
Display ornamental designs in butter.....	5.00	3.00
Five-gallon can separator cream.....	5.00	3.00
CHEESE.		
Case flat cheese.....	5.00	3.00
Case cheddar cheese.....	5.00	3.00
Case young America cheese.....	5.00	3.00
Championship for best cheese at the fair.....	\$10.00	

A large exhibit of dairy implements is expected as the Exposition Company have decided not to charge any entrance fee and will afford every facility in the allotment of space, etc., for exhibitors who care to show their cream separators or other machinery. All are invited. Address I. D. Graham, Topeka, for information about this department, or C. H. Samson, Secretary, Topeka, for premium list.

OIL BURNERS AGAIN.

EDITOR KANSAS FARMER:—I am interested and would be pleased to get full information in regard to fuel oil and burners, heaters, as well as cook-stoves. Will this crude oil give more heat than the little oil-burners found on sale in hardware stores?

IRA H. PATTEN.

Cowley County.

The inventors and designers are very busy with the task of developing just the right kind of burners and stoves in which to use crude oil in place of coal. If these should be no more efficient and satisfactory than the little oil-burners that have been kept in hardware stores, there would be little hope of large usefulness. But the burner which has been mentioned in the KANSAS FARMER uses the oil in such a way as to make a very hot fire. There is little room for doubt but that by next winter this burner will have been so perfected that applied to a common furnace a single burner will heat a house of eight to twelve rooms. The cost of the fuel will, doubtless, be less than that of coal to do the same service.

Mr. C. T. Sears, of the Midland Foundry Company, placed one of these burners in his cooking-stove about a week ago. The cooking for his family has been done with crude oil during the week. Mr. Sears says the fact that Mrs. Sears has not become disgusted and ordered it out of the house on account of the many minor changes and adjustments necessary to the development of a new invention, is exceedingly encouraging. As a baker it is perfect. Further changes will be made to secure satisfactory heating of skillets and kettles without warming the kitchen too much for comfort in summer. The fact that this burner gives off less smell than a parlor lamp removes apprehension of one of the serious inconveniences that have been complained of with other burners.

As the construction of the burner is perfected, it becomes probable that it will be easily placed in the fire-box of any ordinary cooking-stove, the principal work being to drill two small holes for the admission of oil pipes. The oil receptacle may properly be placed in the cellar, in which case a bicycle pump will be used to compress the air in the oil-can so as to force the oil up in the pipes.

These burners will be made in Topeka and placed on the market as soon as perfected. When ready for orders, the manufacturers will doubtless give notice by advertising in the KANSAS FARMER.

It is probable that for cooking and for heating, the most satisfactory use of oil will require complete stoves made for this purpose. For furnaces, whether of the hot-air, hot-water or steam type, it is believed that the slight modifications that may be necessary can be made at little cost, and that the oil-burners can be satisfactorily attached.

The use of oil in manufacturing plants where steam can be used to assist in atomizing the fuel is a problem with which the user for purely domestic purposes need not concern himself. It has been partly solved, and with the demand for cheap power these burners will be brought speedily to perfection.

OIL FOR KANSAS ROADS.

The daily press is authority for the statement that oil is to be used on some of the roads in Shawnee county for the purpose of laying dust and that the county commissioners have given their consent to its use on the West Sixth street macadam road.

There are a number of things to be considered in connection with the proposition to oil public highways. In the first place, it is necessary that the oil used should contain a large percentage of asphaltum. This would at once exclude all Kansas oils. They have no asphaltum in their composition. The only oils suitable for road building are found in California and Texas. Again it has been found that the oiled roads about which we have been hearing so much in California, have proved an utter failure in case of prolonged seasons of wet weather. While they were a success in every respect in Southern California and Texas during the dry seasons, it has been found, in California at least, that an unusually wet season has developed the fact that those portions of the road that are most used by teams, more particularly those portions which are constantly subject to the hoof beats of horses and the impaction of wheels, the crust is kept constantly broken and permits the passage of water through it. The oiled surface at the sides of the wheel track is not broken and the absorption of water through ruts and hoof-paths makes of the road a reservoir for water which is held beneath the surface and which cannot drain away because it is retained in position by the elastic oiled surface at the sides of the road. This places the vehicle in the position of passing over a road the foundation of which is water upon which rests a film

(Continued on page 606)

Agriculture

The Roots of Plants.

EXCERPTS FROM BULLETIN NO. 127, KANSAS EXPERIMENT STATION, BY PROF. A. M. TENNEYCK.

CLOVER ROOTS.

Clover thrives well in this locality, and a large acreage was seeded on the station farm in the spring of 1903, resulting in an excellent catch, but it happened that there were no old fields on the farm or in the vicinity last season. The figure shown in plate 15 is the cut of a single plant of common red clover, which was taken September 7, from a corner of the college campus, where the grass was thin. The exact age of the plant is not known, but it was probably a year old, a fall seedling. The sample is therefore hardly a fair representative, and the root development is perhaps somewhat

ALFALFA ROOTS.

The root development of alfalfa has received considerable study at this station and in other States. In Bulletin No. 114 of this station, Prof. H. M. Cottrell has published the interesting results of his investigations. From upland soil he secured the roots of an alfalfa plant nine years old, which measured nine feet and nine inches in length. Dr. W. P. Headden, in Bulletin No. 35, Colorado Experiment Station, traced the roots of alfalfa to the depth of twelve and one-half feet in mellow, dry soil (not irrigated), and secured two samples of plants with roots measuring, respectively, eleven and one-half and eleven and three-fourths feet in length. From the studies of these gentlemen, it is evident that the young alfalfa quickly sends its roots deep into the soil. Doctor Headden found the roots of plants only nine months of age at a depth of over nine feet, while Professor Cottrell shows a cut in his bulletin of a young plant, taken in April, 1902, from seeding made the previous fall, whose roots

and easily observed. Usually the plant sends a single, large tap-root almost straight downward into the deep subsoil. This main root gives off some branches in its downward growth, but these are comparatively few, the singular fact in regard to the roots of alfalfa being the lack of branches and fibrous roots. When the sample was taken, the tap-roots averaged about one-half inch in diameter near the crown. In some plants the tap-root is not so much in evidence, but at the depth of a few inches to several feet from the surface it appears to divide into a number of smaller secondary roots which take on the characteristics of a tap-root, and, spreading very little, pursue an almost vertical course downward. Usually, however, these divided roots do not reach so great a depth as do the single tap-roots. In this sample several roots were traced to a depth of eight and one-half feet.

There is considerable growth of fibrous roots in the surface foot of soil. This growth seems to proceed largely, however, from plants which have no tap-root. Apparently in some plants the tap-root had been destroyed, and the plant was making a new growth of roots. Usually the larger proportion of fibrous root growth lay below the depth of four feet. The fibrous roots in the surface soil held quite a number of small tubercles. Several clusters of tubercles were observed in the deeper soil, one large cluster being found at the depth of three feet.

This study, as well as those of other investigators, leads to the conclusion that alfalfa is a deep feeder. The only surprise is, considering the vigorous growth and productivity of the plant, that the roots are not more numerous and fibrous in their development. However, the method by which the plant feeds (taking its nitrogen from the air by means of the bacteria which grow on its roots), and the great depth of the roots, compensate for the fewer roots and the lack of fibrous growth.

From a study of this root system, one can not fail to appreciate the beneficial effects which such a crop should

It Feels Good

on your face and your face always feels soft and smooth, if you use

WILLIAMS' SHAVING

Sold everywhere. Free trial sample for 2-cent stamp. Write for "The Shavers Guide and How to Dress Correctly."

The J. B. Williams Co., Glastonbury, Conn.

have in disintegrating and loosening the hard, compact subsoil, characteristic of some lands. Drawing its water and mineral plant-food from the deeper subsoil, alfalfa is a drouth-resisting crop, and receiving its nitrogen from the air, it actually increases the supply of this valuable plant-food in the soil by the dropping of its leaves and by the decay of its tubercles and roots. Meanwhile several large and profitable crops of the most nutritious hay are harvested each year. It is evident, however, from the nature of this crop and its great productiveness that it must in time tend to exhaust the mineral plant-food of the soil, if the land is kept continually in alfalfa. By a proper rotation of alfalfa with other crops, however, there may result an actual increase of the available plant-food in the surface soil, since the alfalfa, by its deep feeding, may draw the mineral plant-food from the lower subsoil, where it is beyond the reach of common crops, and store some of it in the large, fleshy roots in the upper soil, which, by their decay, leave it in an available condition for the use of surface-feeding crops.

It was observed in digging and washing out this sample that the soil below the depth of three or four feet, and continuing to the depth of eight or nine feet, was thickly perforated with small holes which had apparently been left by decaying roots. Other investigators have assigned other causes for this condition, but it is evident

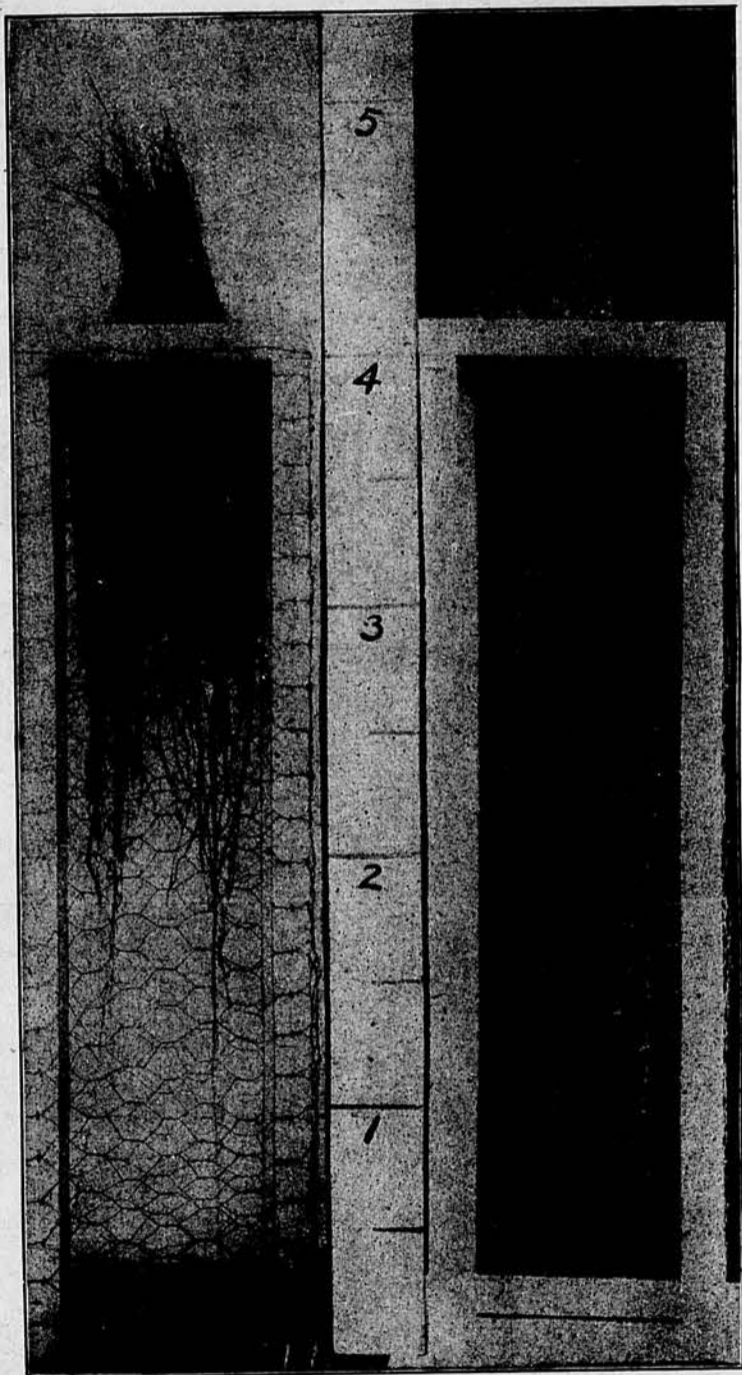


Plate 15. Kentucky blue-grass roots. Common red clover roots.

irregular, as other studies have indicated. In the experiments at the Wisconsin Station in 1892, it was found that clover produced large, long tap-roots (something after the manner of alfalfa; see plate 16), which reached a depth of more than four feet. In the present sample, the main root (not easily observed in the cut) reached a depth of two and one-half feet, when it divided into several small branches. From the upper part of the main root, and near the crown, several large, irregular branches are given off, which form quite a fibrous growth in the upper fifteen inches of the soil. A few of the branch roots penetrate to the depth of three feet and nine inches, but most of the root growth lies within eighteen inches of the surface. Numerous small tubercles were observed upon the fibrous roots in the surface soil.

had penetrated to a depth of over seven feet.

The sample of alfalfa roots shown in plate 16 was taken from an upland meadow on the station farm. The soil was the average upland loam described in this bulletin with a rather compact, clayey subsoil. The meadow was seeded in the spring of 1900. The sample, taken September 1, 1903, was the third crop of that season, and the alfalfa was just beginning to bloom. This field has received little or no cultivation since seeding. In fact, it had, previous to 1902, been subjected to considerable tramping of cattle passing over it and feeding upon it more or less, as they were being driven to pasture. The stand was poor on most of the field, but at the spot where the sample was selected the alfalfa was a good stand, and had a dark green, healthy color.

The root system of alfalfa is simple

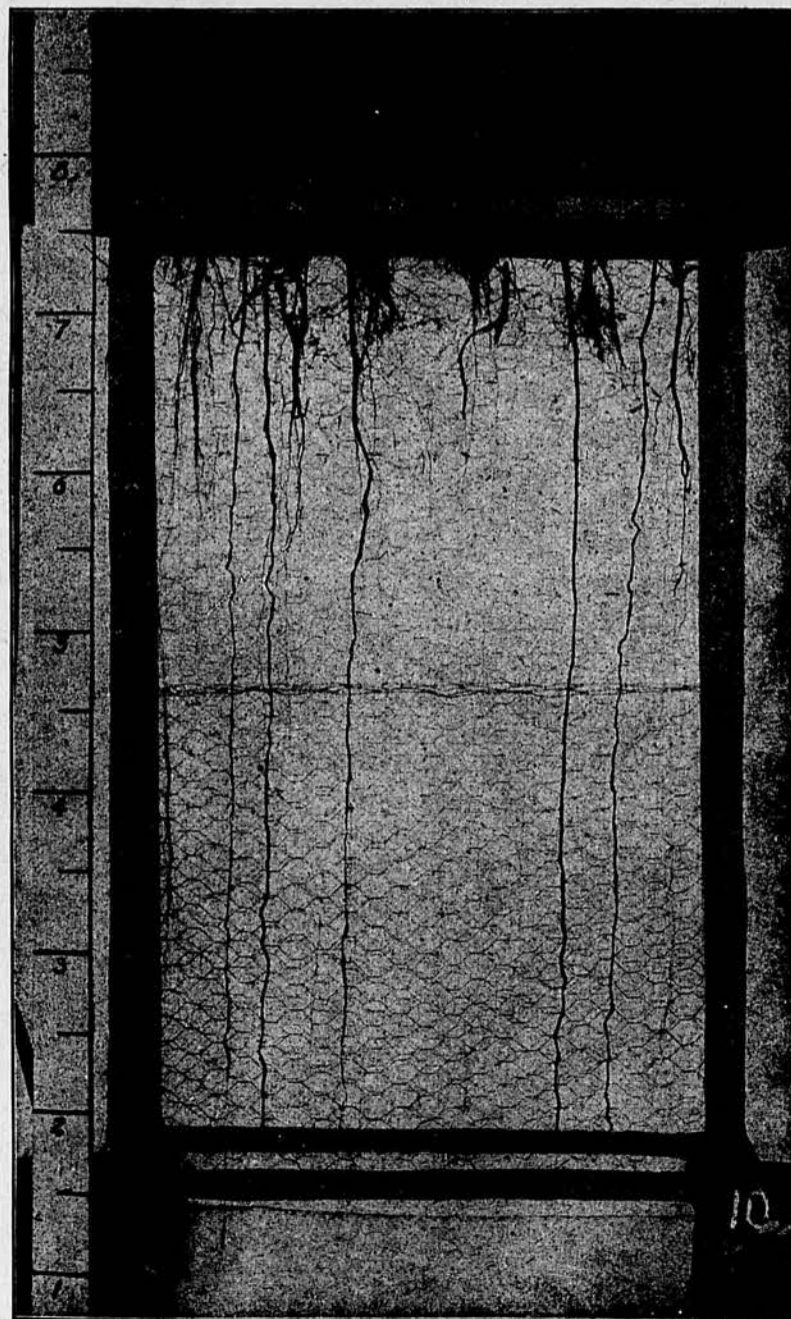


Plate 16. Alfalfa roots, three years after seeding.

that the roots of the alfalfa plants are constantly decaying. Doctor Headden estimated that in a field of alfalfa, five years after seeding, two-thirds of the plants had died and the casts of the dead roots still remained in the soil. (The yield of alfalfa from this field had not materially decreased.) In the illustration of the sample, one dead

also in color, those of the soy-bean being quite dark, while the cow-pea roots are nearly white. Quite a number of tubercles were found on the cow-pea roots. These tubercles had a tendency to follow along certain roots in disconnected chains. The root system was really more extensive than appears in the sample, since the long, slender

opment, but because the bacteria which thrive on the roots of the cow-pea appear to be more or less present in all soils, and tubercles are more readily developed. So far as known, cow-peas had never been grown in this field before, yet a fair number of large tubercles were found on the roots. As in the first sample, the long, slender, secondary branch roots were broken off in washing, and the roots remaining are merely the coarser skeleton of the root system. This is true, more or less, of all the root systems illustrated.

POTATO ROOTS.

No study of potato roots has been made at this station. The cut shown in plate 23 was made from a photograph taken by the writer at the North Dakota Experiment Station in 1899. These potatoes were a late variety known as Rural New Yorker No. 2, and the sample shows the root growth which had been made in ninety days from planting. The tubers were of fair size but not nearly mature, the vines of this variety being perfectly green when killed by frost September 20, a month after the sample was taken.

In this sample the roots reached a depth of fully three feet. The lateral roots interlaced between the rows, the hills being three feet apart. Midway between the rows the roots were only three inches from the surface. The sample is a fair illustration of the main root system, but the roots were found to be very tender and the branches were broken off badly by the washing. Like the cow-pea, the potato sends out from the main roots, in all directions, many long, hair-like branches. These slender branch roots give rise to numerous small feeders and root-hairs, so that the soil to the depth named was well occupied with feeding roots. From this and other studies it was shown that late potatoes root more freely and more deeply than early potatoes. The late-maturing varieties thus require more root room and will not allow so close planting as the early sorts.

The new tubers form above the old seed tubers and the roots also start from the root-stem above the seed, as may be seen by a careful examination of the figure. Thus the depth of planting (if not too deep) determines largely the depth of the root-crown and the depth at which the new potatoes are produced, and to some extent the

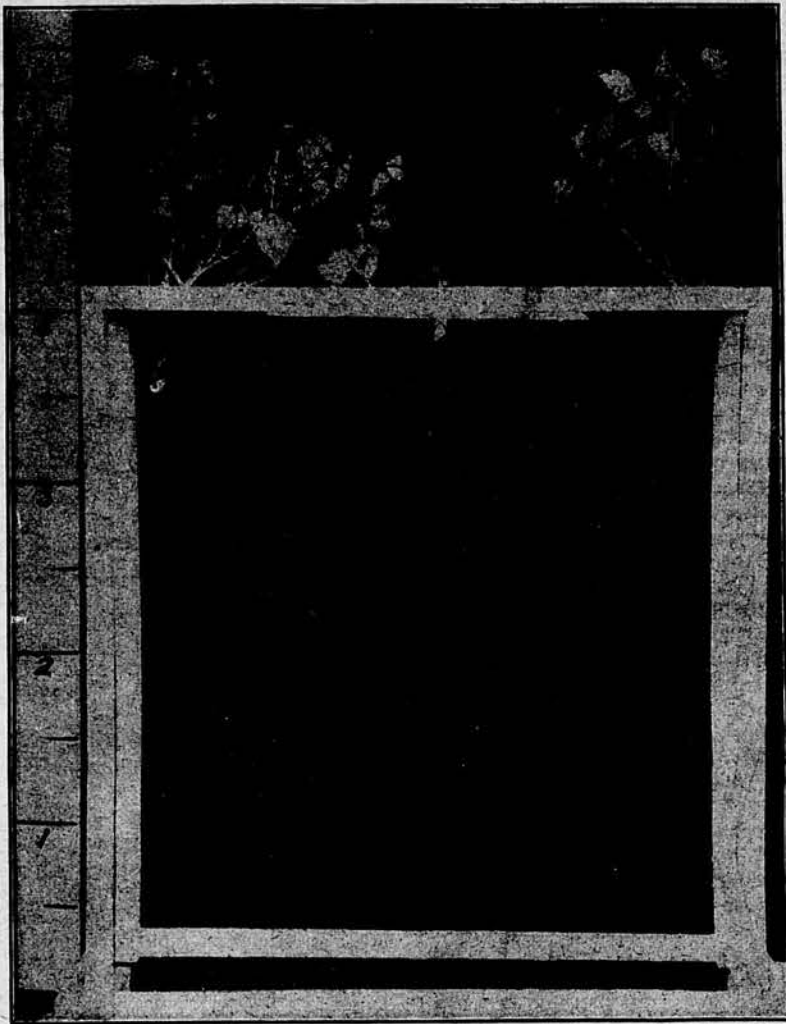


Plate 20. Showing the root system of cowpeas, near maturity, 111 days after planting.

root (and plant) is shown near the middle of the cage, but the plants do not always die when the roots are injured. From the illustration, it is evident that the lower roots of some plants had died, either from injury or other causes, and that a new growth of small roots had resulted, taking the place of the original tap-root system. Thus, by the death of some plants, and the dying of roots, which are replaced, and by the dropping of leaves, alfalfa tends, for a time at least, to increase the supply of both the organic and mineral plant-food in the surface soil.

COW-PEA ROOTS.

A field of Whippoorwill cow-peas was planted June 16 with the grain-drill, in drill rows forty inches apart. The land was average upland soil, spring-plowed, and in a good condition of tilth. The crop received ordinary, shallow cultivation. A sample of cow-pea roots taken from this field August 20 is shown in plate 18 (not reproduced). At this date the plants stood about thirty inches high and were just coming into bloom.

The cow-pea develops a system of roots similar to that of the soy-bean, but the former makes a more extensive root growth than the latter. There is a well-developed tap-root, from the upper part of which large branches spread outward almost horizontally from one to two feet, when they turn downward, some reaching a depth nearly equal to that of the tap-root. Other branches strike off at different angles. Some of the longest roots measure nearly three feet in length, but the bulk of the root growth lies within fifteen inches of the surface in this sample. At this stage the roots easily meet and interlace between the rows, which at this point were three and one-half feet apart. Midway between the plants the roots lie four inches below the surface, while near the hill they rise to within two inches of the surface. The fact that this crop was level-planted, while the soy-beans were planted in lister furrows, would favor a shallower growth of roots for the cow-peas.

The roots of these two plants differ

branch roots which threaded the soil in every direction were washed away by the first touch of the water, and only the main roots were saved.

The sample of cow-pea roots shown in plate 20 was taken October 5, 111 days after planting, from the same field as the sample just described. At this date the crop was nearly mature

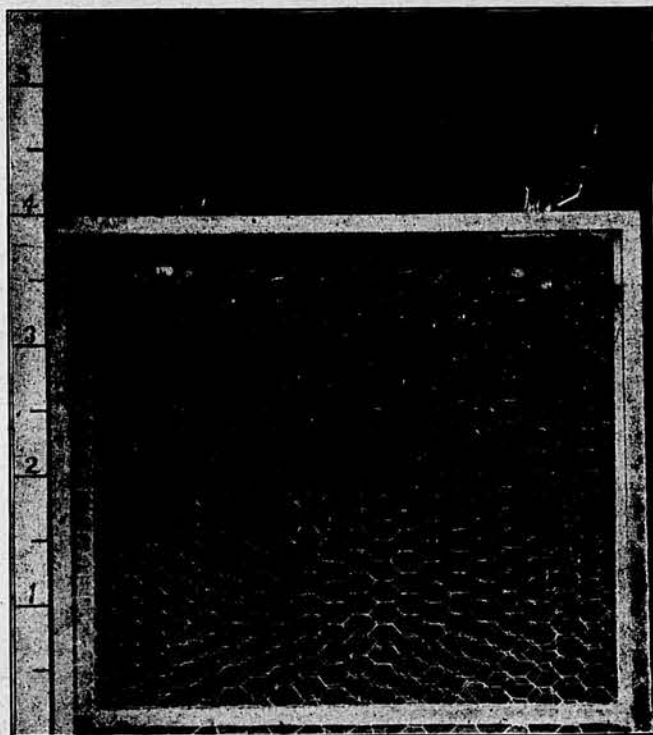


Plate 23. A sample of late potatoes, showing root system ninety days after planting. (By permission of North Dakota Experiment Station).

—about one-half the pods were turning yellow. Since the early sample was taken the plants had made a large increase in their root development, feeding now to the depth of four feet, or through twice the soil space occupied by the younger plants. The cow-peas develop a much stronger and more extensive root system than the soy-beans, and will not bear so close planting. On the other hand, this crop would seem better adapted for use as a rotation crop and soil-renewer, not only because of its greater root devel-

depth of the lateral roots between the hills. For its best development the potato requires a light soil and a deep, mellow seed-bed.

A Substitute for Clover.

What is the best crop for me to plant for roughness, as a substitute for clover hay? The soil is not very sandy; it is the average Atchison County black loam. F. M. LINSBOTT.

Atchison County.

As I understand your letter, you wish to plant some annual crop for

Stops Painkiller Cures
Chills (PERRY DAVIS) Colds

BOOK FREE FARM TELEPHONES How to put them up—what they cost—why they save you money; all information and valuable book free. Write J. Andros & Sons, 823 W. Water St., Milwaukee, Wis.

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\$10.00 Sheep Feed Grinder. \$14.00 Galvanized Steel Wind Mill.
We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list. **CURRIE WIND MILL CO.,** Topeka, Kansas.

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No. 1, 5 gallons, to churn 3 gallons, \$3.75
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No. 3, 15 " " " " " " 7.00
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forage which will take the place of clover hay for feeding stock. Considering your location and soil, I think the best crop for you to plant and grow is cow-peas. Cow-pea hay is even richer in protein than clover hay, and you should be able to grow, on an average, two tons of the cured forage per acre.

I would recommend that you prepare a good seed-bed and sow the peas in rows six to twelve inches apart, using the ordinary grain-drill, and sowing a bushel to a bushel and a half of peas per acre. The crop should not be planted on foul land.

Cow-pea hay is rather more difficult to put up in good condition than alfalfa, and it will not be advisable to stack the fodder in the field unless it is well covered, since it does not shed rain well when in the stack. Cow-peas may be planted at any time from this date to the middle of June.

A. M. TENEYCK.

Cow-Peas and Corn for Forage.

In a late number of the KANSAS FARMER was an article on planting cow-peas with corn, and cutting it up for fodder. If a person were to snap the corn as soon as it would do to feed to hogs, and turn the cattle into the stalks and cow-peas while they were still green, would the stock bloat on it? Will cattle bloat on green rape if sowed in the cornfield? Will cattle eat rape after it is killed with frost?

Phillips County. Jos. MORRELL.

I do not think cattle will bloat on cow-peas; I have never heard of a case. We pastured cow-peas last season with dairy cows and young cattle and observed no injury whatever to any of the stock.

I have known of sheep bloating on green rape, but cattle are not apt to be affected in this way; in fact, cattle will hardly eat rape at first, but seem to gradually acquire an appetite for it. It is possible that an animal might take a liking to rape at first and thus eat too much, causing bloat; but this is not apt to occur. Rape will stand considerable frost without being injured, and cattle will pasture upon it late into the fall. A. M. TENEYCK.

Smut in Wheat.

Can you send me any information on smut in wheat, cause, etc? Please send me a bulletin or a book on wheat. Allen County. W. H. PETTIT.

We have no recently published bulletins on wheat or wheat smut. A good book for you to purchase is "Cereals," by Morrow & Hunt, published by the Orange Judd Co., Chicago, Ill. For bulletins on the subject of smut in wheat, write to Prof. H. L. Bolley, North Dakota Experiment Station, Fargo, North Dakota.

Briefly, smut in wheat is caused by a growth in the wheat plant of certain fungi. The common loose smut is scientifically known as *Ustilago tritici*; this is the smut which causes the black heads in wheat about the time the wheat is in bloom. Later, the spores which constitute the smut are blown away by the wind and the head of the diseased wheat stem is reduced to a bare stalk.

The scientific name of the common stinking smut in wheat is, *Tilletia foetida*. This smut occurs in the head, taking the place of the wheat kernel, but does not mature until about the time the wheat matures. The heads may be readily detected by the color, and often the sheath which holds the wheat kernel becomes broken, showing some of the smut. This smut is not shed, as is the loose smut, but most of it passes into the thrashing machine and thence with the wheat some of it goes into the wheat-bin, the little black spores adhering to the wheat kernels. When this wheat is planted again spores sprout with the wheat and infect the young plant, growing in the stem and fruiting in the head as described above. The stinking smut in wheat is readily prevented by treating the seed with a solution of formaldehyde and water; the treatment recommended is as follows: "Use formaldehyde, 40 per cent solution, at the rate of one pound of the liquid to forty-five gallons of water. Apply this water solution to the grain

in any manner which allows all grains to become moist over the entire surface. . . . Sprinkling and shoveling is as effective as dipping, if well done, and is, of course, much more rapid." The usual method is to treat seed one day for the following day's seeding, allowing the grains to become dry on the surface before seeding. In planting the swelled wheat, it will be necessary to set the drill to sow about one-fifth to one-fourth more per acre in order to plant the required amount of seed.

Other treatments have proven more or less successful in preventing stinking smut, namely, the hot-water treatment and the treatment with a solution of copper sulfate or blue vitriol. The formaldehyde treatment, however, is now considered to be superior to either of the others and is easier to apply.

Although these treatments are effective against stinking smut, they do not seem to have much effect in preventing loose smut. Perhaps the only practical method of getting rid of loose smut in wheat is to procure wheat free from this smut and then plant it on new land, or in fields not infected with the loose-smut spores.

Smut in wheat probably causes much more damage than the farmer realizes. It is estimated that the loose smut of wheat may often cause a loss of 10 per cent or more of a crop; and the stinking smut, where it prevails, causes even greater damage. Wheat which is infected with smut should not be used for seed; or, if it is planted, the seed should be treated with a solution of formaldehyde, as described above.

A. M. TENEYCK.

Flax in Western Kansas.

I own 520 acres of land in Rooks County, Kansas, and am having some prairie broken. Would you advise me to sow flax on this land this spring? If so, when, how best sown, and how much seed per acre? Is flax a very profitable crop in Kansas, and is it very hard on the land?

CLAY BOBBITT.

Story County, Iowa.

It is probably too late to sow flax on sod land this spring. So far as we have experimented at this station it appears that the earlier seedings of flax are more apt to prove successful than later seedings. Flax which was seeded after May 7 last season did not produce well. Sow flax with the ordinary grain drill at the rate of two to three pecks of seed per acre. Very little has been done in the West in seeding flax, and I am not able to advise you with authority as regards the success of growing this crop in Rooks County. It may be advisable for you to sow only a small acreage of flax at first. Most of the flax grown in this State is grown in Southeastern Kansas, and little flax is as yet grown in the West, although I know of no reason why it should not prove a profitable crop throughout the larger portion of Western Kansas.

We have been carrying on experiments with flax at this station for the past two seasons, and experiments have been begun this season at the Fort Hays Branch Experiment Station, in Ellis County, just south of Rooks County. So far, no crop has been harvested at the Branch Station. At this station our best yield of flax last year was something over nine bushels per acre.

As you have suggested, flax has the reputation of being a "hard" crop on the land. In my study of this crop I have come to the conclusion that the injury to the land is largely due to the mechanical or physical effect which this crop has on the soil. Flax is a surface feeder, and a close feeder; it draws its plant-food and moisture largely out of the surface soil and leaves the ground very compact and dry, especially in a dry season; thus the physical condition of the soil is unfavorable for the starting and growth of the crop which may be planted after it. This result is more apt to take place when the flax is seeded on sod than when the crop is grown on old land. By its close and shallow feeding the crop draws the moisture out of the sod and prevents the roots from decaying, leaving the sod in a

sort of embalmed condition, so that when the land is plowed the hard chunks of unrotted sod turn over practically as tough and undecayed as when the prairie was first broken. This makes an unfavorable condition of the soil in preparing a seed-bed for the next crop, and with the lack of moisture and available plant-food in the surface soil, the succeeding crops of wheat and other grain are apt to be inferior in growth and low in yield.

A. M. TENEYCK.

Beet Questions.

Please give us information relating to planting, cultivating, harvesting, storing and feeding stock beets.

Cowley County. W. C. MEAD.

At this station we plant mangel wurzels (stock beets) about the last of May or the first of June, in a well-prepared clean seed-bed. Our method is to plant with the grain-drill, in drill-rows about two and one-half feet apart, by stopping up part of the grain holes. The drill should be set to sow about two bushels of wheat per acre; this will drop the beet-seed an inch or two apart. All of the seeds are not likely to grow, and in any case it is always better to plant the beets thickly and then thin them later in the season to about six inches apart in the drill-row. This thinning should be done before the beets become too large, but not until they have made a growth of a couple of inches or more in height.

The early cultivation should preferably be done with a one-horse harrow-tooth cultivator, or a two-horse cultivator may be used, having small shovels in which the spread of the wheels may be regulated so as not to run on the adjacent rows. It will be necessary not only to thin the beets at a certain stage of their growth but also to weed them by hand once or twice. When the beets are thinned they may be weeded, and weeded again later if it is found necessary. Usually in a fairly clean piece of land after the thinning and first weeding the beets may be kept free from weeds by good cultivation.

At this station we harvest the beets by hand pulling or by digging them with a potato-fork. The tops were twisted or cut from the roots as they were pulled, and thrown into piles in the field. Later they were hauled to the pit or cellar. The harvesting is usually delayed until late in the fall, when the weather is cool, but the beets should not be left through a severe freeze; they will stand more freezing, however, before they are dug than when they are in the pile in the field.

The best place to store beets is in a good cellar which is frost-proof where they can be taken out and fed handily any time during the winter or spring. Or the beets may be stored in pits and protected by covering with straw, earth and manure. The pits may be opened and the beets fed in mild weather during the winter, or in the spring.

In order to feed the beets properly to stock it will be necessary to chop them up. The ordinary feed-cutter may be used for this purpose, or the beets may be chopped up with a spade or corn-knife when they are not fed in too large quantities. Certain machines for cutting the roots are also made and sold on the market.

Mangel wurzels do not contain a large proportion of food constituents; they are largely composed of water, and their effect in feeding is mainly to act as a physic or appetizer to the animal. Where silage can be made and fed, the use of stock beets does not become so essential; but when stock are fed largely on dry feed during the winter, the mangel wurzels become a valuable addition to the feed, for the purposes named above. As to the quantity to feed, that will depend upon the kind of animals and the other feeds which they are fed. For dairy cows, it is not uncommon to feed a half bushel or so of cut beets at one feed when the balance of the ration is dry fodder and grain.

A. M. TENEYCK.

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Farm Notes.

N. J. SHEPHERD, ELDON, MO.

Be ready for harvest in good season. Keep the soil of the cultivated crops in good tilth.

Maximum production at minimum expense is the secret of successful farming.

The farmer who has the least waste usually has the most profit.

Get rid of the surplus horses if they are not growing into money.

In many instances the cultivation decides whether the harvest will be much or little.

Preserve the health, vitality and usefulness of the horses by giving them change of feed occasionally.

Pasture fields without good shade in them are not fit for horses at this time of the year.

Breed in line as much as possible. The crossing of blood seldom does as well as pure breeding.

Good butter and cheese can not be made from the milk of cows which are deprived of pure water.

A fattening animal of any kind should never have more food placed before it than it will eat up with avidity.

A few days hard work when out of condition will injure a horse more than a month's use when all right.

Defects either constitutional or moral do not show themselves as a rule until the animal has reached full physical and mental development.

Feeble-growing and unhealthy trees are, as a rule, the result of starvation, bad soil, or unfavorable conditions of the atmosphere, climatic or otherwise.

During the summer especially a large quantity of water given a horse often depletes the system by inducing excessive perspiration.

No breed of animals is so good and has characteristics so fixed that it can be kept up to its highest standard unless careful selection is made and the best of care is given.

For marketing, early fruits should be matured, that is, full grown when gathered, but should not have had time to become mellow; when an apple or pear is mature it readily parts from the tree.

In nearly all cases if the second crop of clover is to grow for seed, the first should be harvested as soon as the growth will permit, in order that the plants may secure a good start to grow before hot weather sets in.

Where dairying is made a part of the farm operations and five or more cows are kept, a good cream separator will nearly always be found a good investment. More cream is secured, the sweet skim-milk can be used to a better advantage, while there is a large saving of time and labor.

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We send FREE and postpaid a 222-page treatise on Piles, Hemorrhoids and Diseases of the Rectum also 100-page book, treatise on Diseases of Women. Of the thousands cured by our mild method, none paid a cent till cured—we furnish their names on application.
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The Stock Interest

THOROUGH-BRED STOCK SALES

Dates claimed only for sales which are advertised or are to be advertised in this paper.
October 18, 1905—Fancy Poland-Chinas at Osborne, Kansas, by F. A. Dawley, Waldo, Kans.
February 21-23, 1906—Percherons, Shorthorns, Herefords and Poland-Chinas at Wichita, Kans. J. C. Robison, Manager, Towanda, Kans.

Live Stock in the Middle West.

F. D. COBURN, SECRETARY KANSAS DEPARTMENT OF AGRICULTURE, IN AGRICULTURAL ADVERTISING.

The earlier pioneers who migrated to the trans-Missouri region and found there in uncountable herds the bison and antelope did not need to be great reasoners to readily comprehend that the region had been especially adapted by Nature for live-stock husbandry; that its soil was suited to the plants needed for the highest development of animal life, and the kindly climate such as would conduce to robust health, vigorous growth, and early maturity. These conditions obtain, to be sure, to a greater or less degree, from Texas to the Dakotas and from the Mississippi River to the Rocky Mountains and in many of their valleys, but apparently reach their nearest approximation to perfection in what the late Senator Ingalls felicitously referred to as "that grassy quadrangle which geographers called Kansas"—stretching 400 miles westward from the Missouri and filling entirely the space between the 37th and 40th parallels, 208 miles wide.

The same wholesome, invigorating air and genial sunshine, so widely sought by and so beneficial to mankind, are alike of inestimable value and importance to animal life and growth. Here grains and fodders yield in wonderful profusion; and, with the luxuriant pastures, pure water, mild winters, and nearness to market, combine to make the State and her neighbors preeminently a live-stock region. Statistics substantiate all this, and according to figures collected annually by a house-to-house enumeration and compiled by the Kansas Board of Agriculture, it is shown that there has been made from the State's beginning a most gratifying advance in the animal population; and, owing to the intelligence and enterprise of her farmers and stockmen, there has likewise been remarkable improvement, until now both in numbers and in superior breeding of farm animals, she occupies an exalted and enviable position.

Kansas crowds close to the top of the list of States in live-stock numbers. Only two States, Texas and Iowa, have more cattle; but three, Texas, Illinois and Missouri, have more horses, and only seven excel in numbers of swine. Of sheep a majority have more, but there are none whose flocks of fine-wools are more favorably known among breeders, exhibitors, wool-buyers and wool-manufacturers, for large yields and superior quality of product than those reared here and famed far and wide for heavy fleeces of fine texture, and innumerable winnings of prizes in world-defying competition.

The heaviest authenticated year's growth of wool ever shorn, by seven and one-half pounds, was taken from a 4-year-old Kansas Merino ram; this fleece, without artificial weighting, amounted to 52 pounds. It also seems to be a fact that the heaviest eight fleeces (aggregating 301½ pounds) ever sheared from one sheep in eight consecutive years, were produced by a Kansas ram, making a yearly average of 37.7 pounds. A ewe in this same flock sheared an average of 154½ pounds of wool in six fleeces, which is believed to be the heaviest yield ever obtained from a ewe in six consecutive years, in two of which she produced consecutively the two heaviest fleeces ever taken from one of her sex, weighing 32½ and 31½ pounds, respectively. These were all Merinos, but profitable flocks of the various mutton breeds are also maintained.

While the United States Department of Agriculture ranks Kansas as fourth in the number of horses, if there were

made any comparison of excellence, those of the Sunflower State would in all probability stand among the first. Some of the horses most noted for speed, endurance, and striking excellence, marvels of the equine world, and matchless, have been foaled or reared beneath the sunny skies of Kansas. The pacing stallion, John R. Gentry, 2:00½, was foaled in Sedgwick County, Kansas, as was his only rival, Joe Patchen, 2:01½, in Marion County; and the present pacing champion and premier harness-horse of the world, the famous Dan Patch—young, sound, and promising even yet greater achievements, already having a record of 1:56—is the worthy son of a Kansas-bred-and-reared sire, the mighty Joe Patchen, "the iron race-horse." Smuggler, 2:15½, one of the greatest trotters of his time, was reared and developed in Kansas, as was Joe Young, 2:18, the grandsire of Joe Patchen; while the one-time trotting champion, Cresceus, 1:59½, is likewise indebted to a Kansas parentage; his sire, Robert McGregor, 2:17½, having his home in Shawnee County during his best years. All these represent types of the harness- or roadster-class. Perhaps, however, wider attention is given to the breeding of the types especially adapted to draft and similar purposes, and in the past few years renewed and added interest in this particular industry has been apparent. Suggestive of this is the fact that at the World's Fair at St. Louis, in 1904, the grand champion Percheron mare of any age, the first-prize 3-year-old Percheron mare, the champion and reserve grand champion 2-year-old Percheron mare, the first-prize and gold-medal pair of Percheron mares of any age, the first-prize yearling Percheron mare, the first-prize matured Percheron stallion and the first-prize yearling stallion were Kansas exhibits.


January 1 of the present year, according to the figures of the United States Department of Agriculture, the State had 880,627 horses, worth at the preceding year's values, \$66,047,025; mules and asses, 107,112 head, worth \$9,372,300; milch cows, 671,276 head, worth \$16,781,900; other cattle, 2,682,299 head, worth \$49,622,531; sheep, 229,000 head, worth \$687,000; and swine, 1,949,782 head, worth \$14,623,365, or an aggregate of \$157,134,124.

Situated and constituted as Kansas is, she must inevitably be a superb fattening-ground for live stock of all kinds. With her numerous varieties of grains and grasses, some one or more of them being especially adapted to and prospering in the dissimilar conditions of the different localities, the State each year is practically assured of a well-nigh unlimited supply of the very best meat-producing foods, which are largely and profitably marketed via the live-stock route. Animals slaughtered for meat or sold for that purpose alone represented \$51,846,000 in the year ending March 1, 1904; and annually for the past ten years Kansas has given to the shambles animals having an average home value of nearly \$49,000,000, or an aggregate of over \$487,783,784.

These conditions have resulted in there being established within the State (at Kansas City, Kansas), the second most extensive live-stock market and meat-packing and meat-distributing center in the world. In this one market there were disposed of last year 2,169,120 cattle, 2,226,304 hogs, 1,001,434 sheep, and 66,538 horses and mules. Of these, one year with another, approximately 50 per cent are furnished by Kansas herds, flocks and studs.

As Kansans more fully comprehend the advantages with which they are endowed for the rearing of live stock, breeders are strongly supplementing the benefactions of Providence by themselves providing the best basis upon which to build, i. e., better blood—which means better returns from their grasses and grains so abundantly produced at the minimum cost, and which are alike utilized by the scrub, the high grade and pure-bred, but with much less profit by the scrub.

The appreciation of better blood is



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Mr. E. A. James, of Ewart, Iowa, writes as follows:
Iowa Stock Food Co., Jefferson, Iowa.
Gentlemen: I have been feeding Iowa Stock Food for four years to the amount of about 2,000 pounds yearly. I have tried my cattle with and without Stock Food and am confident I get a larger profit out of the Stock Food I feed than out of any other part of the ration.
I find Iowa Stock Food the equal in every respect of any Stock Food I have fed, and cheaper, on account of its superior strength.

WHAT IOWA WORM POWDER WILL DO.
Perry Henderson, of Litchberry, Ill., writes as follows.
Gentlemen: The Iowa Worm Powder you shipped me by express December 24, 1904, I received on December 26th. I went to feeding right away and there was no end to the worms that came from my hogs.
I had 80 head of shoats and they were in bad shape. Since feeding the Worm Powder I have been feeding Iowa Stock Food and I never had shoats do any better than mine are doing now.
I had some of my neighbors use some of the Iowa Worm Powder and they got the best of results from it. I got a man to use it who was using another worm remedy. He now thinks the Iowa Worm Powder the only worm remedy, and says he will not use the other any more. I wish you could have seen the worms that passed from his hogs. It was a sight. I advised him to feed Iowa Stock Food to keep his hogs gaining better.

Write us, care of Dept. E, and get our Special Offer.

IOWA STOCK FOOD CO.

Jefferson, Iowa.

made plainly apparent by the fact that at the American Royal Live-Stock Shows, at Kansas City, where Kansas breeders are prominent exhibitors of high-class animals of each of the leading beef breeds, Kansans were among the most liberal purchasers at the auction sales of the more desirable pure-breds. In a report of one of these shows and sales a prominent live-stock journal had the following: "Kansas did herself proud at the sales of the four breeds of beef cattle by taking 105 out of a total of 308 head. Her purchases of Angus, Shorthorns, Herefords, and Galloways were alike liberal. In Shorthorns and Galloways she bought more than any other State." Also: "Kansas furnished the bulk of the buyers for the Galloways, over half of the sale cattle going to the Sunflower State. Kansas purchasers paid a little more per head for their stock than did Iowans." And further, Kansas also captured at this show the silver trophy cup for the best car lot of cattle, awarded on a load of range-bred pure Galloways, sent by Ellsworth County parties.

With such determination and spirit as that displayed on these occasions it is not surprising that Kansas breeders and feeders make a record of which older commonwealths might rightly feel envious.

The figures in the table below, showing for the last five years the total value of the products of Kansas live-stock, to wit: animals slaughtered or sold for slaughter, wool, butter and cheese manufactured, and poultry, eggs and milk sold, disclose a marvelous record:

1900	\$67,014,901
1901	74,706,299
1902	65,695,331
1903	69,885,095
1904	67,272,263

Total

The value of live stock on hand March 1, 1904, was \$159,010,755; the value of live-stock products for the year \$67,272,263.

These figures well attest the significance of live stock and meat-production as factors in the prosperity of such a section.

The United States Department records Kansas as seventh in number of milch cows, and since her population is fairly awakened to the importance and possibilities of dairying, there is every reason to believe that progress in this direction will be continuous and permanent.

From her productive soils can be grown unlimited supplies of the best flesh- and milk-producing foods at incomparably low cost; her meadows and pastures furnish nutritious and succulent grasses in abundant and wide variety, and the winters are short and mild, making long-time sheltering and expensive indoor feeding and care less a necessity. The corn, Kafir-corn and other sorghums, alfalfa,

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which treats on the common ailments that domestic animals are subject to, and tells how to cure them, and how to prevent a recurrence of the same. Tells how to cure Sheep Scab, Ticks, Mange, Texas Fever, Cattle Lice, Hog Cholera, Hog Lice, Worms in Hogs, Fleas and Lice on Dogs, Goats, Cats, Chicken Cholera, Lice, Gapes, Rot Foot in Sheep, Galls, Thrush and many other equally annoying, expensive diseases, and how to use, when to use and why to use Carboreum Dip in a hundred and one ways to promote health among animals and fowls. Carboreum is a non-poisonous disinfectant, germicide, antiseptic, and verminicide—a necessity in every home, invaluable on every farm. Trial gallon Carboreum Dip \$1.50, express prepaid—enough to make 100 gallons ready for use. Dipping tanks at cost.

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clover, and grasses, produced in such profusion, with the brans from the millions of bushels of wheat, are, in a large measure, the ideal cheap raw material for manufacturing on the farm, by means of the cow, commodities that afford a ready-money income every month.

The 1904 aggregate value of butter and cheese made and milk sold for other purposes was \$7,793,077, or 48 per cent more than in 1897. While the unthinking might regard the products of the cow as of minor importance, it is interesting to know that their value would probably have paid the total State, county and township taxes for the year. If the worth of the large quantities of butter and milk consumed in the homes on the farms were added, the grand total would be considerably increased, but, unfortunately, there is no official account of them taken.

During the past ten years the manufacture of cheese has increased over 455 per cent, the total output of 1904 being 1,781,728 pounds.

The institution of skimming-stations, creameries, and cheese factories, begun some twelve years since, has from the first pointed out that the use of better cows was well-nigh imperative to make the business properly profitable and at the same time insure products of superior quality. Through persistent endeavor to have dairy herds of high grades, if not pure-bloods, the farmers and dairymen have been continually eliminating the more unprofitable animals; and statistics, for a period of five years ending with 1896, show that the number of milch cows in the State decreased more or less with each of those years while this vigorous campaign of improvement was being waged; yet the figures also show that the value of the cows' product, instead of correspondingly decreasing, actually increased in three of the five years, thus making apparent that improvement in the milch cows has been a most potent factor in advancing the State's dairy interests, and now excellent, high-yielding herds abound.

Scores and scores of creameries, at first established as questionable experiments, are now permanent, profitable institutions, and produce butter and cheese in increasing quantities and of export quality. Admirable natural roads, passable everywhere throughout the year, enable the producer to bring his supplies to the stations or factories regularly. The use of new and improved machinery and the presence of rival companies with large capital, insure eager acceptance of the milk or cream and a profitable cash remuneration each month of the year to the producer having the product of one cow or one thousand. The markets of the whole country are available the year through, modern transportation and refrigerating facilities insuring the prompt delivery in perfect condition for the dealer or the table. It is needless to say that Kansas creamery butter stands well at the head of the most exacting markets.

The modest but helpful hen is likewise unfailing in substantial contributions to the State's wealth, and the amount received each twelve months from sales of the surplus of poultry and eggs has increased, until in 1904 it reached \$7,551,871, or a sum that would have considerably more than paid the total expense of the excellent school system for the same time.

The figures given in the foregoing mainly pertain to Kansas, and are given because more recent and more readily available than those for any other like territory, but may be accepted as outlining the situation with greater or less accuracy in the mighty prairie region very properly designated as the Middle West. That a region

of such immeasurable possibilities, wonderful productivity and enterprising people with increasing wants and with means accumulated and accumulating wherewith to gratify them, should be a rich field for the judicious advertiser of any proper commodity of necessity or luxury, whether the commodity is a Percheron, a piano, a haystack or a hairpin, does not need to be stated. Surely its superior is not to be found elsewhere, and it is doubtful if its equal exists.

Hog Remedies.

EDITOR KANSAS FARMER:—I would like to ask the readers of the "Old Reliable" if they have used the "Snoddy Remedy" for worms in hogs. If any of them have used it, what sort of result did they get? Last winter I got a \$5 package of the remedy; and, as some of you know, Snoddy says, "Worms can not stay where the remedy is." I gave it to the hogs as strong as they would take it—so strong that it made some of them sick, and I had to starve some of them to make them eat it. I do not believe the stuff is good for worms. And if it is no better for hog cholera than it is for worms, I am of the opinion that it is a fake. Yet, some might have gotten better results. If so, let us hear from you. I wrote the Snoddy Remedy Company of the results, and in reply they wrote me a rather crusty letter.

I have "No Hog Cholera Any More," a book written by Albert Theyson, that is full of good hog sense, and is worth more than one package of the remedy. A SUBSCRIBER.

Dickinson County.

BLOCKS OF TWO.

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

Special to Our Old Subscribers Only.

Any of our old subscribers who will send us two NEW SUBSCRIPTIONS at the introductory rate of fifty cents each, will receive any one of the following publications as the old subscriber may choose, viz., "Woman's Magazine," "Western Swine Breeder," "Vick's Family Magazine," "Blooded Stock," "Kimball's Dairy Farmer," or "Wool Markets and Sheep."

It is a strange fact that the human mind has always held to the immortality of the soul, and yet has always doubted it. * * * Were the belief not true, the doubt would long since have vanquished it, for nothing but truth can endure constant questioning. —Theodore T. Munger.

The Howey Swine Sale.

On Monday, June 5, at the home farm, six miles southeast of Topeka, V. B. Howey held his annual sale of Poland-China and Duroc-Jersey swine. Mr. Howey was badly handicapped by the lateness of the season, the high wind which prevailed throughout the day and the fact that the farmers are excessively busy. However, he did all he could to assure success. Special pens were built for the sale, in the shade of some magnificent black walnut and maple trees which adorn his lawn. A splendid dinner was served by Mrs. Howey, which was alone worth the trip to the farm. It was a good, old-fashioned farm dinner where everything seasonable that could tickle the palate was in evidence. This reached its climax in an enormous strawberry shortcake which left nothing to be desired. Then, there were the hogs. The Poland-Chinas were first-class and consisted of 20 bred sows and gilts and 5 boars, one of the latter of which, Hadley U. S. A. 55967, had been bred to a number of the sale gilts. The sows and remaining gilts were bred to Mr. Howey's great herd boar, Proud Ryes Sunshine 63003 by

Luster Sunshine 57513, by Ideal Sunshine. All the Poland-Chinas in the sale were in good condition and a number of them were show animals. The buyers of these hogs were in luck. Owing to the handicaps already mentioned, the hogs sold very low and it was like "getting money from home" to buy one of them.

The Duroc-Jerseys in the sale were not in so desirable a condition as were the Poland-Chinas, yet they were good hogs and well worth the prices paid for them. Purchasers of Poland-China boars were as follows: J. J. England, O. P. Layton, Warner Lutz, D. O. Orr, H. S. Warner, all of Topeka. Poland-China sows were sold to W. M. Bunce, D. O. Orr, A. J. Whittaker, H. S. Warner, H. Boyer, J. W. Ferguson, of Topeka; and A. A. Adams, of Berryton.

Duroc-Jersey boars went to Jos. Bowlers, Fred Klesath, Jas. Stevenson. Duroc sows were taken by L. A. Milligan, Jas. Stevenson, H. S. Warner, G. H. Boyer, D. O. Orr, and Sherman Reed, of Topeka.

The Heath Shorthorn Sale.

The Heath sale of Shorthorn cattle held at Republican City, Neb., on Wednesday, May 31, was fairly successful. There was a tolerably good crowd present and the weather was good. Nearly everything in the sale was young, though in fair condition. There was a fair sprinkling of good breeders present, and the sale was considered satisfactory. The Heath herd bull, Golden Victor Jr. 175454 by Victor of Wildwood 126054, was not sold. Eighteen bulls were sold for \$1,237.50, average \$68.75. Nineteen females, including eight head not in the catalogue, brought \$1,437.50, average \$75.66. Thirty-seven Shorthorns brought \$2,575, an average of \$72.30. The purchasers of bulls were as follows: W. A. Whipple, Belleville, Kans.; Henry Reider, Republican, Neb.; G. A. Macklin, Huntley, Neb.; B. S. Heath, Naponee, Neb.; W. H. Montrose, Phillipsburg, Kans.; W. M. McLeomore, Hastings, Neb.; Wm. Waggoner, Republican, Neb.; J. Coffey, Woodruff, Neb.; Wm. Reids, Stamford, Neb.; W. O. Beach, Naponee, Neb.; Fred Berks, Hildreth, Neb.; J. M. Sawyer, Alma, Neb.; B. Miner, Guide Rock, Neb.; F. Olson, Republican, Neb.; D. S. Cane, Republican, Neb.; T. P. Adams, Republican, Neb. Purchasers of females follow: Frank Long, Alma, Neb.; J. H. Hamilton & Son, Guide Rock, Neb.; C. H. Woodruff, Alma, Neb.; J. Sanderson, Edison, Neb.; W. H. Montrose, Phillipsburg, Kans.; John Hopkins, Republican, Neb.; James Griffin, Republican, Neb.; Samuel Hogate, Blue Hill, Neb.

Gossip About Stock.

Last week James Auld, of Alida, Geary County, Kansas, visited Topeka, with a view to purchasing some foundation stock for a Shorthorn herd. At the Alysedale Farm of C. W. Merriam, he purchased a young Shorthorn bull to head the herd and wanted to purchase some heifers at the same place but as they could not be spared he purchased of the Guilford Dudley estate six choice heifers.

The remarkable series of Hereford sales that have been held by Charles W. Armour, of Kansas City, and James A. Funkhouser, of Plattsmouth, Mo., at the Kansas City Fine Stock Pavilion will be continued on December 12 and 13 next. These sales have been characterized in the past by the quality of the animals offered from the best imported and American families and breeders have come to regard these sales as among the few in this country where the best may be bought. Mr. J. H. Goodwin, of Kansas City, Mo., will continue in the management of these sales.

Mr. F. C. Kingsley, the Shorthorn breeder of Dover, Kans., has lately purchased a new herd bull that promises great things for his herd. This bull is Baron Goldsmith 224533 by that grand old sire, The Baron 121327 out of Mildred, V. 48, by Sir Knight 12443, tracing to Imp. White Rose. He was bred by Andrew Pringle of Eskridge, who sold him to Mr. Kingsley. The Kingsley cow herd has a strong infusion of the blood of Imp. Thistletop, Lord Mayor, and that class of Scotch bulls, and the placing of Baron Goldsmith at the head will serve to keep the well-known quality of this herd up to standard. Mr. Kingsley makes a change in his advertising card this week and announces some very desirable females for sale. His card is on page 616.

We are in receipt of a letter from John W. Jones & Son, of Delphos, Kans., owners of the Famous Fancy Herd of Duroc-Jerseys. They report 175 pigs mostly of March or early April farrow. Their herd now numbers about 275 head. They recently purchased a young herd boar which they have named Fancy King Orion 36545. He was sired by Orion 11th 28813, one of the greatest sires of prize-winning blood ever known to the breed. His dam, the great show sow, My Choice 59032. They also have a very promising young son of Kant-Be-Beat 10239A, whose dam is Topnotcher Lass 71084, a very large, smooth sow sired by the greatest show and breeding boar of his day, Topnotcher 8803A. Topnotcher Lass won second in the under-1-year class at the Ohio State Fair 1904. She has proven herself a great brood sow and has just weaned a fine litter by Kant-Be-Beat 10239A, fourth prize boar in the aged-boar class at St. Louis. Fancy Xenia 47490 is another of the great sows of the Fancy Herd, sired by Topnotcher; she has just weaned a fine litter of 8 pigs by Fancy Chief 24923. Their great herd boar by Ohio Chief 8727A, the great first-prize boar at St. Louis. At their bred-sow sale at Concordia, February 21, 1904, four of her gilts sold at an average price of \$43.75 per head. Jones & Son will hold their annual boar sale October 24, 1905.

Windmill Insurance.

One of the most novel and interesting innovations ever made in the windmill business is a windmill insurance policy issued on the Goodhue windmills and towers by the manufacturers, the Appleton Manufacturing Company, of Batavia, Ill., one of the oldest and most reliable concerns in the business. For a small fee they issue a regular insurance policy running five years, by

Horse Owners! Use

GOMBAULT'S

Caustic Balsam

A Safe, Speedy, and Positive Cure

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

Sumner County Farms

Call on or write to C. L. Stewart, Wellington, Kansas for a list of Sumner County Farms.



NEWTON'S Horse, Cough, Hoarse and Lung Remedies. A veterinary specific for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can, of dealers, or Exp. prepaid. The Newton Remedy Co., Toledo, Ohio.



STOLL'S STAY-THERE EAR MARK.

The best and cheapest ear-mark made. It possesses more points of merit than any other make. Send for samples. H. C. Stoll, Beatrice, Neb.

PINK EYE CURE FOR HORSES AND CATTLE

Sure relief for Pink Eye, foreign irritating substances, clears the eyes of Horses and Cattle when quite milky. Sent prepaid for the price, \$1.

Address orders to W. O. THURSTON, Elmdale, Kansas.

MEDICINE WON'T CURE that lung trouble but a stay at Sheridan Lake Eastern Colorado will.

MONEY IN THE BANK won't make you rich but investments in Eastern Colorado lands will do it as sure as the sun shines. Deep, rich loamy soil especially adapted for wheat and alfalfa.

DON'T WRITE but take the Mo. Pacific Ry. and come and see for yourself. A few choice homesteads still vacant, close in. Hotel rates \$1 per day. Our lands shown free. Smith & Gamble, Sheridan Lake, Kiowa Co., Eastern, Colo.



Farmers' Portable Elevators

will elevate both small grain and ear corn. For prices and circulars, address

NORA SPRINGS MFG. COMPANY, NORA SPRINGS, IOWA

Kendall's Cures



Spavin, Ringbone, Splint, Curb and all forms of Lameness.

STANDS AT THE HEAD.

Kensington, Minn., March 23, 1904. DR. B. J. KENDALL CO. Dear Sirs:—Will you kindly send me one of your books entitled "A Treatise on the Horse and his Diseases?" My experience teaches me that Kendall's Spavin Cure is a liniment for man and beast stands at the head. Yours truly, HANS WOLLY.

That is the experience of every user of Kendall's Spavin Cure. Price \$1; 50¢ for 50¢. Unequalled as a liniment for family use. For sale by your druggist. Ask him for a free copy of "A Treatise on the Horse and his Diseases" or write

DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.



Lameness resembles bone spavin, but the hock is in front of the true hock joint, a little to the inner side, and is soft and yielding, hardening sometimes as the case grows old.

Fleming's Spavin Cure (Liquid) is a special remedy for the soft and semi-solid bunches that make horses lame—Bog-Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It isn't a liniment to bathe the part, nor is it a simple blister. It is a remedy unlike any other—doesn't irritate and can't be misused. Easy to use, only a little required, cures the lameness, takes the bunch, leaves no scar. Money back if it ever fails. Write for Free Horse Book before ordering. It tells all about this remedy, and tells what to do for blemishes of the hard and bony kind.

FLEMING BROS., Chemists, 212 Union Stock Yards, Chicago, Ill.



\$10.00 Sweep Feed Grinders, \$14.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CORRIE WIND MILL CO., Topeka, Kansas.

which they agree to furnish free all repairs needed to keep the outfit in first-class running order, and to replace any parts, furnishing an entire new outfit if necessary for any outfit wrecked in storms or in any other way, no matter what the cause.

Especially as an indication of their confidence in the goods, this offer is certainly unprecedented. It is far broader and stronger in its scope than a warranty, as it insures against wear, breakage and damage from any cause.

The Appleton Manufacturing Company have just issued a very attractive booklet, which is very interesting to any one who uses windmills. It not only explains the good points of the Goodhue windmills, but gives a great amount of general information about windmill construction which has never before appeared in any windmill catalogue. They will gladly send this to any inquirer and explain fully their windmill insurance feature. Their address is Appleton Manufacturing Company, Batavia, Ill.

Amatite Sample.

Farmers everywhere are confronted by the problem of protecting the stock and poultry from dampness without great expense or labor. Shingles have always been a favorite solution, but now a new ready roofing, AMATITE, has been put on the market and proved itself to be a great advance over the old methods. Any man can lay it without experience. Sample can be obtained free from the Barrett Manufacturing Company, New York, Chicago, Philadelphia, Cleveland, Cincinnati, St. Louis, Allegheny, Kansas City, New Orleans, Minneapolis.

Branding Steers.

Did you ever brand a steer? Did the steer look happy and satisfied with life? Perhaps you feel about the same way when you shave. If so, stop using common soaps for shaving and try the only real shaving soap, made especially for shaving by the J. B. Williams Co., of Glastonbury, Conn. If you once try it, you will never be satisfied with any other kind. That is why they are willing to send you a free trial sample as per their offer in another column. "Try it for your face's sake."

Can Not Do Without It.

Belleville, Ill., 614 Monroe St., Nov. 11, 1904.
Dr. B. J. Kendall Co., Enosburg Falls, Vt.
Gentlemen:—Please send me a copy of your "Treatise on the Horse and His Diseases." I have your Kendall's Spavin Cure in the house for family use all the time and can not do without it.
Yours respectfully,
MRS. GOEFFERT.

The Marlin Fire-Arms Company, of New Haven, Conn., is now making a special offer on both rifles and shot-guns that ought to be of interest to every farmer. There are no better shooting arms than these in the world and the company is selling them at from 20 per cent to 25 per cent cheaper than similar arms made by other companies and that

much cheaper than they were formerly sold by this company. Remember the side-ejection of the Marlin which is different from any other make and which throws the empty shell away from instead of into your face. Then there is the solid top which prevents snow or rainwater from getting into the action and makes it doubly safe. Notice their advertisement on page 618 and write for a catalogue. It will pay to get next to this proposition.

Nitroline Dip.

The attention of our readers is called to the advertisement of Carnes & Co., who sell and guarantee Nitroline Dip, one of the best hog, cattle, and sheep dips on the market at the present time. Highly satisfactory results are reported by the users of this dip, for the past two years. It seems to be a most effective preparation for the extermination of lice, killing at once, as well as destroying the nits. When the animal gets out of the dip, enough of it remains on the hair to form a coating on each hair, preventing the nit from hatching. It has also proven an excellent remedy for treating canker sore mouth in suckling pigs. This dip has been on the market for only two years, but the very satisfactory results it has given during that time indicate that it will have a large sale in the future. It is non-poisonous, does not injure the hair or animal in any way, and comes in shape for instantaneous use after adding 75 parts water. Those who do not have dipping-tanks can apply it with a spray gun or by rubbing it on very lightly in its natural state. We suggest that the readers of the Kansas Farmer make a test of this dip, the only one on the market requiring only one application to get vertisement on page 601.

The most attractive Eastern excursion during the coming summer, will be to Asbury Park, N. J., on occasion of the annual meeting of National Educational Association, July 3 to 7, inclusive, via the Nickel Plate Road and its connections—either the West Shore or Lackawanna Road, with privilege of stopover at Chautauqua Lake points, Niagara Falls and New York City. Rate \$21.35 for the round-trip. Dates of sale, June 29 and 30, and July 1 and 2, with extreme return limit of August 31, by depositing ticket. Patrons of this route, may have the choice of a ride over the most interesting mountain scenery in New York and Pennsylvania, and through the celebrated Delaware Water Gap, or through the beautiful Hohenberg Valley and down the Hudson River, which also includes the privilege of a ride on day line boat on Hudson River, between Albany and New York City, in either direction, if desired. No excess fare charged on any train on Nickel Plate Road. Meals served in Nickel Plate dining-cars, on American Club Meal Plan, ranging in price from 35c to \$1; also a la carte. Chicago Depot, La Salle St. Station, corner Van Buren and La Salle Sts. City ticket offices, 111 Adams St. and Auditorium Annex. For further particulars, address John Y. Calahan, General Agent, 113 Adams St., Room 298, Chicago. No. 7.

CROPS ARE SURE

NO CYCLONES. NO BLIZZARDS. NO DROUTHS. NO FLOODS.

WE OFFER YOU

Mild climate, fertile soil, pure water, fine markets, good railroad facilities. We can furnish you IRRIGATED LANDS with PERPETUAL WATER RIGHT and interest in the canal works. No annual water rental—the water right goes with the land and an adequate supply is assured under supervision of the State.

THESE LANDS AT \$10.50 PER ACRE.

We can furnish you improved irrigated lands, fenced, or seeded to alfalfa, or set to fruit, or COMPLETE RANCHES AT \$15 TO \$50 PER ACRE, according to the improvements. All these lands on easy payments.

WE HAVE SEVERAL THOUSAND ACRES OF THESE LANDS

But they are going fast and will not last long on these terms. We have arranged to take out our customers on June 20, 1905, at special reduced railroad rates. We can also arrange for those who intend to visit the Exposition at Portland to stop over at Bliss, Idaho, without extra expense. Write us for particulars.

THE BEST WAY TO DO

Form a party among your friends who want land and send one man to select and close the deals for the party. This will reduce the expenses of the party. Not more than 160 acres of our lands at Bliss, Idaho, will be sold to one man. The improved lands at Payette, Idaho, and in Matheur County, Oregon, can be sold in any quantity. Make your application and remit 50 cents per acre advance payment. We will send you our receipt for the amount and this receipt will be accepted as cash when you make your first regular payment at the company's offices there. In arranging for an excursion of this kind, livery rigs, etc., it is only fair that we have some guarantee that the men of our party really intend to buy land and are not taking advantage of us to make a pleasure trip or a trip on other business. This advance payment is not an additional cost to you but is simply your guarantee of good faith. We fill all applications as fast as received and the man who holds our receipt number 1 will get first choice of these lands, the man who holds number 2 will get second choice, and so on in order so long as the land lasts, but every man who holds our receipt will get good land as described above.

YOUNG MAN, THIS IS YOUR CHANCE!

Get a piece of this land, start small and grow. Such chances as this are getting more rare every day and land will never be so cheap again. Why pay \$40 per acre for a farm and then take chances on getting a crop when one-third of that sum will buy a farm where RETURNS ARE SURE? There is nothing mysterious about irrigation. Any man who knows that a crop can be damaged by too much water as well as by too little can learn to irrigate successfully. No more special training is required than in running a self-blinder or a hay press. Send for free circular giving full details and descriptions.

Belleville, Kans., May 10, 1905.—This is to certify that we are personally acquainted with Beecher & Beecher and know them to be honest, reliable men who can be depended upon to carry out any agreement into which they may enter. (Signed) H. B. Swanson, County Treasurer; J. P. Angle, Cashier National Bank; F. M. Johnson, President Belleville State Bank; R. B. Ward, Ex-State Senator; W. T. Dillon, Judge District Court; F. N. Woodward, Ex-County Clerk.

Inland Empire Colonizing Company

Beecher & Beecher, Gen. Agts., Belleville, Kans.

P. O. Box F.

Reference:
DAVIS & SON
Live Stock Commission Merchants
South St. Joseph, Mo.

Long Distance Phones
Bell 225
New 3133

CARNES & COMPANY

General Selling Agents For

NITROLINE DIP AND NITROLINE SPECIFIC

The Greatest Known Remedies for External and Internal Treatment of Live-Stock. . . .

South St. Joseph, Mo., June 8th, 1905.

To The Stockmen and Farmers Everywhere.

Sirs:—We take this means of informing you that we have in NITROLINE DIP, one that requires only one application by dipping or spraying to thoroughly exterminate all vermin such as LICE, NITS, TICKS, PARASITE GERMS, FLEAS, MITES, GNATS, FLIES, SCREW WORMS, MANGE, SCAB, GALLS, SORES, INSECT BITES, IMMUNES AGAINST CHOLERA, PLAQUE, FEVERS, and TUBERCULOSIS, of all ANIMALS AND FOWLS, while, as you know, two applications within ten days are necessary with other good dips, and very often the results are unsatisfactory even after two dippings, while we guarantee NITROLINE DIP to do the work with first dipping or spraying, besides NITROLINE DIP cost only 75 cents per gallon in 50 gallon barrels or \$1.20 in 5 gallon cans or \$1.25 in 1 gallon cans, delivered at your station, by freight. A 50 gallon barrel will make ready for use 3750 gallons of dip. You cannot afford to be without such a remedy about your premises.

NITROLINE SPECIFIC is an infallible remedy for internal diseases among animals and fowls, and will cure if given in time CHOLERA, PLAQUE, TUBERCULOSIS, COLIC, WORMS, GRUBS, ROUP, LIMBER NECK, COUGHS, COLDS, Etc. Price \$2.00 per gallon delivered. It pays to dip or spray your stock with NITROLINE DIP, so says many customers who have been using NITROLINE DIP for the past two years.

We have a little book which tells how much it pays; it's yours for the asking.

All orders shipped same day received. Come to see us when in St. Joseph. Our office is corner Lake & Illinois Ave., where you get off the car at Stock Yard.

Yours very truly,

CARNES & COMPANY,

South St. Joseph, Mo.

The Veterinarian

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's postoffice, should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kans., or Dr. C. L. Barnes, Manhattan, Kans.

Alling Hogs.—I have 5 young sows, with pigs 9 months old, that can not get up on their hind quarters without help. When up they are lame and stiff in hind legs and walk with the back humped up. They eat well and are in good shape. The dung resembles that of sheep. They are on alfalfa pasture, and have been fed dry shelled corn twice a day; they weigh over 175 pounds each. They are Poland-Chinas. They began to get sick about May 23. I have given them no treatment except to give International Worm Powder. There have been a number of cases in this neighborhood this spring. The hogs do not die. Can you give me the cause and cure?
Lincoln, Kans. E. J. G. W.

Answer.—We are sending you a press bulletin on the trouble that affects your hogs. You had better not feed the hogs any more corn for a time; but give them plenty of milk if you can secure it, and bran. I believe they will improve.

Barb-Wire Cut.—My 4-year-old horse was cut by wires two years ago, and before the wound healed proud flesh got in it, and it was hard to heal. It has been healed a year, but has broken and discharges a little.
Brookville, Kans. A SUBSCRIBER.

Answer.—If you have a veterinarian near by who can look at that barb-wire cut, have him do so. If not, we will be glad to accommodate you by sending a 50-cent box of healing powder, which I know will heal it.

Loco.—Will you please tell me if any of the enclosed samples are loco; or if not loco, are they poisonous? Let me know by number on sample. I had a 2-year-old mule that had been in good condition, but became very stiff, his eyes rolled back, and he could not open his mouth very far; his mouth and throat were covered with sores. A veterinarian pronounced it poisoning. He had been running on buffalo-grass and there samples were taken from the same pasture. I would like some information regarding loco poisoning.
Stafford, Kans. F. B. S.

Answer.—Sample No. 1 does not look like loco while 2 and 3 do. The specimens were somewhat dried when they reached us, so were not as easy to examine as they would be when fresh. We have been experimenting at the State Agricultural College for the last year with a locoed mare. When obtained, she was a living skeleton; didn't know enough to eat the best of food, was lifeless, could not be led, when driven moved very slowly, and was apparently in a dazed condition. Before being locoed she was a good driver, and a most excellent saddle pony. We have been trying to feed the loco out of her. She is now in good condition and is constantly improving. She will lead a little now, but we fear that she will never get entirely over the trouble.

Scabies or Itch.—I would like some information through the "old reliable" in regard to scabies or itch in cattle. If there any way to cure it by rubbing them over? There are four dipping stations from nine to eleven miles from here, but those who have had cattle treated think there is more skin disease among their herds than before they dipped. Any information as to how to treat a small herd of forty head satisfactorily by rubbing them over once or twice will be gladly received.
Hoxie, Kans. SUBSCRIBER.

Answer.—We will be glad to send you a press bulletin on scab in cattle, and if you do not care to use a dipping-vat, we have found it very satisfactory to simply hand-treat a few an-

imals; however, 40 would probably take a couple of men two days to do the work. But if the cattle have the itch, it will probably pay you to hand-treat them. After the dip is ready, have it good and hot, tie the affected animal so it can not swing around, pour the hot dip onto the back and scrub into the skin with a good, stiff scrubbing brush. Work the dip well up back of the horns as there is a very good lodging place for the itch mites. In ten days, repeat the process. If I can give you any further information in addition to the press bulletin, will be glad to do so if you will write again.

Sprained Shoulder.—I have a 4-year-old horse that I worked on the gang-plow last year; he pranced ahead in a way that sprained his right shoulder and has been lame ever since. This spring I bathed it in alcohol and corrosive sublimate, but it did no good. Please advise me.
Leoti, Kans. J. W. C.

Answer.—I find that many of the subscribers can not get the preparations I recommend for treating their diseased stock. So I will be glad to send you a preparation for the horse's lame shoulder if you care to have, say, \$1 worth of treatment. If you have a very good veterinarian that you could call in to look at the horse, he may be able to prescribe. If not, I will be glad to accommodate you with the necessary medicine.

Blind Colt.—I have a 1-year-old colt that has been blind for a week; his eyes at first were bloodshot. I have been putting in harlem oil. I thought it was pink-eye and kept him away from the others. What can I do to cure the colt?
P. B.

Answer.—I would advise poulticing with hot water (as hot as the colt can stand) the affected eyes, changing the poultice as often as the water gets cool. If this does not give the colt relief, write again.

Colt with Sprained Ankle.—I have a gray 3-year-old colt, that about three or four months ago strained the cords or tendons around the left hind ankle. I keep him in the stable and use him probably two days each week. I have been using a liniment. In the morning the colt stands on that foot pretty well and the ankle seems straight, but after being on his feet all day he seems to stand "cock-ankled." Answer by return mail as soon as possible. When he trots he moves all right, but when he walks the ankle seems to slip ahead or knuckle over.
H. T.

Answer.—We could not answer by mail as you failed to give your post-office address.

I would advise using the following liniment and do not use the horse for work during treatment. The liniment is prepared as follows: Compound soap liniment 1 pint, turpentine 6 ounces, fluid extract of belladonna 4 ounces, fluid extract of Phytolacca decandra 6 ounces, spirits of camphor 4 ounces; use this liniment on your horse's affected leg twice daily until it is sore, then withhold for a day or two and begin again. If you have any trouble in getting this prescription filled, we would be glad to send you the liniment; for the accommodation of people living a long distance from a drug store we send medicine from the college, such as we use on the diseased animals brought to our clinic for treatment.
C. L. BARNES.

Horticulture

Shawnee Horticulturists.

Shawnee County horticulturists met, June 1, at the home of J. M. Pollom—the Marple farm—six miles north of Topeka.

This is historic ground. There Uncle "Zeke" Marple, one of the earliest settlers who came in the early 50's, preempted this homestead and saw those troubled times—saw the territory organized and saw it grow into a State and lived here until his work was done, and about two years ago passed to the great beyond. Close by, Gener-

Young Farmer, Your Chance

To Buy a Farm for What Your Rent Costs You

\$7.50 AN ACRE UP

One-third cash, balance in equal annual installments for five years with interest at 6 per cent on deferred payments.

These lands are convenient to railroad, rolling surface, deep, rich loam on clay subsoil, good water at 30 to 40 feet deep. Adjoining lands produced last year 20 to 25 bushels of wheat per acre which sold for \$1.05. These lands are highly recommended for vegetable- and fruit-growing, and running water makes them excellent stock farms.

A Gilt-Edge Investment

Bound to Double in Value in a Few Years

We have a special plan by which we can assist our clients to secure

A 320-Acre Farm by Buying 160 Acres

We will announce full details regarding

SPECIAL RAILROAD RATES TO CUSTOMERS.

Every buyer will be credited his railroad fare on his first payment on his land. What more can you ask? Write for free booklet giving full description of lands.

Belleville, Kans., May 10, 1905.—This is to certify that we are personally acquainted with Beecher & Beecher and know them to be honest, reliable men who can be depended upon to carry out any agreement into which they may enter. (Signed) H. B. Swanson, County Treasurer; J. P. Angle, Cashier National Bank; F. M. Johnson, President Belleville State Bank; R. B. Ward, Ex-State Senator; W. T. Dillon, Judge District Court; F. N. Woodward, Ex-County Clerk.

Inland Empire Colonizing Company

Beecher & Beecher, Gen. Agts., Belleville, Kans.

P. O. Box F.

al Sherman tilled the fertile soil and near is the ford on Indian Creek where the Government military trail led from Fort Leavenworth to the West.

Members and their friends began to arrive early and by 9 a. m. the social session was in full progress. Nearly 200 people gathered here during the day.

Promptly at 12.30 o'clock the old-time dinner bell announced the feast to be in readiness.

This was our strawberry meeting and the berries were in evidence. They were served to suit the individual fancy—short-cake, sweet-cake, plain and in colors. Every one present feasted and feasted; berries were served by a liberal hand and without price and we had berries left.

The afternoon session was billed for 2 p. m., when President Crow called the meeting to order. Then followed a very instructive program. Thomas Owen read a paper entitled "Bees and Poultry on a Fruit Farm." This paper was very practical and on motion was referred to the KANSAS FARMER for publication. It certainly deserves close attention.

H. G. Larimer, who was substituted for Governor Hoch, spoke on the "Consolidation of Schools." Mr. Larimer spoke from the standpoint of an experienced teacher and his ideas are all practical, saying that the crop of children raised on the farm or anywhere else was the finest fruit that was grown. On motion, Mr. Larimer was requested to furnish the KANSAS FARMER a paper embracing his ideas on this important subject. The speaker also paid a loving tribute to our late brother and fellow-worker, Ezekiel Marple. The discussion which followed was very interesting and all who spoke favored the idea of consolidation, which means a high school education to every child in the districts consolidated.

County Superintendent J. F. Carter entertained the meeting by a talk about our schools, showing that in some localities it costs \$100 per pupil

to have a six-months' school. He advised parents to be with their children during the character-forming period.

President Crow spoke of the efforts of the commercial club to assist the fair management to have a real good, old-fashioned fair, where horticulture and agriculture would receive proper recognition.

B. F. VanOrsdal invited all present to come to the July meeting, which is to be held on July 13, at the VanOrsdal farm, nine miles northwest of Topeka. O. F. WHITNEY, Secretary.

Pomona Grange of Shawnee County Takes Action.

The following preambles and resolutions were passed by the Shawnee County Pomona Grange held in Topeka June 3:

Whereas, It appears that our Governor, E. W. Hoch, is earnestly endeavoring to enforce all the laws of the State, therefore be it

Resolved, By the Shawnee County Pomona Grange, assembled in regular session, that we do pledge to Gov. E. W. Hoch our loyal and earnest support in his honest and earnest efforts for the right.

Whereas, The Topeka Commercial Club, with characteristic enterprise, has raised a fund of \$2,500 so as to enable the State Fair Association to increase their premiums for agricultural, horticultural, and women's household products, and for building permanent buildings for exhibition of the same on the State fair grounds, therefore be it

Resolved, That the Shawnee County Pomona Grange heartily commends the action of the Topeka Commercial Club and the State Fair Association for this advance movement, and that we pledge them our hearty cooperation to secure a creditable and representative exhibit from the farm, orchard and garden for the State Fair in September next. We further recommend that subordinate granges throughout the State prepare exhibits to compete for the liberal prizes offered.

The Young Folks

CONDUCTED BY RUTH COWGILL.

My Dog.

"Dead!" and my heart died with him.
"Buried! What love lies there.
Gone, forever and ever,
No longer my life to share!
"Only a dog!" "Yes, "only!"
Yet these are bitter tears!
Weary and heartsick and lone,
I turn to the coming years.

Something that always loved me;
Something that I could trust;
Something that cheered and soothed me,
Is mouldering in the dust.
Gentle and faithful and noble,
Patient and tender and brave,
My pet, my playmate and guardian,
And this is his lonely grave!

I go to my empty chamber,
And linger before the door;
There once was a loving welcome—
I listen for that no more.
I sit by my lonely hearthstone,
And lean my head on my hand;
Oh, the best of my wayward nature
Lies low, with my Newfoundland!

One plank, when the ship was sinking,
In a wild and stormy sea,
One star, when the sky was darkened,
Was the love of my dog to me.
A star that will shine no longer,
A plank that has missed my hand,
And the ship may sail or founder—
No watcher is on the strand!

Oh, well may the Indian hunter
Lie calm on his couch of skins,
When the pain of this world ceases,
And the joy of the next begins
On the happy hunting prairies,
Under bluer skies beyond.
Will not his steed and watch-dog
To his spirit call respond?

Blue hunting grounds of the red man,
May not I dream the dream?
Surely, my old companion
Awaits till I cross the stream!
Waits, with a faithful yearning,
Almost akin to pain,
Till, in some future heaven,
He bounds to my feet again.

—Mary Francis.

Some Stories of Out-of-Doors.

DOMESTICATED HAWKS.

We do not as a rule look for gentleness in a hawk; every one who has had much experience with birds of prey know that as a rule they are savage and uncompromising. With bills and talons sharp and strong for the very purpose of dealing death to the weaker creatures which serve them as food, and with wild, fierce cries which reflect their savage, almost untamable natures, they seem, of all birds, to be the very last from which to expect kindness or a response to kindness. However, I know of at least one exception—the broad-winged hawk, whose gentle nature, long known to ornithologists, I have lately had personal proof of. If I belonged to the imaginative school, I should be apt to believe that the broad-winged hawk loathed his trade, and that he hunted and killed from sheer necessity. His mild little face and his pathetic, almost beseeching voice seem more in keeping with a creature which is hunted than with one which hunts, and it is sometimes difficult for me to understand how he can ever find it in his heart to strike down a mouse or a frog.

One day this summer a friend of mine found a nest of fledgling hawks, quietly took them away and shipped them to me that I might study their habits for a while. For about a month I kept them in a large cage, some six feet long, with a perch running from end to end. They did not seem to take their confinement in bad part, though at times they became rather uneasy, flitting from one end of the perch to the other, often skipping lightly over each other's backs in order to do so. When they were fed they showed little fear, taking from my hand mice, grasshoppers, or raw beef, and usually carrying their food up on the perch to devour it. After the manner of hawks in general, they held it firmly with one or both feet and pulled it to pieces with their hooked bills. At all times of the day they uttered their plaintive whistles, which, often half persuaded me to give them their liberty before I had completed my observations.

But I kept them until the end of the month, and then I took them from their temporary prison and tossed them into the air, one after another. Two of them flew away, and I saw neither of these again for several weeks, when a local gunner brought in one of them, limp and cold; he had shot it as it sat quietly in a tree-top.

The third bird refused to leave us. He sat in an apple-tree all the afternoon, and only towards night did he fly off to a patch of woodland about a quarter of a mile from the house. Thence we could hear his pathetic "Che-e-e-e," which seemed to gently protest against our unkindness, in allowing him to be hungry. So my wife went out to the wood with some food, and sitting down on a fallen tree, whistled softly in imitation of his own voice. In a moment he came to her side, and although ravenously hungry, took the food as gently as a canary. From that time he has been a source of continual pleasure. After being fed a few times in the wood, he soon learned to come to the garden for his food, and now whenever he is hungry he flies to the roof and calls to us. We try to respond at once, and when we appear he flies down upon our hands or shoulders to eat whatever we may have for him. At first he was quite nervous, and if a stranger appeared or if he heard any unusual sound of any kind he was off to the woods, to come back only after much patient calling. But now no ordinary sight or sound

tell me they have known him to do this. I should think the dog must be hard pressed by famine that would attempt to gnaw a bone covered with clay and dirt, as this bone must be after being buried in the ground. If the dog hides it away through any such provident forethought as this, it must be the slightest remnant, a mere adumbration, of a former instinct of his race. He does not pursue this practice in the steady, methodical way in which an ant or a bee or a squirrel lays up a stock of food against a time of need. With him it is only a fitful and rare occurrence. His long domestication and the ages through which he has received his food from the hand of his master, have obliterated largely the sense of this necessity from his mind, if he may be supposed to have a mind.

The fox, when he has had the good fortune to capture several fowls at the same time, will, it is said, secrete such as he has no present need for under a bush or behind a log. I remember that in Rowland Robinson's pleasant book, "Sam Lovel's Boy," a young fox is represented as doing this. "He began



DIGNITY AND IMPUDENCE.

—LANDSEER.

Sir Edwin Landseer is one of the most famous painters of animals. He had a great sympathy and affection for them and they always loved him. His first lessons in painting were given him by that master artist, Dame Nature; and his first studio was the Great Out-of-Doors.

alarms him, and although the quick turns of his head show that nothing escapes him, he will not fly away until he has finished his meal. He spends most of his time at some distance from the house, sitting quietly in a tree for hours at a time. If we happen to want him when he is away, it is only necessary to whistle. An answering "Che-we-e-e" tells us the summons has been heard, and with a series of whistles, sounding nearer and nearer, he comes sailing gracefully over the treetops to the roof of the house. Then down he pitches to our outstretched hand and gently he takes whatever is offered him. Apparently he is satisfied with the food which is given him, for I have not been able to observe that he catches anything for himself.—Ernest Harold Baynes, in N. Y. Post.

THE DOG AND THE BONE.

I have sometimes seen a dog bury in the ground a bone for which he did not seem to have any present need. I have always understood that he did this on the principle which actuates a provident man to lay up something "for a rainy day." This may be, though I have never known a dog to dig up the bone afterward; yet some persons

burying the leg of a lamb in the loose earth, but desisted when he saw that the eyes of all his mates were upon him, then unearthed the half-buried treasure and sought a new hiding place." I do not understand that the wolf has this food-hiding instinct. Gilbert White of Selborne says in his quaint way that he had "some acquaintance with a tame brown owl," which, when full, hid, like a dog, what he could not eat.

"The origin of most of our domestic animals," says Darwin, "will probably forever remain vague. But I may here state," he continues, "that, looking to the domestic dogs of the whole world, I have, after a laborious collection of all known facts come to the conclusion that several wild species of Canidae have been tamed, and that their blood, in some cases mingled together, flows in the veins of our domestic breeds." He mentions a dog whose great-grandfather was a wolf, and this dog still betrayed its wild ancestry in the fact that it never approached its master in straight line when called. But which species of the Canidae from which the dog may have descended has the food-hiding instinct or habit I have nowhere seen stated.—Forest and Stream.

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WHEN A REINDEER'S ANGRY.

We were forced to wait three days after it had stopped snowing for a crust to form, so that we could travel again. It was with many misgivings that we began the last half of the journey, since the snow was now very deep and the danger of our sinking into drifts was great. To add to our general feeling of fear, the reindeer behaved very badly and were exceedingly unruly. The wind had moderated somewhat, but it was still intensely cold.

We had traveled half the day without any serious mishap and were beginning to forget our fears at starting out, when we sped merrily down a mountain side, singing and hollering at the top of our voices, and ran into a gulch and stuck there. The song stopped in our throats, and we sprang to our feet to sink waist-deep in the drifts that had entrapped us.

Every movement of our bodies sank us deeper in the snowdrifts, and the infuriated reindeer, finding themselves caught in the banked-up snow almost to their haunches, turned upon us, and would have pawed us to death but for the forethought of Oosilik, who, seeing our danger, sprang forward and, hoisting the overturned pulks in his strong arms, brought them down over our heads and shoulders and pinned us out of sight in the snow.

We heard the hoofs of Uncle Ben beating the pulk's side, as he pawed up the snow in his efforts to get at us, and if we had not held to the straps and had not kept the pulk over us, he would have tossed it into the air with one sweep of his horns, and would still have had his bout with us, in which case we would have been helpless and completely at his mercy.

For the first time we had occasion to see how fierce an angry reindeer can be. When he was convinced that he could not reach us, Uncle Ben turned upon Oosilik, and we heard the Esquimo shouting and clubbing the deer as he ran in and out of the pulks in a swift circuit, pursued by the belching reindeer.

We spent an exciting half hour under the pulks, with the hoofs of the deer rattling like hail on the frozen boards, and then the unusual commotion ceased all at once, for the reindeer had found a lichen bed. In a jiffy they were pawing up the snow in their hurry to get at the succulent moss and we were forgotten.

Amalik and Oosilik lifted the pulks from our heads and dug us up out of the snow and set us on our feet. By the time the reindeer had eaten themselves into a passable humor, Amalik and Oosilik led them back to the pulks.

We had four hours of traveling before we came in sight of the corral that had sent us the reindeer from Eaton Station. As soon as the deer scented the well-known corral, they quickened their strides, so that we reached the station before it was quite dark, and crawled from the sleds with a deep feeling of relief, glad beyond measure to be at home after the perils of our protracted journey.—St. Nicholas.

The Home Circle

CONDUCTED BY RUTH COWGILL.

Be Still in God.

Be still in God! Who rests on Him
Enduring peace shall know,
And with a spirit fresh and free
Through life shall cheerily go.
Be still in faith! Forbear to seek
Where seeking naught avails;
Unfold thy soul to that pure light
From heaven, which never fails.

Be still in love! Be like the dew
That, falling from the skies,
On meadows green, in thousand cups.
At morning twinkling lies!
Be still in conduct, striving not
For honor, wealth, or might!
Who in contentment breaks his bread
Finds favor in God's sight.

Be still in sorrow! "As God wills!"
Let that thy motto be.
Submissive neath His strokes receive
His image stamped on thee.
Be still in God! Who rests on Him
Enduring peace shall know,
And with a spirit glad and free
Through night and grief shall go.
—From the German of Julius Sturm.

A Few Questions for the Farmer and Villager and for the Rural and Village Music Teacher.

EMERALD JERRUE WINKLER.

TO THE FARMER AND VILLAGER.

For all the country is such a delightful place to live in, there are certain drawbacks and disadvantages that count against it. These, in time, will, we hope, be remedied.

Our teachers of district and village schools must pass an examination in all branches before they are given supervision of children's educations. How many teachers of music in villages, and especially in rural places, could pass an examination in harmony, which is to music what grammar is to language? This question of musical instruction in the country is one to be thought about and I believe it lies with the farmer parent and village parent to decide. We are not advanced far enough yet to require that these rural and village music teachers pass examinations just the same as our school-teachers do in their subjects. We know, though, that such examination should be required.

Farmers, do you know that from among your sons and daughters may come the tenors and basses, sopranos and altos, pianists and violinists that later music-lovers will eagerly seek? Few, indeed, will be those to rise and shine among musical celebrities, but the cultivation of their talents will bring pride to your hearts, joy to your homes and a great influence for good in your community. Was not Christine Nielson a fair-haired, sweet-voiced child who herded her father's flocks high in the Swedish mountains? Did not our own Nordica sing in her little village church and gain her knowledge of scale, interval and chord from some lowly music teacher who knew how to inspire to broader fields? Can you recollect that Dvorak, who died in 1904, the greatest of orchestral composers, was the son of a poor butcher in Bohemia?

Even though your son or daughter may want only enough training to sing and play for you at home, should they not have competent teachers? Should they not be able to sing or play the simple things you all love with perfect musical interpretation? The best is none too good for the home.

These years now passing mark the advent of music in the public schools of towns; and within another decade, as our rural schools are consolidated and graded, we will, no doubt, have teachers of music who will also teach the child to use his voice in a Christian-like manner and not scream as we so often hear the school children doing. They will know their notes and sing them with the ease with which they read print, and in many cases with greater fluency. Notes are, as a rule, a private teacher's bugbear, and the staff is seldom presented in the right way.

Many of those teaching among us have not had opportunities for laying good foundations for their musical knowledge. This musical knowledge is not alone ability to sing and play, but you must have for your children

a teacher who can present the subject as it should be, who has had thorough training and is competent to lead the child step by step.

Do you, farmer parents, take especial interest in your little son's or daughter's playing? Do you talk with the teacher about the good points or shortcomings? Do you help her by trying to make the practice time a pleasure for the little one? Do you encourage the teacher in her own study and playing? Do you realize that she needs extra study the same as school-teachers do? And do you pay her liberally enough to enable her to go often for lessons for herself? So many times country people can not realize how necessary this is. She gleans so many new points of which she is so willing to give your children the benefit. She brings new things to play and sing. She hears new preludes, songs and offertories in the larger churches which are a great help in the musical part of your Sunday School and church service. Encourage her to keep up her practice and go on with her education; to bring new things into your social and church entertainments; for remember that all this is reflected in your children.

TO THE MUSIC TEACHER.

If you find it hard to give reasons for things your pupils question about, and if you find it difficult to keep up their interest, don't you think it may be that you do not present the subject as well as you might? Do you plan to place yourself with some one who has had especial success in teaching that you may study more of your subject? Do you feel competent to lay the foundation of, perhaps, a future Paderewski or Carreno? Can you teach the tiny hands of some delicate girl to grow just right technically? to develop good strength and endurance without danger of hurting her? And above all, can you realize that the mental equipment in musical development counts fully 90 per cent of the subject? After all, technique—the correct use of fingers, wrists and arms—is but the means to the end.

The brain is the general whose perfect training calls his soldiers, the fingers, to any technical conflict and they must always be ready and adequate. Is your knowledge so thorough that you can train this general?

Money with rural and village music-teachers is usually a scarce article; but don't you think you can save a little each week or month so that later you can go away for at least a short time of study? One need not go far from home. You will find great help and inspiration in association with some one who must be a teacher; so many can play or sing. When the time comes for you to go, seek advice and weigh well, that you may get the foundation knowledge that is so much to every student, but especially to the rural one, as with her, so much work is, of necessity, done alone and she has not the helps in the way of concerts, orchestras, pianists or violinists that the student in town and city has.

Another thing. Do not be afraid people will think less of your ability because you go for study. Does not the law require that our public school-teachers go for study and rigid examination at stated periods, according to the certificate each one holds? You know it is "by steps to the temple," and every time you have a chance to get one more step toward the temple, do not hesitate. The "step" may be a lesson from the teacher you select to guide you. It may be a concert by a vocalist, pianist, orchestra or violinist. If you teach only reed organ and piano, do not hesitate to spend your money for a concert of another kind of music. If it is a recital by a fine singer, watch how he or she sings. You will realize your phrases better. See how nice and finished each sentence is with little delicate accents and shadings of tone that you can make your piano imitate. If it is an orchestra, observe the richness of ensemble and fullness of harmonies. How the different instruments make up effects not to be described but which you will hear and remember all your life. If it is a violin (so like the human voice) in the hands of an artist, you will hear such clearness, ex-

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actness, and perfect cadenzas that your scales—the things so often neglected—will take on an entirely new life; and in teaching them, you can bring new enthusiasm to your pupils.

In music as in all other things, we can not stand still; we must either advance or retreat. Now, I beg of you, do not retreat. Look about you. Do you see more going ahead or falling back, musically? What you see do not tell "out loud" for so many of us know what the answer is. Resolve this for yourself: Don't retreat! Improve your musical mind each year. The wood-worker's chisels are always sharp. He spends much time in keeping them in order so that when the time comes for their use the mark they leave is clean and clear. Spend much time over your musical equipment that your methods may be good and sure, and that your pupils when they drift away—which they are sure to do when time for high school and college study arrives—may look back over the musical days with you and say, "She taught me right."

Household Recipes.

Chocolate Tapioca Pudding.—Soak a half-cup of tapioca over night, drain, pour on boiling water enough to cook it till clear. Add three-quarters cup of sugar, a tiny shake of salt and two ounces of shaved chocolate. When the chocolate is well mixed with the tapioca, add the well-beaten whites of two eggs, stir in lightly—do not beat it, then add a half-teaspoonful of vanilla extract, pour it in a dish and set aside to cool and serve with cream.

Walnut Wafers.—Two eggs, 1 cup sugar (pulverized), 1 cup chopped English walnuts, $\frac{3}{4}$ cup flour. Drop in buttered pans and bake in quick oven.

Kisses.—Whites of three eggs (unbeaten), 1 cup granulated sugar. Beat together with a silver fork for twenty minutes. Then bake in a slow oven until they are a delicate brown.

Spice Cake.—Two cups of bread sponge, 2 cups of brown sugar, 1 cup of butter and grease mixed, 1 tablespoon of ground cinnamon, 1 tablespoon of ground allspice, 1 teaspoon of ground cloves, 1 teaspoon of soda, 3 eggs, 1 pound of raisins. Stir as stiff as any cake; let stand half an hour before putting in the oven; bake one hour. Dissolve the soda in a little warm water, chop the raisins and add them last.

Washington Pie.—Crust part: Three eggs, beaten separately; 1 cup of sugar, $1\frac{1}{2}$ cups of flour, 1 large teaspoonful of baking powder, 2 tablespoonfuls of milk or water. Divide batter in half and bake on two medium-sized platters. When done and cool, split each one in half with a sharp-bladed bread knife and spread half the cream on each, not putting any on the top, but frost it and sprinkle cocoanut on it.

Cream part: One pint of milk,

boiled, 2 eggs, $\frac{3}{4}$ cup of sugar, $\frac{1}{2}$ cup of flour, beat well and stir into milk, add 1 ounce of butter; cook till thick, and flavor.

Orange Custard.—Peel from 4 to 6 oranges and halve them, taking out the white part in the center; cut into very thin slices, taking care that no seeds are retained. Place in a glass dish in layers, covering each layer with pulverized sugar. Over the whole pour a cold boiled custard and set in the ice-box until ready for use. This makes one of the most delicious desert dishes and is very easily prepared.

Devil's-Food Cake.—Two cups of brown sugar, 2 eggs, $\frac{1}{2}$ cup of butter, $\frac{1}{2}$ cup of hot water, $\frac{1}{2}$ cup of sour milk, 1 teaspoon of soda. Dissolve the chocolate and soda in the hot water. Use flour enough to make batter for layer-cake.

Filling: Boil until it gets quite thick, $1\frac{1}{2}$ cups of brown sugar, $\frac{1}{2}$ cup of butter and $\frac{1}{2}$ cup of hot water.

Of special interest to farmers is an article in the June Cosmopolitan, "Butter, Cheese and Condensed Milk as Factory Products." It is written by Clarence B. Lane, of the Department of Agriculture, who is one of the foremost authorities in the country on these subjects. Mr. Lane has written a most interesting account of the transfer of these industries from the farm to the factory, showing what the farmer has gained thereby and describing the wonderful and intricate apparatus used in the preparation of dairy products on a large scale. The article is extensively illustrated.

Good Advice to New Writers.

If you want to learn to write, set about it in a practical way. Read a great deal of the work of the masters of short-story writing. I might refer you to Boccaccio and Chaucer, but to modern men let us first give modern examples. Read the short tales of Stevenson, Bret Harte and H. C. Bunner, of Mr. Thomas Hardy, Mr. Aldrich and Mr. Janvier. Not only read, but study them. And all the while practice on stories of your own. What you write one week tear up the next. It is not likely that any masterpieces will be lost. Square your work with the work of these writers. Fill yourself so full of good example that you will have the short-story "feeling." Thus you will unconsciously become a judge of what you do.—Woman's Home Companion for June.

Love is not getting, but giving; not a wild dream of pleasure and a madness of desire—oh, no, love is not that—it is goodness and honor and peace and pure living—yes, love is that; and it is the best thing in the world and the thing that lives longest.—Henry Van Dyke.

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Our Club Roll.

Mutual Improvement Club, Carbondale, Osage County (1903).
Give and Get Good Club, Berryton, Shawnee County (1903).
Women's Literary Club, Osborne, Osborne County (1903).
Women's Club, Logan, Phillips County (1903).
Domestic Science Club, Osage, Osage County (1903).
Ladies' Crescent Club, Tully, Rawlins County (1903).
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1903).
Chalisco Club, Highland Park, Shawnee County, (1903).
Cultus Club, Phillipsburg, Phillips County (1903).
Literature Club, Ford, Ford County (1903).
Reuben Club, Mission Center, Shawnee County, Route 2, (1903).
Star Valley Women's Club, Iola, Allen County (1903).
West Side Forestry Club, Topeka, Shawnee County, Route 2, (1903).
Fortnight Club, Grant Township, Reno County (1903).
Progressive Society, Rosalia, Butler County (1903).
Pleasant Hour Club, Wakarusa Township, Douglas County (1903).
The Lady Farmers' Institute, Marysville, Marshall County (1903).
Women's Country Club, Anthony, Harper County
Taka Embroidery Club, Madison, Greenwood County (1903).
Mutual Improvement Club, Vermillion, Marshall County (1903).
Friends Reading Club, Cawker City, Mitchell County (1903).
Cosmos Club, Russell, Kans.
[All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.]

ART STUDY PROGRAM.

Sir Edwin Landseer.

Roll-call—One of Landseer's pictures.

I. The childhood and early life of Landseer.

II. His training and education.

III. A description of one of his pictures.

IV. What part can art play in the common daily life?

It is anticipated that this art study will suggest a very delightful and profitable year's work. No club, however young in club work, or remote from art privileges, need hesitate to take it up, for material for this work is so easily and cheaply attainable and is offered in so attractive and comprehensible a style that even the most uninitiated can understand and enjoy it. The little books which I have mentioned before, the Great Artist's Series in the Young Folks' Library of Choice Literature, are excellent for this work, and are being used extensively by clubs. One of the oldest clubs for art study in the State, and one which has a reputation for serious and noteworthy work, used them last year and recommends them, as does, also, Mrs. Kate A. Aplington, who is the moving spirit of the Traveling Art Galleries project. These Traveling Art Galleries, also, have been and will be a great benefit to clubs. They can be obtained by writing to Mrs. Aplington, at Council Grove, Kans.

For the first lesson in the study of this popular artist, the roll-call should be responded to by simply naming one of his pictures. He has so many that this will not be in the least difficult.

The material for the first two papers can be found chiefly in the little book of which I have spoken. His simple, healthful early life, and the years of his preparation and early successes are most interesting. And other books that are obtainable on this subject will help and add to the interest of the paper.

For the third number, one may choose any one of the illustrations in the little book, or Perry's prints may be used. The points of the picture that appeal to you as especially good as to excellence of thought or composition should be mentioned, as well as the defects. This work should be quite original. With a little thought any one will be capable of this sort of thing if she have only a fair respect for her own opinion.

The last paper can be made a very valuable one. Art, the study of the beautiful is no remote thing, a privilege of the wealthy few. As some one has said, the greatest art is the art of living. All other art is the expression of this greatest one, and the

study should teach us to observe the beautiful in the common things and to take real joy in it.

A beautiful woman, whose daily life is full of the care and the labor that fall to the lot of many housemothers, once said in my hearing, "I never take my plain white water-pitcher to the well to fill it that I do not note the graceful curves in it and enjoy the beauty of the lines that give it shape and form." That is what art is to life, and the study of some of its masters and their pictures through this year ought to make common daily life a more beautiful and precious thing.

For the Little Ones

The Two Kittens.

There were two little kittens, a black and a gray,
And grandmamma said, with a frown,
"It will never do to keep them both—
The black one we'd better drown."

"Don't cry, my dear," to tiny Bess,
"One kitten's enough to keep;
Now run to nurse, for its growing late,
And time you were fast asleep."

The morning dawned, and, rosy and sweet,
Came little Bess from her nap.
The nurse said, "Go into mother's room,
And look in grandma's lap."

"Come here," said grandma, with a smile,
From the rocking chair where she sat.
"God has sent you two little sisters;
Now what do you think of that?"

Bess looked at the babies a moment,
With their wee heads yellow and brown.
And then to grandma soberly said,
"Which one are you going to drown?"
—Farmer's Union.

Angela's Adventure.

I have a funny little story to tell
That I dreamed one day with my eyes open.

There was once a very little girl named Angela, who had a great many dolls that she loved very much—little dolls and big dolls, china dolls and wax dolls and rag dolls and paper dolls. And sometimes she wanted more than these, and so she made dolls of the honeysuckle blossoms and the four-o'clocks and morning-glories. She really loved these flower babies more than her real dolls, for they seemed almost alive as she picked them all quivering and cool from the bushes. Best of all she loved the pansies with their bright faces that were always just ready to break into a smile. She never cared to pick the pansy babies, but she often went around to the cool north corner where they grew to look at them and smile back at them and sometimes to whisper good-morning when the breeze came and made them nod their heads.


One evening the strangest thing happened to her. It was really all a dream, but it seemed so much like truth that she almost believed it was, even after she awoke. She was sitting in a big old comfortable chair on the back porch that evening, all curled up, while she waited for her father to come in from the milking to put her to bed. It was growing very cool and shady—almost dark—and from the pond below the orchard came the voices of the frogs. She listened to them until she thought she could almost hear what they were saying—but not quite. Sometimes they sounded very faint and far away, and then again they sounded louder. At last one voice sung out loud and clear at her very feet, she thought. She started and looked down and all around, but there was nothing to be seen; so she cuddled down again, listening, and again that frog's clear voice croaked out its hoarse note. This time when she looked down, she saw it. It was standing on its hind legs—a very funny sight—looking at her with its great goggle eyes.

"Oh, how do you do?" Angela said, a little startled, but very polite.

"Good morning, mam," said the frog, and his voice was husky and he looked very pale as he stood there trembling. He was frightened almost to death!

"Is there anything I can do for you?" asked Angela, kindly.

"Would you be kind enough, mam, to go with me, mam, for a little walk, mam? I was sent to conduct you to the presence of our Queen, mam."



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The poor little frog was so polite, with all his "mams" and his bowing and winking and gulping, and so comical that Angela could hardly keep from laughing. But she said very graciously, that she would be very delighted to go, whereupon the funny little fellow nearly fell off the step in his delight. He soon recovered himself, however, and became very dignified.

"Be good enough to follow," he said, with a majestic wave of his left foot. Then he squatted down in the usual position of a frog, and hopped briskly along, while Angela followed. Once she almost put her foot on the little thing, and he turned around sharply and said, "Look out where you are going, can't you?"—then as an afterthought he added, "mam."

"I beg your pardon, I am sure," said Angela, meekly. She was going to say more, but the sound of the frogs' voices began to grow so loud that she could hardly think, much less make herself heard.

What happened next and what she saw on her strange visit I will have to leave till next week to tell you.

(To be continued.)

THE INDEPENDENT OIL-REFINING COMPANY.

We direct special attention to the initial announcement made in the Kansas Farmer of the Independent Oil Refining Company of Kansas, located at Erie, Kans. This company is offering a very attractive proposition to investors. The combination of real estate and stock in the refining company is now offered at such a rate that investors take but little chance of loss with a brilliant prospect for a good speculation. The officers of the company are J. W. O'Neill, president; W. H. Wasson, treasurer, both residents

of Topeka and prominent business men who have the entire confidence of the community in which they live. Mr. O'Neill was receiver of the Topeka Water Company for a number of years, until its recent purchase by the city. The secretary, C. E. Shaffer, Erie, Kans., is in active charge of the properties. He is well known as a practical oil man and a successful and prominent business man of Neosho County. A company with such a well known personnel gives every assurance to the investing public that its affairs will be prudently and honestly managed.

Recently, the Independent Oil Refining Company purchased a tract of oil land adjoining the city of Erie and laid out a tract known as the Refinery Addition to Erie. Every purchaser of 2,500 shares of stock will be presented with one of the lots and in addition the company gives a certificate of deposit for \$100 in one of the strong loan companies of the State, payable in ten years without interest. Thus at the end of ten years the investor has 2,500 shares of stock, one lot and \$100 in cash, so that during this interim the investor is out only \$50 for the risk taken on the investment, making it a very attractive proposition.

On May 20, C. E. Shaffer, secretary of the Independent Oil Refining Company, received the following communication from Will L. Newell, mayor of Erie, Kans.:

"The city of Erie welcomes your great company to its rich oil field, the great in the great commonwealth of Kansas. The beautiful site (200 acres) purchased by your company, lying as it does in the forks of the two great railway systems—the Atchison, Topeka and Santa Fe and the Missouri, Kansas and Texas—and adjoining our beautiful city, the county seat of Neosho County, which produces more oil than any other county in the State, is an ideal spot for a refinery. As a city we shall do all in our power to aid your most commendable enterprise. Our many oil-producers hail your coming with delight, and we bespeak for them a most hearty support. With the substantial and conservative business men behind your company, it will prove a benefactor both to the stockholders and to oil-producers and consumers. Oil refineries are money-makers. Success is perched upon your banner."

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No other separator has this advantage, and that is why no other can skim as close as the U. S.

Our free booklet fully explains and illustrates this feature. It shows, too, the easy-to-fill milk tank, the enclosed light running gears, and self-oiling device found in the U. S. It makes mighty interesting reading. Drop us a line now while the matter is fresh in your mind, and we will send you the booklet by return mail.

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I. W. DUMM PUBLISHING COMPANY
Kansas City, Mo.

THE FIRST FIFTEEN CARLOADS OF UNCLE SAM CHERRYVALE PIPE-LINE WILL ARRIVE AT

Other Shipments will Follow Immediately. Cherryvale Plant will be Refining Oil Completed, Company will Have Capacity Enough to C

Money Invested in this great enterprise will increase in solid values twenty fold. Franchises from eight Kansas through to the navigable waters now secured. Construction wor

RIGHT through the richest farm lands of the Sunflower State, the Uncle Sam pipeline will lay down to thousands of Kansas homes nature's own fuel at reasonable prices until it reaches the banks of the navigable waters where Refinery No. 2 will be completed, when down the Missouri River to the Mississippi and over the Ohio, Tennessee and other navigable waterways fuel, refined and lubricating oils will be marketed by steamboats to the greatest manufacturing centers of the Union, and, if necessary, the company can float its oil to the ocean steamers unhampered and free, regardless of any railroad robber rates or criminal rebates or Standard Oil conspiracies.

Pipe Line Will Pay for Itself in Eighteen Months.

There is only one safe way to engage in the oil refining business. That is to own and operate your own pipe lines. This is the reason the Uncle Sam Refinery is crowding the work on the pipe line to navigable waters. The company, as above stated, has the right of way already secured. Fifty-five miles of the pipe is now ordered and will be on the grounds in thirty days. There is no speculation about building this pipe line. There is twice over the present pipeline facilities from the Kansas and Indian Territory oil fields. There is plenty of room for two or three more pipe lines. The Uncle Sam pipe line figured on a conservative basis will pay for itself in the saving of freights in eighteen months. Now is this not conclusive proof that when we say the stock of this company will increase twenty-fold that we are making a conservative estimate? Why not invest \$2,000 for 25,000 shares now before the work develops so far as to increase the real values several fold? Don't delay, thinking work will not walk right along, for things are moving down this way.

Fifteen Carloads of Uncle Sam Pipe Line Now on the Road to Yates Center, Kans.

The pipe from the East will be unloaded at fifteen different points along the line at once. The first shipment of fifteen carloads of pipe is now on the road from Wheeling, W. Va. It will arrive in Yates Center, Kans., some time during the next six or ten days. Don't wait until a regiment of men are laying this line, and until the Uncle Sam Company secures 10,000 acres more oil lands, but secure stock now while it is selling at a price that is bound to greatly increase in solid values and make you good money. You can secure 50,000 shares for \$4,000. If this is more than you can bite off the company is glad to welcome the small stockholder as well as the large. You can secure 500 shares for \$40, or buy on installments offered in this announcement.

Stockholders in Every State and Territory in the Union and in the Dominion of Canada and Old Mexico.

The Uncle Sam Company is securing almost unlimited financial aid from the four corners of the country. Remittances have poured in for stock in this company from almost everywhere, until now there are stockholders in this company from every State and Territory in the Union, and also from the Dominion of Canada and Old Mexico. Big deals are pending in a hundred differ-

ent money centers and the days are limited that any one can secure stock under 25 cents per share. Better act at once and secure 5,000 shares at \$400. When you invest at this price you will pay no more than hundreds of other investors, a great many of whom have been on the grounds.

Cherryvale Plant Will be Turning Out Refined Oil in Six Weeks.

The Uncle Sam Company has been doing things from the word go. Never has the onward rush of the rapid progress been delayed one minute. Machinery has been coming in every day by the carload. From fifty to ninety men have been steadily at work for the past six weeks. Now the plant is fast nearing completion and it will not be over six weeks until it will be running to its full capacity. When you buy stock in this company you join an enterprise that is doing things. You can buy ten thousand shares now for eight hundred dollars, while in thirty days you will not be able to secure the same stock for even fifteen hundred dollars.

Right of Way Secured Across Kansas Counties.

The people of Kansas are so interested in seeing the great Uncle Sam refineries and pipe lines completed that special meetings of the boards of county commissioners met in eight different counties and promptly granted franchises permitting right of way for the Uncle Sam pipe line. Business men and farmers along the line are preparing to build lateral lines to the different county seat towns, making one central distributing point, to secure fuel oil. The company will have connections in the line every ten miles and will lay down to thousands of Kansas homes nature's own fuel at living prices, free from any robber freight rates or criminal rebates. This Uncle Sam Company is a Kansas proposition, backed by Kansas men. It is a proposition which Kansans will be always interested in and therefore protection will always be guaranteed by the strong arm of the State. Better secure one thousand shares of stock in the company now at \$80 before the price doubles in value.

Personnel of the Company.

James Ingersoll, president.
J. H. Ritchie, vice president.
H. H. Tucker, Jr., secretary and treasurer.
The above men promoted and placed on a dividend-paying basis the great Publishers' Oil Company of Cherryvale. The great bulk of the stock of the Publishers' Company was sold at from 8 to 12 cents per share. This stock steadily advanced until it reached 35 cents per share and was taken off the market and you can not buy out a single one of the above men to-day even at \$1.25 per share.

Protected by the Strong Arm of the State—Backed by the Press, Pulpit and Public Approval in General.

The Uncle Sam refineries and pipe line is a child of the favorable Kansas legislation of last winter. It is the only strong and progressive pipe line and refinery company backed by independent capital in the State that is really what you could term in a position to take care of itself. Everybody is for it. The public in general wishes for its grand success and such conditions as these are what brings success.

Financial Condition of the Company.

Authorized capitalization is ten million dollars. Every share of the stock draws the same amount of dividends as any other share. Par value is \$1 per share. Stock is non-assessable. There was no deadhead stock in this company. Every share has been sold for cash from the start. There are now remaining in the treasury five million, five hundred and fifteen thousand shares. This stock is in good demand at 8 cents per share. For the past thirty days the average cash daily remittances have run over fifteen hundred dollars per day. The company now has over two thousand stockholders scattered all over the United States and in Mexico and Canada. Every stockholder is interested in pushing the company on to greater successes. There are now subscribed in the form of installments on stock which are gilt edge and all will be paid in during the next five months, over eighty-four (\$84,000.00) thousand dollars. Thousands of dollars are now in the treasury. The company is discounting its bills, is paying as it goes. It will continue this policy. The pipe line to Kansas City will be built just as we see our way clear to pay for it. We may be four months and we may be a year, but she will be built, and when she is completed it will belong to the stockholders of this Uncle Sam Company, not some bondholders or money shark lender. There are big deals pending on the stock at present. The company is in communication with over three thousand prospective investors. We will cut this statement short by saying if you want any of the stock of this company you had better secure it as quick as you can get your draft or check here, for it is going fast and the company is solvent, solid and a certain winner and is under the management of business men and will pursue a safe business course straight through.

Reasons Why This Stock Will Go Above \$1.00 Per Share. There Are Assets Back of This Stock and Here Is What They Are:

The company owns and controls over seven thousand acres of oil and gas lands, eighty-eight oilers, four pumping plants,

has miles of lateral pipe lines completely connecting the bigger part of the Cherryvale field with the refinery. It is now pumping oil every day, hour and minute into great storage tanks. The company has thousands of barrels already in storage and a room for thousands of barrels more. One of the great storage tanks has a capacity for 37,500 barrels. The refinery at Cherryvale is now nearly ready to commence turning gold into the treasury. A big tar still is now being added. Carload after carload of valuable machinery has been arriving at the company's grounds for the past six weeks. The company owns a splendid twenty-acre refinery site right up against the city of Cherryvale, has railroad switch completed. Has water lines and pumps completed. Owns never-falling water right within a quarter of a mile of the refinery. Has room on proved grounds for over ten thousand producing oil and gas wells. Owns fifty-seven acre refinery site at Kansas City. This tract of land has every advantage for a refinery. Company has right of way to this site for a pipe line and pipe is now on the road and the line will be completed fast as workmen can crowd the work. Have the oil, have surrounded our consuming territory for refined oil with hundreds of stockholders who will be doubly interested in helping the company sell their product at a handsome profit. The capacity of the two refineries and pipe line will be enough to net the company twelve thousand dollars a day with oil at present prices. This is no child of a company; it is strong and is growing stronger, paying as it goes will make great dividends and stock is certain to go past \$1 per share and continue to grow in value.

References.

The Montgomery County National Bank, Cherryvale, Kans.

The People's National Bank, Cherryvale, Kans.

Cherryvale State Bank, Cherryvale, Kans. In addition to the above bank references you know of a prominent business man, Cherryvale, who writes to him. In addition to these references the company has had the endorsement of over fifty leading and influential daily and farm papers of the United States that have had personal representatives on the ground. The Uncle Sam will not run an advertisement in a paper unless that paper will first make investigation of the moral support of the paper go with advertisements of the company. We could give a list of 500 men and papers of the United States who know this company is doing all it advertises, and that is saying a good deal. The facts are the Uncle Sam Company is pretty near "it" when it comes to independent development at present the oil fields, and if you will investigate you will conclude that "it" would be a good thing to buy stock in. There are no swindlers connected with the management.

OIL FOR KANSAS' ROADS.

(Continued from page 595)

of oiled earth. At the present time both railroads and wagonroads in Southern California are in a very bad condition because of these facts and it has been found necessary in the case of the railroads, for the section-men to tap the water reservoir with their picks at the sides of the shoulder whereon is laid the ties.

The selection of the oil for surfacing roads is of the highest importance. None is suitable except that which contains a high percentage of asphaltum. The State Mining Bureau of California publishes a table which gives the asphaltum value of oils from different localities. That from Santa Barbara contains 85.5 per cent, Los Angeles 42.2 per cent, Beaumont, Tex., 11 per cent, Colorado and Kansas none. The best and simplest way to test the road-making value of oil is to evaporate a weighed sample down to the hardness of commercial D asphalt in an open metal dish, and then weigh

the residue. This gives at once the original asphaltum found in the oil, which becomes a residue by the evaporation. While these conditions are not exactly the same as those which would obtain by the evaporation of the oil on a road-bed, they are practically so, and the results would be identical.

In the absence of any oil in Kansas with a suitable asphaltum base, it would be necessary to either import or dissolve asphaltum in that already at hand. In either case the process would be expensive. The city of Manhattan, through its commercial club, made a thorough investigation of the proposition to oil its streets and adjacent highways, and found it to be not feasible and therefore abandoned it. Experience in the oil regions of Kansas shows that use of Kansas oil on the earth of the ordinary public highway does not result in any material advantage, and does have some serious drawbacks. It is to be hoped that those in authority will

thoroughly investigate the proposition before incurring any great expense.

WOULD SETTLE IN NORTHWESTERN KANSAS.

EDITOR KANSAS FARMER:—I would like to have your opinion through the valuable columns of the KANSAS FARMER, on the homestead land in the northwestern part of the State.

Would you deem it advisable for young men with a few hundred dollars capital to go out in, say Thomas or Wallace Counties, and take up such land? And where could I find the records of such homesteads?

Osage County. F. W. GOLDBECK.
The United States land office, which has charge of the lands in Northwestern Kansas, is located at Colby, Thomas County. Hon. A. H. Blair, register, may be addressed for information.

The western portion of Kansas is receiving many new settlers. If these can conform their farming to the

methods, not of the country they are leaving, but of that part of the State, and are industrious and frugal, they will probably have no cause for regrets. Young men of Osage County with a few hundred dollars capital ought to possess the qualifications needed.

Perhaps KANSAS FARMER readers in the counties named can write to the paper concise information that will be valuable to intending settlers.

BEST WHEAT IN THE WORLD.

In Kansas City last Monday, J. W. Turner, a flour merchant of Hamburg and London, said:

"There is no wheat anywhere in the world so good as Kansas wheat. Everywhere in Europe American wheat stands high in the estimation of the people, but Kansas leads the world. There's nothing like it; no other wheat with so much gluten, so much muscle and nerve-building stuff in it. It has become so popular in

CHERRYVALE-KANSAS CITY REFINERY AT YATES CENTER, KANSAS, EARLY NEXT WEEK

Inside of Six Weeks. With Both Refineries in Operation and Pipe-line Completed to Clear Twelve Thousand Dollars Per Day.

Kansas county boards of commissioners, granting the right of way for the 189 miles of pipe-line clear work commences forthwith and will be pushed with vim.

Oklahoma petroleum and equitable prices. This great stock company is banding together, fighting for a market for a home product. They offer to every investor in the state that will increase twentyfold and at the same time. The company now has stockholders in Oklahoma and Mexico.

REFUSING to stand idly by while a band of foreign thieves pillage and confiscate the rich oil industry of Kansas, this great refinery and pipe line company is cutting her way through to success on Kansas soil, building a market for a Kansas product, backed by the strong arm of the State, supported by the people, the pulpit and the press, while from all over the United States unlimited financial aid is coming in on every mail, cheering and crowding the good work along. Money invested in the stock is safe because the people in general are behind it. Price on next allotment will be 15 cents per share.

NOW IS THE TIME TO BUY YOUR STOCK

For a few more days the Uncle Sam Company will sell Treasury Stock as follows:

500 Shares,	\$40.00	2,500 Shares,	\$200.00
1,000 Shares,	\$80.00	5,000 Shares,	\$400.00
1,500 Shares,	\$120.00	10,000 Shares,	\$800.00
2,000 Shares,	\$160.00		

The Stock is Non-Assessable, and the par value is \$1.00 per Share.

The time to invest in a company is when that company is selling its ground floor stock. When you buy stock in the Uncle Sam Company at \$80 per 1,000 shares, you pay no more than hundreds of other investors. The company is strong now, and is hourly growing stronger. By September 1st you will see this stock up close to the dollar mark. Why not help yourself, and also this company, by remitting to-day for at least 1,000 shares of stock?

INSTALLMENT OFFER GIVES EVERY MAN A CHANCE.

The Uncle Sam Company would rather have ten men go together and take one thousand shares each than to have a few men take a large amount of the stock. The company wants men who have a vote and who will stand by the company when it has criminal discrimination to contend with. Better see your friends and raise a club and take ten, fifteen or twenty thousand shares right now.

Subject to raise without notice the company will sell stock as follows on installments:

500 shares \$5 cash, with 5 monthly payments of \$8.	4,000 shares \$40 cash, with 5 monthly payments of \$64.
1,000 shares \$10 cash, with 5 monthly payments of \$16.	5,000 shares \$50 cash, with 5 monthly payments of \$80.
2,000 shares \$20 cash, with 5 monthly payments of \$32.	10,000 shares \$100 cash, with 5 monthly payments of \$160.
3,000 shares \$30 cash, with 5 monthly payments of \$48.	20,000 shares \$200 cash, with 5 monthly payments of \$320.

the company. It's just a plain Kansas man-agement, working for success and fighting for a market for a Kansas product, and contends that any man or company has a right to engage in the refining and selling of oil without the CONSENT of any foreign, thieving corporation or combine.

From Three to Five Dollars Per Barrel Profit in Lubricating Oils.

There are very great profits in lubricating oils when a market can be secured for the same without paying excessive freight. The Uncle Sam Company proposes to be in a position to not only secure a market, but to reach that market without spending the profits in robber freight rates made by the oppressive Standard combine. From the river fronts the company can enter the big manufacturing centers of the United States. One-fifth of the population of the Union can be reached from these waterways. From the Missouri, Mississippi, Ohio, Tennessee, and other navigable rivers the company from the Kansas City plant can market the oil with boats at little expense. Now we have the oil to start with, will soon have pipe line completed, where on earth can you secure a proposition more practical, one that shows more good horse sense, one that of-

fers one-tenth the gain on the investment? The company has one of the best refinery men in the United States as its superintendent. It will maintain its own telegraphic wires, own its own steamboats, and from 1,000 feet under the ground, take the oil through its different stages until it is burning in your lamp or running your machinery.

Fifty-Seven Acre Kansas City Refinery Site.

The Uncle Sam Company owns in fee simple one of the best and most desirable re-

finery sites near Kansas City. It consists of fifty-seven acres, is three miles nearer the manufacturing center of Kansas City than the Standard Oil Company. This fifty-seven acres fronts on the Kaw River. Is only a few feet to a rock road leading right into Kansas City. It is on the bluff side of the river, so there is no danger of floods. The land is paid for. No debts or mortgages are allowed to hang over the Uncle Sam property. You will see the stock of this company selling readily for 75 cents per share when the pipe line reaches this line. You can not keep the price of stock from advancing when rapid development is in progress like the Uncle Sam is showing.

HOW TO SEND MONEY

Make your checks, drafts or money orders payable to the Uncle Sam Company or to H. H. Tucker, Jr., Secretary. Write your name plainly, tell us how, or to whom you want the stock issued, and we will forward stock by return mail, and also send you weekly report thereafter, thus keeping you fully posted. Address,

H. H. TUCKER, Jr., Sec., Cherryvale, Kan.



the Continent as well as in Great Britain that flour dealers have to carry it regardless of the price or profit."

WASHBURN COLLEGE.

The catalogue of Washburn College, Topeka, Kan., for 1904-5, shows a total attendance of 663. Not many years ago this would have been a great attendance for even a State institution. The effort of educators to extend the benefits of higher education to increasing numbers of the young people who are preparing to assume the burdens in the near future is laudable. But no institution should grow so rapidly as to eliminate the manifest advantages of the smaller college before attaining the ability to substitute the advantages of the larger.

Washburn College is typical of the several denominational schools of the State, all of which are trying to maintain the proper development of the moral and religious with the intellectual elements in the students. These

schools are not making a specialty of educating ministers, but are giving a broad general culture, useful in every walk of life. Their equipments for teaching physical sciences are not equal to those of the State University, neither are they prepared to compete with the Agricultural College and the State Normal in their specialties. These denominational schools are, however, doing well the kind of work which, done by older schools, has contributed to the greatness of the great men now on the stage of action.

The development of Washburn College during the last few years has been rapid and substantial. Its buildings have multiplied to meet the increased attendance. The new astronomical observatory, with its splendid telescope and other apparatus, gives the school a distinction. The new library is a model of its kind. Each of the various departments is placed under ambitious leadership. The influence of the school is refining and ennobling.

The work of education at the Kansas University costs less than at most other like State institutions. It is officially stated that the average cost paid by the State is \$199 per student. Washburn College and the other denominational institutions find means of providing instruction without asking the Legislature for appropriations. Kansas does well to support her State institutions liberally; but the people of the State will always appreciate the private liberality that provides from its own resources educational advantages preferred by many to those the State has to offer.

WANTS PLANS FOR GRANARY.

EDITOR KANSAS FARMER:—Will you please send me, or tell me where I can get plans for a granary, also out-buildings in general for a farm.

G. E. IRVIN.

Woodward County, Okla.

The latest book covering this subject is "Farm Buildings," published by the Sanders Publishing Co., Chicago. An

older work is "Homes for Home Builders," published by the Orange Judd Co., New York. Neither of these contain full plans for a granary.

If our correspondent will indicate the capacity required, the materials he proposes to use and such details as he has in mind, the KANSAS FARMER will render such assistance as it can. Doubtless many FARMER readers can send sketches of what they have, or better, what they would build if they had it to do again.

The only wealth is life; the only way to make the best of this world is to make the best of the other. For the two are one. The highest gleams ever through this lower. The pilgrim to the better country, is the man who, living or dying, knows the bliss of perpetual youth.—J. Brierley.

MANURE-SPREADERS.

If you expect to buy a spreader, you can get information of value by addressing Box 286, Waterloo, Iowa.

In the Dairy

Experimenting with Dairy Cows.

Excerpts from Bulletin No. 125, Kansas Experiment Station, by D. H. Otis.
(Continued.)

Effects of Condimental Feeds on the Test.—Manufacturers of condimental stock foods sometimes claim that their foods will materially increase the percentage of butter-fat. The Kansas Experiment Station tested two of these feeds for milch cows during the fall and winter of 1900-'01. Accurate account of the yield and test of the milk was kept, and in no case were we able to find any material increase in the percentage of fat that could be attributed to the stock food.

Variations in Test Due to Excitement.—In April, 1898, the Agricultural College bought twelve head of cows from Lincoln County. They were loaded on the cars in the afternoon and arrived at Manhattan, a distance of 100 miles, in the night, and were unloaded

jumped to 7.2, and then to 11.1 per cent, a remarkably high test. The greatest difference between consecutive milkings is 5.7 per cent. She then gradually decreased, until the test became normal at her ninth milking.

No. 29 made a remarkably high test at her fourth milking, an increase of 7.2 per cent over the previous milking, the greatest difference yet noted. She continued to fluctuate until her ninth milking.

No. 32 shows the greatest fluctuation between the second and third milkings, a difference of 3.9 per cent. While this cow reached her normal test at the seventh milking, she continued to fluctuate as much as 1 to 1.5 per cent until April 24, the nineteenth milking.

During January, February, and March, 1902, the Agricultural College received nine cows from as many different dairymen in various portions of the State. As these cows came from various distances, and were on the road different lengths of time, the variation in their test is interesting. This variation is shown in the following table:

Time.		Clover Leaf.			Daisy Belle.			Rose of Industry.		
		Milk yield.	Butter-fat test.	Solids not fat. per cent.	Milk yield.	Butter-fat test.	Solids not fat. per cent.	Milk yield.	Butter-fat test.	Solids not fat. per cent.
First day	A. M.	8.1	4.2	8.08	11.2	5.4	6.67	13.9	4.7	8.91
	P. M.	13.2	6.0	8.06	1.4	13.21	10.21	9.4	8.2	8.64
Second day	A. M.	11.6	3.6	8.62	3.1	7.4	8.55	11.3	5.2	8.41
	P. M.	14.9	3.1	8.53	6.4	5.1	7.94	12.8	6.6	8.57
Third day	A. M.	12.3	2.8	8.56	6.5	4.6	7.59	12.2	5.7	8.51
	P. M.	15.3	3.5	8.95	6.4	4.8	8.33	12.8	4.7	9.06
Fourth day	A. M.	10.6	3.6	8.47	6.4	4.4	8.73	12.2	5.5	7.51

in the stock yards. The next morning at 4 o'clock they were driven to the college and milked. An accurate record was kept of the weight and test of each cow for each milking for a period of about two weeks. The tests of five of these cows are presented in a table given below:

From this table it will be seen that Clover Leaf started with a 4.2 per cent test the first milking, raised to 6 per cent the second, dropping to 2.8 the fifth milking.

Daisy Belle started with a test of 5.4, which was raised to 13.2 the second milking, then gradually fell until

Cow No.	Time.	Apr. 15. Apr. 16. Apr. 17. Apr. 18. Apr. 19.					Time required to re-return to normal.
		A. M.	P. M.	A. M.	P. M.	A. M.	
23.....	A. M.	3.0	3.6	2.9	3.1	3.1	Sixth milking.
	P. M.	7.2	2.6	3.4	3.4	3.4	
24.....	A. M.	1.0	1.2	4.9	2.7	2.9	Tenth milking.
	P. M.	0.9	4.5	4.2	3.2	3.0	
26.....	A. M.	1.5	2.4	7.2	5.4	3.9	Ninth milking.
	P. M.	2.0	3.7	11.1	4.8	4.2	
29.....	A. M.	1.1	3.4	4.1	3.3	4.1	Ninth milking.
	P. M.	1.2	10.6	6.1	...	4.4	
32.....	A. M.	1.5	5.6	4.5	4.1	4.0	Seventh milking.
	P. M.	1.7	6.8	4.8	5.8	5.0	

Cow No. 23 showed a difference of 4.2 per cent between milkings.

Cow No. 24 started out with a test of 1 per cent, decreased to 0.9 per cent the second milking, raised to 1.2 for the third milking, and then jumped to 4.5, an increase of 3.3 per cent from previous milking.

Cow No. 26 began with a test of 1.5 per cent, and gradually increased until the third day, when she suddenly

she became normal, about 4.4 per cent. Here is a difference of 7.85 between two consecutive milkings. It is interesting to know also in this connection that the amount of milk varied from 11.2 pounds the first milking to 1.4 pounds the second milking.

Rose of Industry started with a test of 4.7, which was raised to 8.2 at the second milking, after which it fell, and finally became normal at about the eighth milking. This cow was shipped more than twice as far as any of the others, was on the road five times as long, and yet she did not vary as much as Daisy Belle, who was on the road only twelve hours.

(To be continued.)

Milking Machines.

A Scotch writer gives the following historical sketch of the development of the milking machine in Scotland.

The want of mechanical milkers has long been felt, not only in Scotland, but, perhaps, to a greater extent in the Colonies, where dairies are much larger and labor even scarcer than with us. For about a dozen years, engineers, plumbers, and practical dairymen with a liking for mechanics, have been endeavoring to find a means to extract the product of the udder which would supersede the action of the human hand. Obviously, the end contemplated involved the simulation by mechanical means of the action of the lips and tongue of the calf when sucking its dam. No very profound knowledge of cows was needed to prove that this end was not likely to be easy of attainment. The first attempts at constructing mechanical milkers, curiously enough, did not attempt the solution of this problem, but rather the discovery of means whereby the milk could be extracted without the simulation of the pulsating movement involved in sucking. The first milking machine known to us was the joint

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work of Mr. Nicholson, a practical dairy farmer at Bomble, Kirkcudbright, and Mr. Gray, a well-known dairy utensil-maker in Stranraer. Their machine, undoubtedly, drew the milk from the cows by means of a continuous power of suction, and it was fitted up in quite a number of the most important byres in the south of Scotland. Eventually, however, the installations fell into disuse, and I am not aware of a Gray-Nicholson machine being now in operation anywhere in Scotland. The labor expended and experience gained were, however, not in vain, for those who were instrumental in putting this pioneer machine upon the market have continued to speculate and experiment with the result that one of the latest mechanical milkers was a good many of its successful heirs to Mr. Nicholson, who has the double advantage over most experimenters in this line of being a practical dairy farmer who can milk cows with the best hand-milkers, as well as being an engineer. Of this, however, later.

The next attempt at producing a mechanical milker was made, and made with large promise of success, by William Murchland, plumber and sanitary engineer, Kilmarnock. This machine still lacked the simulation of the calf-motion in sucking, but, although the milk was drawn in a continuous stream, the teats were not damaged, and the arrangement of the tubes, teat-cups and pail was such that the milk was kept pure and clean. The Murchland machine was fitted up in many leading farms in Ayrshire and elsewhere, and many were favorably impressed with the excellence of its work. In a competitive and exhaustive trial, carried out a few years ago by the Highland and Agricultural Society, the Murchland machine came against the "Thistle" milker, the first in which the pulsating movement of calf's lips and tongue was cleverly imitated, by the construction of an India-rubber teat-cup, and the action thereon of the pulsating movement of a vacuum pump. This "thistle" milker was patented by Dr. Shiels, an extremely clever and ingenious medical man in Glasgow. Associated with him was his brother-in-law, Mr. William Elliot, salesman, Lanark Market, and to them, so far as I know, belongs the credit of being the first to bring out a mechanical milker in which the pulsating teat-cup played an important part. In fact, the "Thistle" milker, although eclipsed by the "Murchland" in the H. & A. S. trials, for a reason to be immediately mentioned, established a principle in the making of these machines which is not likely to be superseded. That principle is the simulation of the motion of the calf when sucking its dam. But in the "Thistle" this result was obtained at an excessive cost in power, and the method of tubing was such that the milk did not "keep" for any length of time. It was in this respect that the "Murchland" fairly excelled. On the "keeping" test in the Highland Society trials, victory lay unmistakably with the "Murchland," the cost of which, in every respect, was much less than that of the "Thistle." The distinguishing feature of Dr. Shiels' ingenious patent was thus purchased at such a cost of power and mechanism that, while it drew the milk from the cow in a way which which simulated nature, the milk, when drawn, did not escape contamination, and its keeping qualities were at a minimum. The India-rubber tubing must be thoroughly washed and cleaned, otherwise milk passing through it will be contaminated. Those who would improve on the "Thistle" must keep this in view, and also secure the desired end with a minimum expenditure of power.

On the other hand, there are difficulties to be overcome in machines of the "Murchland" type, of another order. The danger of the continuous suction is the possible damage to the teats, and the risk of drawing blood after the milk has been stripped from one quarter of the udder, but not from all. It ought to be stated that one of the leading experts in Scotland does not share this view. In conversation with him, he adhered to the opinion that the keeping qualities of the milk were

still better after hand-milking than after milking with any machine now on the market, and view is based on practical tests and experiments made by himself. He says that a machine like the "Murchland," in spite of the absence of pulsating movement on the udder, gives the best results, and the continuous suction need not harm the teats. I can not say that I share this view. It does not appear to consist with common sense or practical experience. In conversation with Mr. Nicholson, who has devoted immense labor and pains to the elucidation of the problem of mechanical milking, I find that he shares my own opinion. A pulsating teat-cup appears to him to be indispensable to any successful attempt at the mechanical milking of cows.

The two milking-machines which promise best for the future have still to be referred to. The first is the Lawrence-Kennedy "Universal" milking machine. Those responsible for this machine were more or less closely identified with the Shiels-Elliot "Thistle" machine and as a matter of fact, the law courts have been asked to decide whether the Lawrence-Kennedy be not an infringement of the "Thistle" patents. I understand the decision to be in the negative. But that is not a practical point which need concern the public. It is claimed for the "Lawrence-Kennedy" milker that milk drawn by it is absolutely pure, and keeps longer than hand-drawn milk. In support of this, various testimonials are submitted, and the Dundee City analyst certifies that he has tested two samples of milk for the purpose of settling the point. The result is wholly in favor of the machine-drawn milk, the sedimentary material in it amounting to not more than one-tenth the quantity found in the hand-drawn milk. This view is disputed by my friend, who has been making the tests on his own account, and also thinks it erroneous to say that no impure matter or bad odors can possibly enter the milk-pail. He has found both and is of opinion that a good deal has yet to be learned regarding the ways by which such things find their way into the milk.

On the whole, however, the "Lawrence-Kennedy" has proved the most successful of all the milking machines yet offered publicly. Nearly 800 installations have been fitted up in New Zealand. The cost of an installation is from £50 for a herd of, say, 15 cows, up to £150 for a herd of about 100. Mr. Andrew Clement, the well-known cheese merchant, has had the machine in operation in his dairy of 40 cows, at Netherton, near Glasgow, for 2½ years, and confidently recommends it. He has not had a single case of "weed" or wrong quarter during that time, and I can testify that the cows in his herd are on the best of terms with the machine. Another dairy farmer, Mr. John Kinross, Riding Court, Datchet, Berks, has had an installation operating for a considerable time, and Mr. Robert Renwick, Buckley, Glasgow, who milks 70 cows, and is widely known as a thoroughly practical man, has had the machine in operation for five months, and speaks of its work in the highest terms. He has not a cow with an injured teat in his herd and the machine operated as successfully with small teats as with full-sized teats. The testimonials in favor of the "Lawrence-Kennedy" machine are admirable, and speak for themselves.

Only one question is left a little in doubt: Does the machine strip the cows? or must each cow's udder be "stripped" by hand after the machine has been removed? This question is vital. A cow which is not milked clean will speedily go dry, and the strip-pings are the best of the milk.

At the Castle-Douglas show, recently held, the latest milking machine was on exhibition. It has been brought out by Messrs. J. and R. Wallace, agricultural engineers, Castle-Douglas, who have had the advantage of seeing the machine handled and operated at successful stages of its development, by Mr. Nicholson, to whom reference has already been made. The Wallace machine has the pulsating motion, but this is applied in another way than in

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the "Lawrence-Kennedy," and it is possible the most recent machine may, when fully completed, prove the best of the lot. It has been in operation at Mr. Nicholson's farm at Castlecreavie, Kirkcudbright, for nine months, and its specialty is that there is a motor attached to each cup, so that it may be called the motor-cup machine. One pipe does in this case for atmosphere and milk, the little motor discharging its air into the interior of the teat-cup, and thus assisting the milk into the receiving vessel. One great advantage in this case is the ease with which the efficiency of the machine can be tested. It is not necessary to fit up an installation, as a trial can be got by merely attaching the teat-cups to two cows, and enough power to set the whole in motion can be generated by a hand pump.

The Wallace machine is not yet on the market commercially, but the favor with which it was viewed at Castle Douglas recently and its comparative simplicity, make it certain that it is a force to be reckoned with.

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Dealer.—"Yes. But wouldn't you look nice trying to ride a milch cow around here?"

Farmer.—"Well, I don't know as I would look any worse than I would trying to milk a bicycle."

Appreciative.

EDITOR KANSAS FARMER:—Enclosed find stamps for an extra copy of the May 18 issue, giving the Hegelund method of milking. I can not refrain from complimenting you for your fine and practical paper. The above issue giving the Hegelund method, if practiced on my 22 cows, will make an extra yield of \$71.28 per annum according to the average increase where this valued method is practiced.

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The Poultry Yard

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The Hens Don't Lay, and the Chicks Die.

EDITOR KANSAS FARMER:—In this poultry business if there were no bitter to mix with the sweet, the sweet would eventually sour. We must, to succeed, gather lessons from failures as well as from success.

Every year thousands are trying new breeds to better their luck, but in this rush to get something better, a great many overlook the cause of failure with the kind they already have. Let us go down deep and collect the things leading to bad luck. Let us make some comparisons, let us compare poultry with people.

Every year the railroads and passenger ships are taxed to carry people looking for health. Trains loaded with people meet trains loaded with people, and most of them are looking for health, or rest, which is about the same thing—looking for new conditions and surroundings.

I remember once of living some sixty miles from a noted mineral spring. It was the fashion for ailing people to go in covered wagons and camp out; a month would make new people out of them. An old doctor told me that the most of the cure was in the camping out and I believe it.

Now, about hens. I venture to say that no one ever moved a flock to a new farm or new quarters who did not notice an improvement—more eggs, more hen-songs. I have seen it claimed that fowls raised from eggs shipped from a distance did better than fowls from eggs gotten from home. It is going deep into a theory, but I verily believe there is some truth in it.

A party in Wisconsin was going to move to a new farm in South Dakota. In a letter she expressed regret with the idea of parting with her flocks of White Wyandottes and White Leghorns. I wrote the lady to take the hens along, that they would more than make up the freight when they got to work in a bug-paradise, a new farm. Later on, the lady, Mrs. Mattie Webster, of Woonsocket, S. D., wrote me that her flocks were more than coming up to her expectations.

Hens confined to the same range and monotonous surroundings month after month, and year after year, get tired. Some camping out would cure them. As a substitute for camping out, plowing up the ground, moving the hen-coops, etc., is all right. We all know this theory is correct. Why do we not practice it more? Fowls are natural-born hunters. A duck does not take to water any more naturally than hens take to hunting and scratching. Even in the barest yards and the most poisoned dirt surface they can resist scratching and hunting. I have seen them scratch a bare board floor and stone steps.

These same principles apply to small chicks. They are natural hunters; they want to find things, the greater the variety the better. Right about me I see, every day, object lessons, which are definite. As I write this article, there is a bunch of 140 chicks being raised in a show-window, a space 3 by 8 feet. This space is covered with a mixture of chaff, sand, alfalfa-meal and chick food. The chicks are a month old, no sign of leg weakness, no dead chicks.

Then, I know of a pen (a bare pen) 15 by 50 feet that must have a debit of 2,000 dead chickens in three years. The yard is low, sour and poisoned. It would give any person yellow fever, black plague and the jim-jams to stay in that yard for a few hours.

I will write you again some time in the future, but in the meantime think it over for yourself.

Nebraska. M. M. JOHNSON.

Poultry Diseases and Insect Pests.

The poultry industry in New Mexico is practically undeveloped. We fall far short of supplying home consumption, and yet the conditions are favorable for a much greater production.

No doubt, with the development of the industry, difficulties will be met. Diseases and insect pests are chief among the difficulties met in other sections of the country, and, therefore, one would naturally expect such to be the case in New Mexico. It is singularly true, however, that poultry diseases and insect pests have not assumed serious proportions in New Mexico in the past. There is probably no section of the country where, owing to the excellent climatic conditions, so much of success in this industry may be attributed. Much sunshine and a dry atmosphere act as an antiseptic would, and assist materially in preventing the spread of disease.

With a large increase in the number of fowls the difficulties may naturally be expected to multiply, and, therefore, the poultryman must be prepared to successfully meet them, ever keeping in mind the old adage that an ounce of prevention is worth a pound of cure.

In order to assist poultry-growers, the cause, symptoms, and treatment of some of the most common poultry troubles are given very briefly below.

Roup.—This is one of the most common diseases in poultry. It is caused by a bacillus. The disease germs are most likely to attack fowls that are housed in quarters where there is filth, foul air, and cold drafts. It manifests itself by hoarse breathing, swelling about the eyes, and discharge at the nostrils which dries and clogs the air-passages so that the fowl must open the beak in order to breathe. Slaughter and burying deeply is the best treatment, to be followed by thoroughly disinfecting the quarters, and the feeding and drinking-troughs so as to destroy any germs that may remain.

If the fowls are worth the trouble, the following treatment, when adopted in the earlier stages, will usually prove effectual: Dissolve two ounces of permanganate of potash in six and one-half pints of water. Completely submerge the fowl's head in this solution, and hold it there as long as the bird can endure it without choking to death. This will cause it to sneeze, thus forcing the solution through the nostrils when it comes in contact with the diseased parts. Repeat two or three times morning and evening. Next dilute some of the same solution with four times as much water and give the fowls to drink, allowing no other water. Do not mistake a cold for roup.

Cholera.—Caused by a bacteria germ. The disease is taken into the system through the mouth. The symptoms are drooping of the wings, stupor, lessened appetite, and excessive thirst. There is no positive cure for this disease.

The treatment consists of killing and burning or deeply burying all sick fowls. The rest of the fowls should be transferred to new quarters, while the old quarters are being disinfected so as to prevent the spread of the germs. Preventive measures consist in keeping the quarters and the drinking-fountains clean. Disinfect occasionally.

Gapes.—Caused by treatode worms in the windpipe, occurring usually in young chickens. These worms are from 1-5 to 1/2 inch long, reddish color, and found attached to the windpipe. The number of worms may be increased until the fowl is completely choked. These worms are frequently removed by means of a wire or horse-hair doubled so as to form a loop which is inserted into the windpipe and turned until the worms are all removed. A simple method is to dip a feather in turpentine or kerosene, thrust it into the windpipe and turn until the worms are removed. Preventive measures are better than after treatment.

Mites.—The adult insect is of light-gray color, but red when filled with blood. It is seldom found on the chickens during the day-time. The in-

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sects hide in the cracks and crevices of the buildings. The treatment consists of spraying with a 2- or 3-percent solution of carbolic acid or other equally destructive agent. If possible, remove the chickens to new quarters for a time. Spray three times, every third day until the mites are all destroyed.

Scaly-legs.—This trouble is caused by a mite which burrows underneath the scales of the feet and legs, causing an irritation which results in a multiplication of the cells of the epidermis, and, therefore, a much thickened scale. To successfully treat this disease, the scales must first be removed so that the medicine can come in contact with the mites. The legs must be soaked in soapy water until the scales are soft, when they may be removed. Dry thoroughly and treat with the following: Balsam of Peru, two drachms to one ounce of vaseline. Mix thoroughly. The disease readily yields to treatment if the first step, that of removing the scales, has been properly done.

Lice.—The most serious among the poultry lice is the gray louse which attacks young chicks. The lice confine themselves to the head and under the wings and if these parts are greased with clean lard or better, carbolated vaseline, as soon as dry after hatching, the lives of many may be saved. If left until the lice have made the attack it is usually too late.

Coruco.—The coruco is related to and looks very much like the bed-bug, but has not the disagreeable odor of that insect. It infests chicken-houses in Southern New Mexico, and may invade dwellings which are located near infested places. It sometimes goes by the name of "adobe-bug." This name is probably applied for the reason that these bugs are very likely to infest henhouses made of adobe. Such houses afford most excellent hiding places in the cracks and crevices and it is very hard to rid such a structure of the pest. In fact, it is practically impossible to rid ordinary adobe chicken-houses of coruco is the chickens remain in them. If an adobe house is used, it should be plastered within and without, above and below, giving it a hard, smooth surface that will afford no hiding-places for insects. The insects may be killed by fumigating with sulfur if the house is sufficiently tight or they may be killed by an application of oil, or any sufficiently caustic substance, to their bodies. Perfectly smooth walls, cleanliness, and plenty of carbolated white-wash will keep the coruco in check. This is equally true of most insect pests.

J. J. VERNON.

New Mexico Experiment Station.

Southern Oregon—Where Fig and Palm Trees Grow and Fruits, Grasses, and Grains Flourish.

Special Correspondence Kansas Farmer: I am writing this from the town of Medford, Jackson County, Southern Oregon, 329 miles south of Portland, Oregon, on the Southern Pacific railway. It is February 22, but I can not realize the fact by the looks of this country. In fact, I am pinching myself hard to convince myself that it is not mid-May or nearly June, for I am at a place as far north as is Southern Wisconsin and yet the warm summer sky, the hot sun, the advanced state of vegetation of this chosen spot of comfort and happiness—the Rogue River Valley of Oregon—make me forget that this is by the almanac a real winter month. I have walked over the town and enjoyed the flowers and green grass of the yards. I have walked out in the country to the orchards and farms. I have talked with the farmers and fruit growers and am truly filled with amazement at what I see. A mile south of the town I stopped at the farm of the Earhard Brothers. They are big, husky farmer-boys with as fine a farm as ever eye looked upon. Their winter wheat is already five or six inches high, their comfortable home bore every evidence of thrift; but what drew my attention was not the wheat, fine as it was. It was a grape-vine not over six inches through, that covered the house, ran along from tree to tree in the yard, and that must have been over a hundred and fifty feet long. This mammoth vine is the only one they have and its yearly yield is over 5 pounds of luscious grapes. Such is the wonderfully prolific nature of this soil and climate that I find it hard to grasp the wonders that I see in fruit, grain, vegetable and grass. They tell me here that they can always tell an Eastern man by the big, heavy coat he lugs around for the first day or two after his arrival.

I knew before I came that the climate was mild, but did not realize that it verged upon the semi-tropical, but I see every evidence of that fact. Incredible as it may seem, I find the delicate plants and flowers of the semi-tropical climate, actually growing here in the open air and flourishing, too. I drove to the Britt

farm at Jacksonville, about seven miles west of Medford, yesterday, to see the plants and flowers which Mr. Britt has gathered together from the ends of the earth, he being an old settler and having a taste that way. What was my pleasure to see numbers of great fig-trees, with figs yet clinging to them, for I plucked them from the trees myself. This was ten or fifteen feet high. A fan palm was growing in the front yard, and it was at least thirty-five feet high. English walnut trees, Japan persimmon and almond-trees were all around. I inspected a lusty California big tree that was forty-two years old from its setting and at least four feet through and eighty feet high. I was shown a peach-tree set out in 1858 that has never missed a crop in all that time. Mr. Britt told me the only trouble was that it had to be carefully thinned of its fruit every year or it would tear itself to pieces bearing so much heavy fruit.

A mile east I stopped my team to go among and enjoy the cloud of blossoms in an almond orchard bought by a lady from Iowa. The almond-tree is something like a glorified peach-tree. Its blossoms are exquisite and the trees are very hardy in this climate, one being over eighteen inches in diameter and more like a forest-tree than a fruit-tree. The great variety of fruit here must make it a housewife's paradise. A bare-headed babe was on the porch and while I was talking to it the mother, who is from Iowa, came out of the house. I said, "How do you like this warmth and sunshine?" She replied, "Oh, this is heaven; I would not for worlds go back east." This Rogue River Valley is a big country and it is a mass of fine farms in alfalfa, orchards and wheat, and I have had the pleasure of seeing just as good dent corn as sound and thoroughly matured as at the old Illinois home. The summers are so long here that corn is a decided success and it is a paying crop, for it yields thirty or forty bushels per acre and is never less than 45 cents per bushel. While it is raised, it is not extensively so, for the reason that alfalfa and fruit bring very much larger profits to the farmers here.

Some wheat is six inches high, some is just being sown. They sow wheat here at most any time they get ready to. The farmers are all at work in the fields, but it is in fruit and alfalfa that this country is making those immense profits that, though an actual fact, appear almost unbelievable to an eastern man. Alfalfa is already several inches high and growing fast. It is cut three times a year without any irrigation and four times when irrigated; for the rainfall is twenty-seven inches a year and irrigation, while not necessary, is beginning to be practiced because it makes the crops still larger than they otherwise would be. Alfalfa land here brings the farmer about six tons per acre per year and a money price of about \$40 per acre per year. It is paying much better than that this year, as alfalfa hay is now selling at \$10 to \$11 per ton here in Medford.

In this vale of mildness and sunshine is the home of the Spitzenberg and the Newton Pippin apple. These are the big moneymakers. Hundreds, yes, thousands of acres of orchards cover this valley and its encircling foothills, and more are being set out every spring. And I have nothing to show these orchardists in the manner of handling their orchards. I have never seen such system anywhere or orchards in such perfect thrift and condition. In all my travels over this valley of verdure, I have not seen one neglected orchard. It is perfection in orchard management. With apple ripening in autumn, buyers from London, New York and Chicago come to compete for these apples of Hesperides and the competition is keen. London wants the golden Newton Pippins and New York the Spitzenberg. The Newtons have sold for as high as \$2.50 per box right at the tree. This would be equivalent of \$5.00 per barrel as there are fifty pounds in a box and 100 pounds in a barrel. The Spitzenbergs bring a hardly less price. Of course, the profits are away up in the hundreds of dollars per acre. You get as much profit from one acre in apples as you would get off a forty-acre field of heavy wheat in Minnesota or Dakota. The Southern Pacific fosters the fruit industry by rate of 26 cents per hundred for fruit in car lots to Portland and 25 cents on all vegetables.

And do you think this is out of the world? The farmer here has his rural mail delivery, he talks by phone with Portland, San Francisco or Los Angeles, and over this wide valley anywhere and everywhere is a network of electric wires from the big water at Tolo, so that the farmer has electric lights in his barn and his house and electric power on his farm for pumping, grinding and every other need, and at a cost which is simply absurd in its cheapness, for water-power is all over this country and it is cheap power in this mild climate where ice never bothers the turbines.

I find people here from Oklahoma, Texas, from North and South, and such content with their climate and new homes I have never before seen. It is truly the country for comfort in life. For existence in the open air, the sunshine in its genial warmth, the absence of heavy winds, the fine roads and the amazing variety of the things that can be raised contribute to make this a resting place for those who are tired of climatic buffetings and who want rest and content.

But it is not for comfort and pleasure that this country alone is fitted, it is equally for business and money-making that it is adapted. Go anywhere over it and it is truly the land of chosen opportunity. I am just told that there are more stamping mills for extracting gold in this country than of any other place in the United States. All around are placer mines of gold, silver, iron, copper, lead, cinnabar and other minerals with which the surrounding mountains are seamed. The output of gold from the farm is large year in and year out. Even valuable orchards are being torn up because of the gold in the ground under them. Literally billions of feet of majestic primeval forests embrace the mountain slopes yet to yield wealth for man's use. I find the people courteous, kindly and fully up-to-date in all ways. No need

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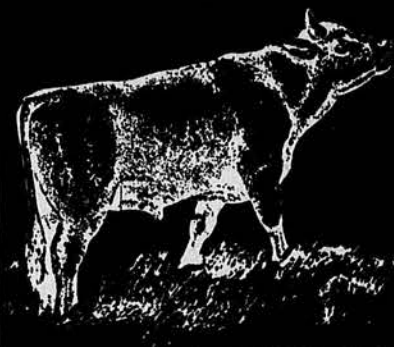
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Miscellany

Wool and Hide Markets.

This being the time of year when dealers are most interested in wool, all who are handling wool are anxious to know what the prospects are. We usually issue a special wool circular ere this. Owing to the very unsettled condition of the market, the fluctuations being greater than at any time since the Civil War, it has been useless to issue a price list, for the prices have been changing $\frac{1}{4}$ to $\frac{1}{2}$ cent per pound almost daily for the past month until within the last few days. Forecasts of the market are more uncertain than the reports from the weatherman, and every one knows what they are. Some buyers for the mills and largest houses have dropped out of the market. Indeed, so far there has been very little bought by woolen mills, it being a speculative dealers' market. In St. Louis, one large lot changed hands three times in forty-eight hours, coming back to the original owner. All know that such a market as that is not safe; it is too much like a real-estate boom. This unusual demand that has been created is based on the supposition that there is a big shortage on wool. Now, suppose this has been greatly overestimated and that there is far more wool stored away or on the sheep's backs than was expected; or, that the manufacturers, owing to the exceeding high prices, would use more shoddy or cotton to mix with their goods. Would this not produce a heavy decline? It is reasonable to suppose so. Under the present conditions it is certainly very nearly like speculating on the Board of Trade. Although dealing in the real thing, it is about as dangerous. We are taking no chances or as few as possible and selling as fast as we accumulate a car-load, and contracting ahead whenever possible. One thing sure, growers should be well satisfied with the present prices of wool and mutton, and should take the very best care of the sheep and lambs by proper dipping to keep ticks, lice and disease from them.

The hide market, while not fluctuating like the wool market, has been gradually but slowly rising until it is now higher than it has been for twenty years or more. The market is quiet at the recent advance, and the tanners refuse to pay the extreme price unless the hides are all short-haired. They do not want to pay high prices for long-haired winter hides.

The tallow market is the very opposite to the wool and hide markets. When the South African war was in progress, it created an unusual demand for tallow. The Russian-Japanese war has no such effect. The Russians have plenty of tallow of their own, and the Japanese live largely on rice and other cereals. Cottonseed-oil being exceedingly low from the very large crop of last year, the soap-makers are using that instead of tallow. We see no room for improvement in the price. All butchers are urged to render out their rough tallow while it is fresh, as none but a No. 1 article is in good demand; also, they should use good barrels which will not leak, preferably those iron-bound.

The fur season is drawing to a close. The prices are about the same, only that the grading is closer on poor furs. Extreme Northern, seasonably caught are in good demand at unchanged prices.

To-day's prices on the various articles are about as follows:

Wool.—Choice bright Minnesota wool, free of burrs and chaff, 27@28c; semi-bright, that is, slightly off color from dust or having been very ticky, 24@26c; North and South Dakota wool, 1@2c per pound less on each grade as above. When burry, seedy or chaffy, a discount of 2@4c is made according to the amount.

Pelts.—Montana, Western, North and South Dakota, Colorado, Idaho, and Washington dry pelts, 14@16c per pound as to quality and condition of pelt and wool; green salted shear-

lings, 25@35c; spring lambs, 35@75c as to size; large, full-wool pelts, \$1.25 @1.60; extra large a little more.

Hides.—Green salted hides, cows all weights and steers under 60 pounds, 10c; No. 2, 9c. Steers over 60 pounds not, 11c; No. 2, 10c. Veal calf, 12 $\frac{1}{4}$ c No. 1; veal kip, 11c; long-haired kip or winter and spring kips, 9 $\frac{1}{2}$ c; 1 $\frac{1}{2}$ c off for No. 2 on above. No. 1 tallow in barrels 4c; No. 1 cake 4 $\frac{1}{4}$ c.

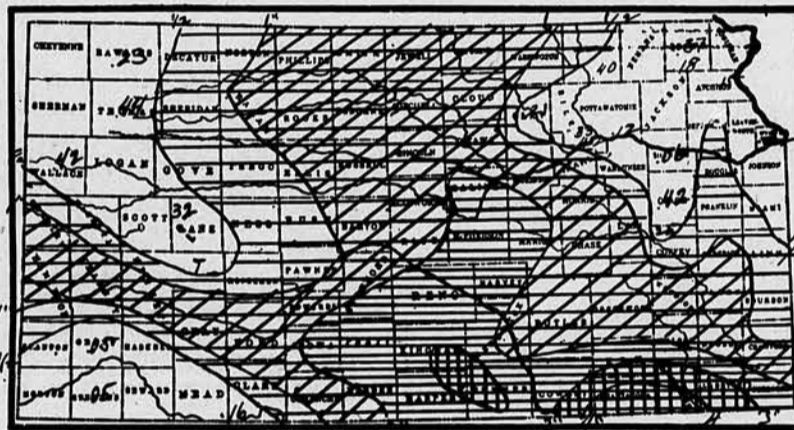
Spring-dug ginseng \$5@5.50. Feathers, beeswax and seneca as previously quoted.

NORTHWESTERN HIDE & FUR CO.
Minneapolis, Minn., May 25, 1905.

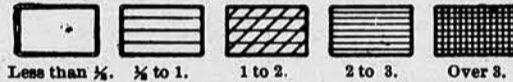
A Combination Furnace.

EDITOR KANSAS FARMER:—Your article on heating and lighting in a recent number of the FARMER interested me very much. I notice that in enumerating the methods of heating that you did not include the one which I find most excellent, and that is the combination hot-air and hot-water system. I had a furnace of this kind put in my new residence four years ago and it engenders more heat and a more even heat with less coal than either a furnace exclusively for hot air or for hot water. As you say, the long, hot-air pipes are not desirable because the hot air will cool before it reaches its destination; but with the combination furnace the hot air can be used for the rooms nearest to it, while the far-away rooms are better heated by

Rainfall for Week Ending June 3, 1905.



SCALE IN INCHES:



hot water. The same coal does double service and yields more heat. I think there is a good deal of moonshine in the idea of supplying a furnace with cold air from the outside. I do not open my outside cold-air duct at all, but take the cold air from the floor in the front hall. If one wants more fresh air than naturally gets into a house by the opening of outside doors, he can open a window for a few moments; that is easier than trying to heat all the cold air out of doors. Sometimes when the "wind ain't right" the hot-air furnace won't work," but the wind does not effect the hot-water system; so by having the combination you are sure of heat all of the time. The cost of the combination furnace to me was about 50 per cent more than a good hot-air furnace. I have no trouble to keep my house (38 by 42 feet, two floors and part of the third) at 72° in the coldest weather with ten tons of hard coal per winter.

Another idea for keeping a house warm is the metal window and door strips which exclude the cold and retain the warm air. I paid \$50 for about forty windows and doors and they save me three tons of coal each winter. I think they would be especially good for country homes as they are more exposed to the winds.

J. ELLERY EATON.

Toledo, Ohio.

\$21.35 to Asbury Park, N. J., \$21.35 and return, via Nickel Plate Road. Tickets good via New York City. Dates of sale, June 29 and 30 and July 1 and 2, with extreme return limit of August 31, by depositing ticket. Chicago City Ticket Office, 111 Adams St. and Auditorium Annex. Depot, LaSalle and Van Buren Sts., on Elevated Loop. No. 8.

When writing advertisers please mention this paper.

WEEKLY WEATHER CROP BULLETIN

Weekly weather crop bulletin for the Kansas Weather Service, for the week ending June 6, 1905, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

Warmer weather has prevailed this week with somewhat less cloudiness. Good rains have fallen over the greater portion of the State with heavy rains in the central and central southern counties.

RESULTS.

EASTERN DIVISION.

Wheat is heading in the northern counties, is filling well in the central counties, and is ready to harvest in the southern. The red rust has appeared in some of the wheat-fields in Montgomery County. Corn has made a good growth this week and is improved. Oats have improved, and are heading in the northern counties. Grass is fine and pastures are good. The first cutting of alfalfa has been nearly finished under good conditions and the crop is now largely in the stack. Early potatoes are abundant and fine. Apples are quite promising in some counties but will be short in Greenwood and give poor promise in Johnson. Early cherries are ripe, and generally a good crop. Grapes give good promise. Flax is doing well in Johnson County.

Anderson.—Beneficial rains; corn being cultivated and making good growth; meadows doing well; oats all headed and wheat filling rapidly.

Atchison.—Wheat heading and looking well; nearly ready to harvest; early planted corn being plowed second time; oats heading; early potatoes ready for use; fair crop of strawberries; small crop of cherries; apples remain on trees.

Brown.—Good growing week; wheat, oats and hay doing well; corn being cultivated but somewhat backward on account of cool weather; cherries ripening.

Chase.—Good crop of alfalfa although haying was interfered with by rains; second crop growing fast; some corn cultivated but needs more warm weather; some being cultivated second time; much Kafir-corn and cane up; pastures and cattle doing well.

Chautauqua.—Wheat doing well and almost

ready to harvest; corn doing well although wet weather has delayed cultivation; forage crops making good growth.

Coffey.—All crops doing well and weather conditions very favorable; corn making good growth; some cultivated third time; wheat prospects very good; strawberry season almost over; potatoes doing well and show good quality.

Crawford.—Too wet for farmwork; corn in poor condition; becoming foul and turning yellow in spots; grass and stock doing well; gardens in good condition.

Douglas.—Fine growing weather; damage to growing crops by hailstorm in northeastern portion of county.

Franklin.—Crops doing well, although rains have delayed cultivation of corn.

Greenwood.—Corn making good growth and looking well; wheat is in good condition although acreage is small; fruit and garden products making good growth; cherries damaged by hail; small crop; crop of apples will be short; alfalfa cutting almost completed; grasses growing well.

Jefferson.—Good growing week; potatoes looking very well; wheat and rye heading; oats heading and look well; corn cultivation progressing well.

Johnson.—Wheat almost out of bloom and looking well; new potatoes large enough to use; poor prospect for apples; light crop of English blue-grass; oats and flax looking well; clover about ready to cut; light crop of timothy expected; cherries ripe.

Linn.—All crops doing well; corn being cultivated and making good growth.

Lyon.—Corn growing well; wheat heading and looking well; haying progressing well.

Marshall.—Wheat promising good crop; alfalfa being cut and prospect of good crop; large crop of home-grown strawberries of good quality.

Montgomery.—Corn making fair growth but soil too wet for cultivation and becoming weedy; fall wheat rusting and this crop may be injured; oats and pastures improved.

Morris.—Good week for farmwork; corn doing well; fair crop of alfalfa and nearly all in stack; potatoes and gardens doing well.

Osage.—Crops of all kinds doing well.

Pottawatomie.—Favorable week for securing first cut of alfalfa and cultivating corn; hard wheat in good condition; soft wheat not doing so well; sweet potatoes doing well.

Riley.—Corn condition improved by warm weather; wheat filling well; replanting of sweet potatoes necessary on account of washing by recent heavy rains; all grass crops in good condition.

Shawnee.—Wheat heading; rye turning; corn making rapid growth; some replanting was necessary on account of washout; grapes and apples very promising; strawberries abundant; meadows and pastures good; cattle doing well; harvesting first crop of alfalfa; crop not so large as last year; potatoes doing well.

Woodson.—Wheat doing well; good week for corn cultivation; some fields being plowed third time; new potatoes plentiful; early cherries scarce.

MIDDLE DIVISION.

Wheat, generally, is much improved though it remains poor in places and short and thin in other localities; it is heading in northern counties while harvest is beginning in Cowley County. Corn has made good progress generally in the northern counties and fair improvement in the southern—the weather having been too wet. Oats are much improved, though in Harper some are rusting. Meadows and pastures are very good. The first crop of alfalfa is mostly in the stack, though some was injured by the rains; in Butler the second crop is nearly ready to cut. Early potatoes are being marketed are abundant and fine. Apples are good in Jewell but dropping in McPherson. Raspberries are ripe in Harper. Cherries are ripe and being marketed. Garden truck is plentiful. Hail caused some damage in Pish and King-

INTERESTING LETTER

WRITTEN BY A NOTABLE WOMAN

Mrs. Sarah Kellogg of Denver, Color.
Bearer of the Woman's Relief Corps,
Sends Thanks to Mrs. Pinkham.



The following letter was written by Mrs. Kellogg, of 1628 Lincoln Ave., Denver, Colo., to Mrs. Pinkham, Lynn, Mass.:
Dear Mrs. Pinkham:—
"For five years I was troubled with a tumor, which kept growing, causing me intense agony and great mental depression. I was unable to attend to my house work, and life became a burden to me. I was confined for days to my bed, lost my appetite, my courage and all hope."

"I could not bear to think of an operation, and in my distress I tried every remedy which I thought would be of any use to me, and reading of the value of Lydia E. Pinkham's Vegetable Compound to sick women decided to give it a trial. I felt so discouraged that I had little hope of recovery, and when I began to feel better, after the second week, thought it only meant temporary relief; but to my great surprise I found that I kept gaining, while the tumor lessened in size."

"The Compound continued to build up my general health and the tumor seemed to be absorbed, until, in seven months, the tumor was entirely gone and I a well woman. I am so thankful for my recovery that I ask you to publish my letter in newspapers, so other women may know of the wonderful curative powers of Lydia E. Pinkham's Vegetable Compound."

When women are troubled with irregular or painful menstruation, weakness, leucorrhoea, displacement or ulceration of the womb, that bearing-down feeling, inflammation of the ovaries, backache, flatulence, general debility, indigestion and nervous prostration, they should remember there is one tried and true remedy. Lydia E. Pinkham's Vegetable Compound at once removes such trouble.

No other medicine in the world has received such widespread and unqualified endorsement. No other medicine has such a record of cures of female troubles. Refuse to buy any other medicine.

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

Health is too valuable to risk in experiments with unknown and untried medicines or methods of treatment. Remember that it is Lydia E. Pinkham's Vegetable Compound that is curing women, and don't allow any druggist to sell you anything else in its place.

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No.

steers, but the greater proportion of

of offerings, receipts were heavy at points, 43,000 head being in at the principal markets. Grass sheep are coming too plentiful and are selling sharply lower than a week ago. WARRICK

Sumner County—C. B. Macdonald, Clerk.
FILLIES—Taken up by J. H. Harrison, in
well tp., April 21, 1906, one black filley, valued at
also one bay filley, 3 legs white; valued at \$30.

Miscellany

Development of Western Kansas.

Twelve counties in Western Kansas have made their 1905 statistical returns to the State Board of Agriculture, and all but one show increases in population, their net gain over last year amounting to 4.8 per cent. Rooks reports the largest gain, 1,036, and Sherman County records a loss of 104.

In these counties the total in winter wheat is 18,186 acres more than in the preceding year, and in spring wheat was increased 101 per cent. The largest gains in spring wheat acreage are in Sheridan, Trego, Logan and Sherman. This increased area in spring wheat is somewhat of a surprise and contrary to the usual returns, as sowing spring wheat in Kansas has been gradually decreasing in recent years. It will probably be found that this increase is owing largely to the introduction of macaroni wheat which is sown in spring.

The acreage in oats, rye and the sorghums are less, but the increased area planted to corn more than makes up for any deficit in the former. More corn by 38,220 acres, or 18.2 per cent, is reported than in 1904, and the only county that shows a decrease is Sheridan, with a reduction of 1,812 acres.

That barley is a favorite among field crops in Western Kansas is again attested by an increased area of 32 per cent. In fact, probably 95 per cent of Kansas' annual barley acreage is in the western half of the State. It seems to be particularly adapted to that section, and can reliably be depended on to yield creditably. Of the twelve counties, Sheridan has the largest number of acres, 17,822, in barley; Pawnee next with 12,688; Sherman third with 8,924; and Meade fourth with 8,368. Sheridan reports the greatest increase, 6,212 acres followed by Sherman with a gain of 5,267, Logan 4,217, Meade 1,875, Trego 1,657, Haskell 1,546, Wallace 1,030, down to 413 increase in Kearny. Pawnee and Rooks aggregate a loss of 578 acres.

The alfalfa acreage has increased 16.8 per cent, Sherman reporting the only decrease, 17 acres. The increases range from 2,074 acres in Meade to 50 in Kearny.

This part of Kansas is not considered strictly a corn-growing section, yet in these twelve counties assessors found 1,401,780 bushels of corn in farmers' hands March 1. The supply of wheat on hand, however, is much less than the year preceding. This is accounted for not only by the general desire to sell at the unusually high prices but also because the 1904 crop was considerably less than that of 1903. While less in quantity, the 1904 crop was worth almost as much to the Kansas farmers, owing to the increased price received.

Lessons Learned by Past Experience.

EDITOR KANSAS FARMER:—I presume many a farmer has had the same questions in mind that farmer Stewart of Rice County desired you to explain, and there is no doubt but your answer to his questions will be read with great interest by a large majority of the people who receive the weekly visits of your valuable farm journal. During the year we read many articles in the FARMER that are replete with valuable information, and we consider your answer to Mr. Stewart's questions full of unmistakable ideas about the "setting of prices on farm products." There is more than a passing reminder of past events to be gleaned from these questions and your answer when one thinks as he reads, and reads between the lines.

You have cited a few instances in which farmers have attempted to govern prices to a limited extent both in buying and selling, which seem to have landed them where McGinty landed. So the casual observer may see very clearly why they did not succeed, and he can also see what will be, or is likely to be the outcome of such a

move by a few farmers in widely separated localities. I say, "a few farmers," because there is still fresh in the memory of many, the frenzied and misleading theories advocated by some of the would-be champions of the farmer's cause, which led many a farmer to believe that the only way out of their financial distress would be through the closed doors of the "Farmers' Alliance." This past experience with that organization and a few others of similar character has—using a slang phrase—"soured" many of them, and has left a prejudice in the minds of such farmers against organization, which will be hard to overcome. At least, we grangers find it so when talking with them about joining the Grange. A large majority of them readily acknowledge that the Grange is different in many respects from other farmers' organizations—is a better organization for the farmer, and has been a great benefactor in bringing about many legislative acts that have been beneficial to them. Yet they allow this prejudice to cause them to stand aloof from all farmers' organizations.

While this condition exists among the rural population, what is likely to be the result of an attempt by a majority of the farmers of this country to set and maintain prices on their productions? You have cited a number of instances in your answer to farmer Stewart's questions, where it has been tried and failed except in a small co-operative way. Alas! This has been the sad experience that many a farmer has passed through. Then is it any wonder why so many of them are cautious and timid about repeating such an attempt?

One should not take a pessimistic or an optimistic view of this question. He should carefully and candidly consider the plain, unmistakable facts connected therewith, that have been learned by past experience. By studying well the lessons such experiences teach we may avoid breakers in the future.

It is very easy to theorize about what the farmers might do, but what is a theory worth if it is not practicable? The farmers of this western part of our country have seen and heard of a great many theories that would do this and do that for them and revolutionize the agricultural industry. But those that have been of any practical value to them are few and far between. It seems that about every decade some would-be champion of the farmers' cause bobs up with some new theory that he wants them to believe will eliminate all their troubles. What has been the result? Why, it has been a dollar-getter for the theorist for a time while the farmers have experienced the bitter consolation of having tried an impracticable theory.

This setting of prices by the farmers on their products would be a mighty big undertaking and the more we investigate, the more complicated and bigger it looks and the less likelihood there seems to be of making much progress in that kind of an undertaking. There are thousands of other people besides those engaged in agricultural pursuits that would be glad to see the farmers able to establish and maintain an equitable price for their products. But the perplexing question is, can they do it? Will they do it?

There always has been and I presume there always will be one great drawback in making a success of any great undertaking of this kind by the farmers, and that is a lack of unity. It seems impossible to even get a majority of the farmers in a frame of mind strong enough and long enough to accomplish what this "American Society of Equity" claims to be its purpose and aim. Without a majority and a large majority of farmers combining on any movement of this kind there is not much likelihood that it will succeed. I am no pessimist but the reflections from the past cast a shadow on any attempt of this kind unless there is a great change in the minds and in the procedure of the farmers. Cowley County. R. W. ANDERSON.

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Portland, Oregon, June 1 to Oct. 15, 1905.

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LESSON.Second Quarter. Lesson XI. Rev. 1:
10-20. June 11, 1905.

The Message of the Risen Christ.

The book of Revelation is the clasp of the whole volume—a clasp made of gold from the street of the New Jerusalem, studded with jewels from its walls, and graven with the mystic emblems of beasts and elders. The position it holds in the sacred canon is evidently the very one Inspiration designed it should occupy. The last book corresponds to the first with its paradise, tree and river. And the beatitude upon the reader is not for the one who pursues Revelation only, but the whole volume. The curse upon the one who adds to or detracts from refers not to the Apocalypse alone, but to the entire Scripture. Thus Revelation binds the volume together.

The place of its composition was previously so obscure that the writer must needs inform the earliest readers that Patmos is an island. But ever since that Aegean rock which served the last seer as a watch-tower from which to view the double panorama, celestial and terrestrial, has been covered with a "solemn glory." The person of the composer, too, has a fascinating charm. "The Thunderer," and yet the beloved disciple; the last link between the apostolic and post-apostolic age; all his associates in the college of the apostles dead, and that, too, by violence; he, in age and feebleness extreme, an exile by the cruelty of Domitian, possibly a common laborer in the quarry—such a one on the Lord's day, caught up into the Lord's presence in the third heaven, and not, like Paul, reticent as to what he saw, but "forcing and torturing language to express his colossal conceptions in the grandest and most energetic forms."

The Christophany, of course, eclipses all the rest of the book, crowded though it is with dazzling wonders. John taxes human language to the uttermost in his attempted portraiture of the glorified person of Jesus Christ. He lays color to color, adds jewel to jewel. He affects not the beautiful, but the ineffably glorious. Never did painter, whether with pigment or word, have such a study. The Lord of life and glory deigns to give His disciple "a sitting." The Christophany was mercifully gradual. Mortal eye could not have supported it had it been instantaneous. It was announced by a trumpet-voice, the greatness and unearthliness of which prepared the revelator for something supernatural; a voice that charged him to be as alert as a modern stenographer in taking down what he saw and heard. When he turned to look, his eyes were further schooled to splendor by seeing only certain subsidiary objects. The seven golden lamp-stands all ablaze was a goodly enough sight in itself. They represent the vehicle through which God shines—His Churches; golden, to show he prizes them; separate, to suggest their autonomy; seven of them, to represent the whole Church. The eye of rapt exile passes slowly from the shining candelabra to the more than regal form, the glorified person of Jesus Christ as it gradually materializes. Even here the apostle passes from the accessory to the principal, from the clothing to the person. You have seen the gown woven out of spun glass. This glorious sacerdotal robe was woven out of sunbeams. Not, as on Hermon's sacred height, for a moment, but forever His raiment continues white as the light. The regal golden girdle high above his breast "braces the frame together and symbolizes collected powers." The girdle also so placed disposes the garment for "calm, majestic movement." Like Aaron's robe and girdle, these, too, are "for glory and beauty."

And now John dares glance at Jesus' brow. He admires the coronal glory. Any modern electrical display would fade before it, as the stars do when the sun rises. It is a dazzling silvery whiteness, as white fleece, sparkling as the snow does when the sun sets its myriad tiny stars ablaze. The large and lustrous eyes are all aflame, not in wrath, but with Divine genius. His

bare feet fairly gleam like metal at white heat. And His voice resounds like the multitudinous waves even then pounding on the rock-girt isle. In the palm of His outstretched right hand lies a chaplet of seven stars—signifying that each Church and the whole Church is in His keeping. Whedon suggests that the sword from the mouth is "not a stiff, steel fixture, but His Divine and powerful breath making itself, as it were, visible." The tout ensemble is as the sun in the meridian, unobscured by mist or cloud.

But the glorified person of the monarch of heaven, earth and hell, now fully developed, was of insufferable majesty. As nearly sixty years before on the Mount of Transfiguration, so again, John falls like one dead. But the majestic figure bends over the benumbed disciple, and the gentle voice he was wont to hear beside the sea calls him back to consciousness with its familiar cadence, "Fear not!" and its identification of Himself with the Messiah, and the affirmation of His eternity and His sovereignty over death and the under-world. Directions follow as to the immediate record of the things seen and heard, and explanations of the symbolism of the stars and lamp-stands.

Some have hesitated to believe that the author of Revelation and the Gospel and the Epistles of John can be one and the same person. The latter are in pure Greek, while the former is Hebraized. It has been aptly suggested that in Revelation John returns to the style of his youth before it became softened by Greek culture. It is also in perhaps unconscious imitation of the style of the prophets.

Exciting Buffalo Hunt.

A yawful of men wrecked by a buffalo is among the exciting reminiscences told by the author of "Steamboat Navigation on the Missouri River." The fare provided for the crews in early days was extremely plain and scanty. One of the boats, commanded by a Captain La Barge, was going through the buffalo country with only a poor supply of salt pork and dry bread. Every eye was alert for a meal of fresh meat, if such should appear on four feet anywhere in the vicinity. At last, near Handy's Post, four huge bulls were sighted, swimming the river. Captain La Barge's first mate was a greenhorn named John Durack, and the captain thought this a fine opportunity to break him into some of the experiences of the wild and woolly West. He gave orders to the men on the boat to shoot the buffaloes, and he and John would lasso them when either wounded or dead, and tow them back to the hungry crew. But John, it seems, did not quite understand the programme. About midstream he suddenly flung the noose over the head of the foremost buffalo, which was naturally the strongest of the swimming quartette. Captain La Barge's shout of dismay came too late.

"Isn't he as good as any?" called back the innocent first mate, tugging hand over hand at the rope.

The buffalo "right about faced" and swam like mad for the further shore, the yawful of men helplessly in tow. The rowers backed their oars, protesting violently to the obdurate John in the bow, but all to no purpose. Soon the buffalo's feet touched bottom, and up the bank he scrambled, carrying with him the stem of the yawl as it struck the rocky shore. Terrified and furious, the buffalo, lasso, boat, bow and all, went careering out of sight across the prairie, and the sorry yawl crew had to wait, hungry, angry, disappointed on the further bank until their companions, as hungry and angry, and disappointed as themselves, came to fetch them and take them down the river beyond the warning bellows of the escaped buffalo.

It is one thing to take no thought for want of thought, and another to take no thought from sufficing thought whose flower is confidence. The one way is the lovely way of God in the birds, the other His lovelier way in His men and women.—George MacDonald.

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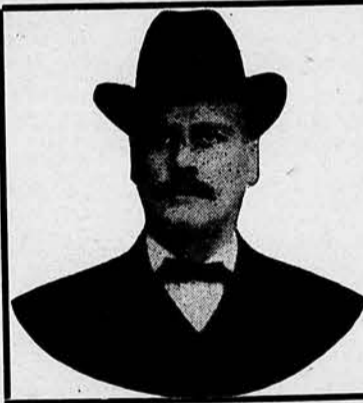
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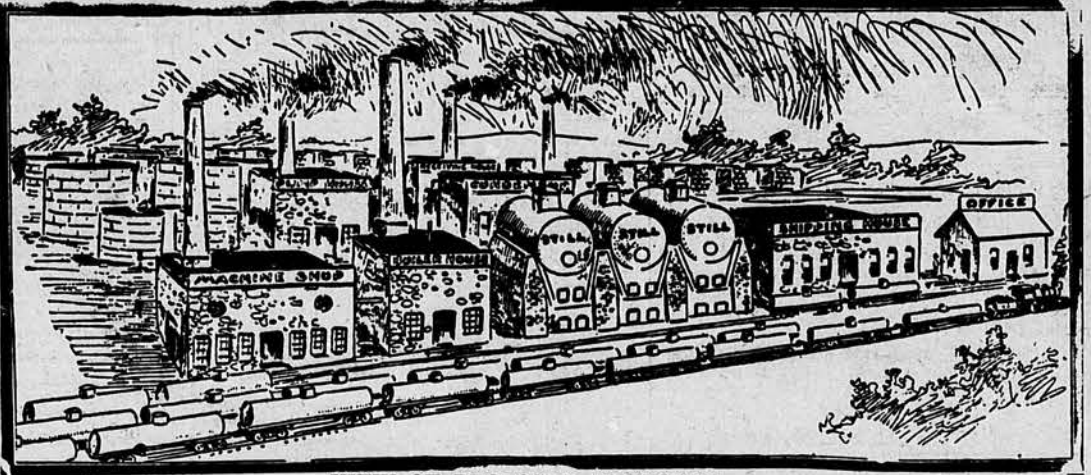
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C. E. Shaffer, Secy, Erie, Kans.
Please send me further particulars regarding The Independent Oil Refining Co. of Kansas.

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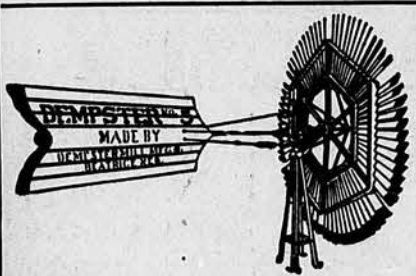


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