

# KANSAS FARMER

Volume XLIV. Number 22

TOPEKA, KANSAS, MAY 31, 1906

Established 1863. \$1 a Year

## FREE DENATURED ALCOHOL.

The bill repealing the internal revenue tax on denatured alcohol has passed both branches of Congress. It will go into effect January 1, 1907. This denatured alcohol is rendered unfit for use as a beverage by the addition of some substance that renders it undrinkable.

There are many proper industrial uses for alcohol from which it has been practically excluded on account of the cost, a great part of which results from the high tax imposed by the Government.

The first taxation of spirits was in 1791, and varied in amount from 9 to 25 cents per gallon, according to the degree of strength. This taxation continued till 1800, when it was repealed upon the recommendation of Thomas Jefferson.

It was renewed as a war measure in 1813 and repealed in 1818.

For forty-four years spirits were free of all tax.

In July, 1862, the tax was again imposed as a war measure and fixed at 20 cents per proof gallon.

On March 17, 1864, it was raised to 60 cents per gallon.

On July 1, 1864, it was raised to \$1.50 per gallon.

On January 1, 1865, it was raised again to \$2 per gallon.

In 1868 it was reduced to 50 cents and increased in 1872 to 70 cents. Increased again in 1875 to 90 cents, and on August 28, 1894, increased to \$1.10 per proof gallon, where it now stands.

The effect of the varying rates of taxation on consumption of alcohol has been very marked. In 1860 with free alcohol, the consumption of distilled spirits was about three gallons per capita, of which it is estimated that about one-third was for industrial purposes. In a recent speech in Congress, Hon. E. J. Hill showed that under a \$1.50 and \$2 tax for four years prior to 1868, the consumption was twenty-five hundredths of a gallon per capita for all purposes. Under a 50-cent tax for four years from 1868 to 1872, the consumption was 1½ gallons per capita, so that with the tax lowered 75 per cent the consumption increased 600 per cent.

In 1874, under a 70-cent tax, it was 1.4 gallons per capita.

In 1876, under a 90-cent tax, it was 1.23 gallons per capita.

In 1880, under a 90-cent tax, it was 1.21 gallons per capita.

In 1900, under a 90-cent tax, it was about 1.15 gallons per capita.

In 1905, under a \$1.10-tax, it was 1.36 gallons per capita.

The starch- and sugar-plants are the present source of alcohol and will so continue. In Europe, the chief sources of alcohol have been the potato and the sugar-beet by distillation, either directly or from their by-products. Other sources of alcohol which may be utilized in the United States are the potato of the North, the sweet potato, the yam, the cassava plant, waste molasses from the sugar-cane, waste molasses from the sugar-beet, and possibly the waste product from the stalk of the Indian corn at the time of the hardening of the grain.

Sugar and starch, on fermentation, yield about half their weight as absolute alcohol. In practice it may be said that 45 per cent of the raw material—that is, the sugar or starch—is obtained as alcohol.

Secretary Wilson states that an acre of land which produces 50 bushels of corn, nearly 2,800 pounds, will furnish 1,960 pounds of fermentable matter; that is, starch and sugar together. Forty-five per cent of this will be ob-

tained as absolute alcohol, namely, 882 pounds. A gallon of absolute alcohol weighs 6.8 pounds; therefore an acre of corn would produce about 130 gallons of absolute alcohol. Commercial alcohol is about 95 per cent pure, so that approximately an acre of Indian corn producing 50 bushels would make about 140 gallons of commercial alcohol, or a bushel of corn produces about 2.8 gallons of alcohol. If corn were worth 28 cents per bushel, the raw material for the production of a gallon of alcohol would cost 10 cents. With corn at 42 cents the raw material for the production of alcohol would cost 15 cents a gallon. It is difficult to state the probable retail prices that will prevail for the finished product. Alcohol is said to be more valuable than gasoline for heating, for lighting, and for power. Possibly, too great expectations have been indulged as to advan-

contained 52.64 per cent of the yellow trefoil. It was bought in Connecticut. The Kansas Agricultural College examines samples of seeds free of charge.

## ROAD ESTABLISHED BY LONG USE.

EDITOR KANSAS FARMER:—Does a section line that has been left open for road, without petition, become a legal road by limitation? This road has been used as a public highway for twenty-five or thirty years.

Does the road-overseer have any right to put public work on this road?

J. J. ANDERSON.

Linn County.

A section line or any other line that has been generally used, without protest, as a public highway for twenty-five or thirty years becomes a highway by prescription. The owners of the land are prevented by the statute

As the years go by, the old soldiers feel more keenly that Decoration Day is a sacred memorial occasion dedicated to the remembrance of brave men and true who sat by them in the long and weary days of waiting, who walked beside them in the tiresome march, who fought beside them in the stress of battle, who charged with them in the terrible onslaught, who, too often, fell beside them on the bloody field. The esteem and affection of the soldier for the soldier who shared his hardships and his triumph, who was true in the day of trial and who has passed over to the great majority either directly from the active service or after a life of model citizenship—this affection becomes more solemn as the white hairs become thinner and the step more unsteady. And, as the old soldier lays his tribute of flowers on his comrades' graves what wonder if he drop a tear with his tokens? Every memorial day intensifies the regard of the soldier for his comrades' honor, and it is to his credit that any reflection upon that honor is resented with the spirit of his days of active service.

grains, that arrangements are now being made to accommodate all fairs that care for such help. Requests should be made early, however. It is recommended that "boys' judging classes" be organized at these fairs. Address all correspondence to Secretary Farmers' Institutes, Manhattan.

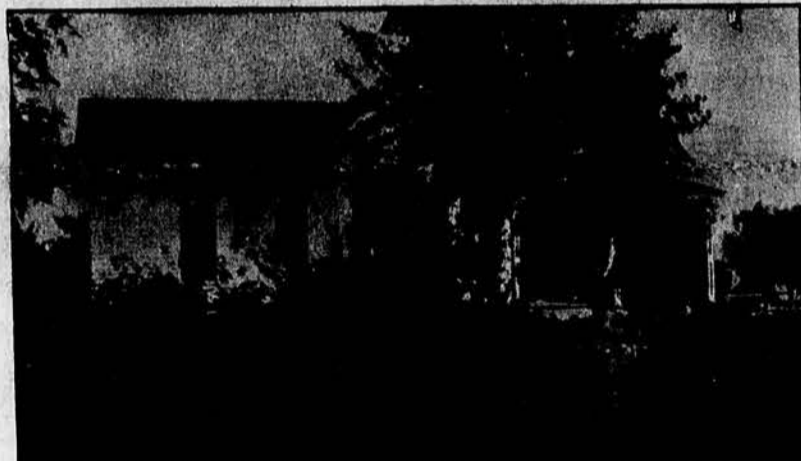
## AT HOME ON THE FARM.

One of the most enterprising farming communities in Kansas is found eight or ten miles west of Topeka. It is known as the Oak Grange neighborhood. The farmers here are enjoying the comforts of life. They have comfortable homes; there is a telephone system in the neighborhood; they have social gatherings, and for the most part they take magazines and papers and read them.

The McCracken place is a fair example of the homes of the community. William McCracken and Mrs. Kittle J. McCracken, the latter of whom has often contributed to the columns of THE KANSAS FARMER, are young in spirit, although they are both in the neighborhood of "three score and ten." William McCracken is as young as any of the boys, and Mrs. McCracken has a manner which is entertaining to both young and old.

Topeka furnishes a market for produce for this community, and in that way, as in others, makes farm life easier. There is a market for raw material, such as hay, milk, grain, and meat. The demand for milk to supply the local trade and the factory of the Continental Creamery Company is so great that the farmers can sell their milk for a better price than they could get for the butter, besides being free from all the work and worry of caring for the milk. They simply milk their cows, put the cans of milk on a platform at their gates, and it is gathered by a hauler who washes and returns the cans.

William McCracken has found the happy combination of alfalfa, milk, and hogs, with the usual amount of poultry found on a well-regulated farm. Very little can go to waste on such a farm, and the fertility of the ground is not sold off the place. Alfalfa is recognized as being in the first rank as a milk-producing feed, forage-crop, and



The Bungalow—Home of Mr. and Mrs. William McCracken.

tages to be derived on account of the prospective use of alcohol for fuel. It may take the place of gasoline for summer cooking, and for lighting, and for the internal-combustion engine, but for general purposes of heating and warming and as a substitute for coal, it is almost certain to be too expensive, unless, indeed, the expectation of enthusiasts shall be realized and the corn-stalks be distilled, in which case the stalks which yield 50 bushels of corn are expected to produce 170 gallons of commercial alcohol. Potatoes are said to yield about .85 gallon of alcohol per bushel of potatoes. To enable potatoes to compete with corn as a source of alcohol, the price of potatoes per bushel would have to be about one-third that of corn.

While there does not appear in prospect any very startling revolution in life on the farm on account of untaxed alcohol, it is probable that as a regulator of the price of gasoline, as an illuminant, and as a source of power it will be found useful. In many manufacturing processes the great reduction in the price of alcohol should result in cheapening production.

The U. S. Department of Agriculture has examined 521 samples of red-clover-seed purchased in the open market. Of these, 116 samples were found to contain seed of the destructive parasitic plant, dodder, and 5 samples were found to be adulterated with seed of yellow trefoil. Yellow trefoil is not used as a forage-plant in the United States, but the seed is imported from Europe at about 5 cents per pound for use as an adulterant of red-clover- and alfalfa-seed. One of the samples examined

of limitation from bringing any action to regain possession after fifteen years.

Being a public highway, such road should be cared for by the public under direction of the road-overseer just as if it had been regularly located by the proceedings described in the statute.

The one available preventive of the evil effects of drouth is cultivation. Cultivation ought not to be relied on as a remedy but as a preventive. The moisture is rapidly removed by evaporation from uncultivated fields; it is retained to a surprising extent in soil which has been prevented from crusting. Corn affords the finest opportunity for conserving moisture by cultivation by which not only are its enemies, the weeds, destroyed, but the soil is put into the condition most favorable to its root-development, and moisture is retained. The excellent practice of disking wheat-stubble immediately after the reaper has done its work is coming much into vogue. It makes plowing easier and saves the moisture for the next crop.

When an editor opens a letter, he first looks for the signature. If no name or only a fictitious name is signed, he usually throws the letter, unread, into his waste-basket. There is surely not much fun in writing for the waste-basket. If you write, sign your name to your communication. Doubtless many good things are lost to the reading public because the editor was not assured of their genuineness by a manly or womanly signature.

The Kansas Agricultural College has been asked for so much help at county fairs, in judging stock, fruit, and

chickens are such savers of waste that they are profitable with cattle.

Mr. McCracken raises a variety of fruits on his farm, such as apples, peaches, cherries, strawberries, and the like, varying quantities according to variety. He has a fine young apple orchard just coming to bearing age. His peach-trees are overloaded with young fruit, as are also the cherry-trees. Fruit with him is for home consumption first, and only the surplus is for the market. Here is another place where economy is evident—the fallen fruit is utilized by the hogs. Had Mr. McCracken bees to save the honey from the blossoms, the economy would be well-nigh perfect.

The idea of living is more important to the McCrackens than that of money-making. "The Bungalow," by which name they call their little home, is supplied with the comforts of life. The parlor is not for the visitor alone. It is the living-room; it is a retreat from the cares of life. It is here the visitor finds the McCrackens when the day's work is done, she most likely with a book or magazine and he with a daily paper. But in spite of their contentment and happiness in their own company, the visitor is always welcome, and he, too, soon is filled with a contented feeling which seems to be in the atmosphere.

"The Bungalow" is a cozy cottage, painted white and nestled among stately trees, whose green color contrasts well with the color of the house. A fine lawn of blue-grass separates the house from the road, and numerous shrubs and flowers of all kinds are scattered over the lawn and add to the attractiveness of the place.

**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 secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year, and one new subscription for one year, and one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, The Kansas Farmer Company, Topeka, Kans.

The dairy department of the Kansas Agricultural College has just installed a milking-machine. It is equipped for milking eight cows at a time, and at St. Louis these machines did most excellent work. Visitors to the college this summer will have an opportunity to see the first milking-machine ever used in Kansas.

California crops, except apricots, are reported to be excellent. The earth-

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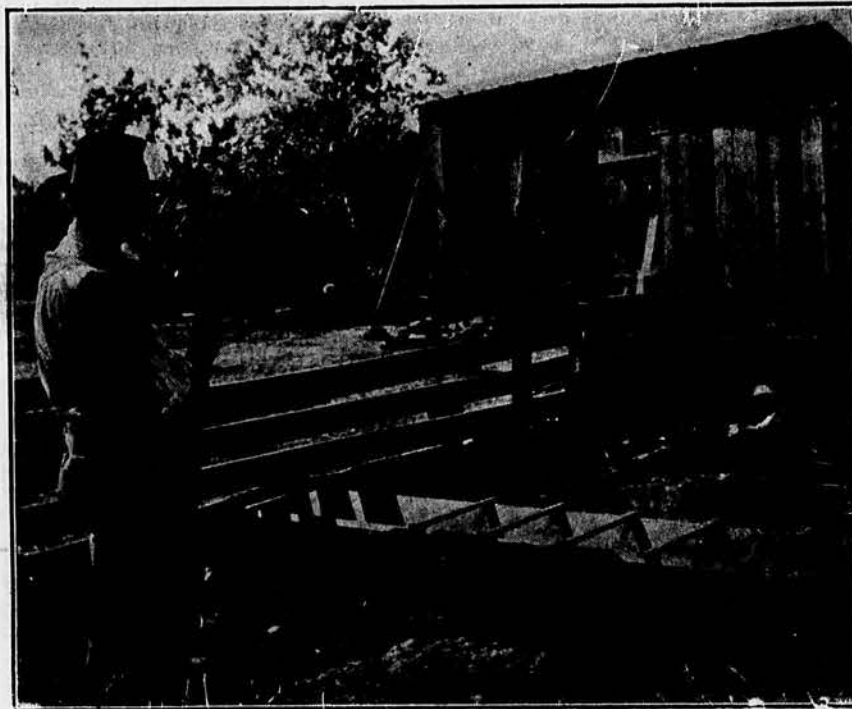
quake reached only a fraction of the fruit-growing area, and did little damage to crops even where most severe in its action.

**Miscellany**

**Industrial Education at the Kansas State Agricultural College.—Training Hands and Brain.**

Educators and thoughtful men outside of educational walks have long contended that our school work was too one-sided, too much training of intellect through books, and not enough brain-training through scientific exercises of the hands. And so all over the country effort is being put forth to educate teachers in so-called manual training or industrial work.

The original enactment by Congress for the establishment of State Agricultural Colleges provided for training in the "Mechanic Arts." And so in the Kansas State Agricultural College great attention has been given to this department. As in most other departments, striking progress has been made within the last few years.



Mr. McCracken's Moneymakers.

The department is known as the mechanical engineering department, and is in charge of Prof. E. B. McCormick. Mechanics Hall is a large two-story building with rooms for bench work in wood, with benches and tools for 220 students, wood turning and pattern-room, drafting-room, machine-shop 40 by 80, blacksmith-shop 40 by 50, iron-foundry 40 by 50, brass-foundry 16 by 30, pipe-fitting room 18 by 50, engineering laboratory 35 by 40, etc., with total equipment worth over \$35,000.

**WORK FOR EVERYBODY.**

Every first-year male student is required to take two terms of simple carpentry and one term of blacksmithing. It is remarkable what fine pieces of work the young men turn out. The first term is devoted largely to training in handling tools and care of tools, with simple joinery, while in the second term more intricate work is turned out. This is intended to give to all boys whether intending to go back to the farm or to take up any other calling a good training in woodwork. It is a good mental training aside from the great practical value to the student, no matter what his future vocation may be. There is really more interest with most students in the blacksmithing work than in the woodwork. The work of the first term in blacksmithing consists of exercises in forging and welding common iron, mild steel, and Norway iron. One of the exercises is the making of a complete chain. The second term of blacksmithing to give to engineering students and such as may elect it, and consists principally in forging, annealing, and tempering high grades of tool steel.

Students may continue in either woodwork or ironwork in the shops for the full four years if they have the time while taking the course in agriculture. Many students drop into the shops for a term's work whenever their regular studies will permit. Thus they can get drill in simple and complex joinery, making doors, windows, sashes, tables, desks, attending to repairs on

college buildings, planning simple sheds, barns, houses, etc.

The young men who chose the regular course in mechanical engineering have a most thorough training in wood, iron, and brass work, turning out all sorts of machines and machinery. One student who graduates this year, a farm boy from Mitchell County, has been working all year on a four-cylinder gasoline traction engine, forty-horsepower. This engine, aside from the two heavy wheels, was made in the college shops by students and is being built by this student and student assistants, under the direction of Professor McCormick. Students have drill in running and building gas engines and steam engines, and in making and testing all kinds of castings.

**WHAT OF THE GRADUATES?**

Now you ask—What then? The graduates from the mechanical engineering course are to be found back on the farm, in great railroad shops, in manufacturing plants of all kinds, teaching manual training in preparatory schools, in drafting offices, etc. Kansas farm boys have all sorts of talent, and the United States Government and the State of Kansas want each boy so trained as to be able to be of the most use in the world. One of the best fea-

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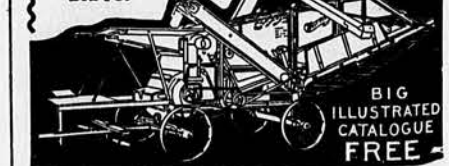
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**Agriculture**

**Rotation of Crops.**

In order to maintain soil fertility, and at the same time make the greatest profit in farming, a practical and scientific rotation of crops should include the following:

1. Grasses and perennial legumes.
2. Pasture, with an addition of manure one or two years previous to breaking the sod.
3. Cultivated crops.
4. Small-grain crops, plus green-manuring crops planted in the stubble after harvest.

Small-grain crops must be grown on every farm. Often they are the greatest money-making crops, hence they must be given a prominent place in the general crop-rotation system. Cultivated crops are often the money-making crops of the farm, also, and they are necessary in every rotation plan in order that the land may be cleared of weeds. Especially is this true in a locality where small grain is the main crop. By continuous grain-growing, land becomes foul and weedy and the cultivated crop in rotation is necessary in order to destroy the weeds. Cultivation conserves the soil-moisture and develops the fertility of the soil, increasing the supply of available plant-food by producing those conditions which favor chemical change, the growth of soil-bacteria, and the decay of vegetable matter.

Grasses and legumes maintain the supply of soil-nitrogen and restore the proper soil-texture; besides, they are profitable crops, and in fact absolutely necessary on every farm upon which live stock is kept. Pasture must be had on every farm, and it is quite essential that it be made part of the regular crop-rotation. Many soils become too light and mellow by continuous cropping, and need the tramping of stock to firm them. Much more grass can be produced when the pastures are kept fresh and new, and the increase of fertility and improvement of soil-texture result in larger crops of corn and grain when the meadow is broken and planted again to these crops.

A convenient and desirable time to manure land is while it is being used as meadow or pasture. If the manure is applied a year or so before breaking, it will stimulate the growth of grass and cause a greater production of hay or pasture. Meanwhile, the soil is enriched by an increased root growth and the formation of more humus. Besides these beneficial results, some plant-food will be supplied by the manuring for the use of the first crop which is grown on the breaking, at a time when available plant-food is much needed, because the larger part of the fertility in new breaking is in an unavailable condition and can not readily be used by the new crop.

Soils in which the organic matter and humus are deficient may be improved in fertility and texture by green-manuring. A cheap and practicable method of green-manuring is to plant a crop adapted for this purpose (the annual legume crops, such as cow-peas, soy-beans, field-peas, and vetches being preferred) in the grain stubble immediately after harvest. The method at the Kansas Experiment Station is to follow the binder direct-

ly with the drill; thus when the harvest is finished, the field has been re-planted. Cow-peas, rape, or sorghum seeded in this way make a good stand and excellent growth and furnish forage or pasture, or the crop may be plowed down for green manure, or left as a winter cover.

It is necessary in carrying out permanent plans for crop-rotation to have fields of nearly equal area in order to grow about the same acreage of the several crops each year, thus making it possible to keep a certain amount of live stock and have from year to year regularity and uniformity in the farming business.

In order to demonstrate the carrying out of practicable systems of crop-rotation, as mentioned above, assume for illustration a farm of 160 acres, divided into eight equal fields, as shown in the diagrams:

**ROTATION NO. 1.**

The farm plan showing crops on all fields for one year.

Legumes and Forage.	Wheat.
Wheat.	Wheat.
Wheat plus Legumes.	Pasture (manured).
Spring grains* (Seed to grass).	Clover and Grasses.

Rotation plan or order of crops on each field.

- 1st year.....Grass and Clover.
- 2d year.....Pasture (manured).
- 3d year.....Wheat.
- 4th year.....Wheat.
- 5th year.....Legumes and Forage.
- 6th year.....Wheat.
- 7th year.....Wheat plus Legumes.
- 8th year.....Spring grains (seed to grass).

It will be observed that the crops growing on the eight fields each year are the same as the "order of crops on each field in eight years." By successfully carrying out the above plan of rotation on a 160-acre farm, the farmer will raise each year 80 acres of wheat; 40 acres of grass, 20 of which may be used for pasture; 20 acres of small grains other than wheat; and 20 acres of forage crops, part at least consisting of annual legume crops. Each year 20 acres of grass land is given a dressing of manure, and a 20-acre field in wheat is renewed in fertility by a crop of cow-peas or other green-manuring crop planted after the wheat is harvested. Meanwhile, once in eight years the whole farm will have been seeded to grass and clover, each field remaining in grass two years.

This rotation is adapted to a wheat-growing country and the money crop, wheat, is grown upon one-half of the farm each year, while the other half of the farm is kept in crops which have more or less of a renovating effect upon the land, and which may be turned into money indirectly by feeding them to live stock on the farm. In a corn country, corn may be substituted in place of wheat in the above rotation.

If this system of rotation does not leave the land in grass long enough, the farm may be divided and the following systems of rotation practiced on each division of four fields for eight years, when the systems may be interchanged, the first taking the place of the second, and the second of the first, as follows:

**No. 1 A.**

Rotation plan or order of crops on each field.

- 1st year.....Grass.
- 2d year.....Grass.
- 3d year.....Pasture plus manure.
- 4th year.....Pasture plus manure.
- 5th year.....Wheat.
- 6th year.....Wheat.
- 7th year.....Wheat.
- 8th year.....Wheat.

**No. 1 B.**

Rotation plan or order of crops on each field.

- 1st year.....Legumes and forage.
- 2d year.....Wheat.
- 3d year.....Wheat plus legumes.
- 4th year.....Spring grains.
- 5th year.....Legumes and forage.
- 6th year.....Wheat.
- 7th year.....Wheat plus legumes.
- 8th year.....Spring grains (seed to grass).

It will be observed that this is really a double eight-year rotation, or in fact a sixteen-year rotation; that is, keeping each of the fields in grass four years at a time requires that one field be seeded to grass every two years and that one grass field be plowed up every two years and planted again to wheat, requiring sixteen years before the whole farm shall have received a rotation with grass.

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**ROTATION PLAN NO. 2.**  
The farm plan showing crops on all fields for one year.

Corn.	Corn.
Small grains (seed to alfalfa in fall).	Corn.
Alfalfa (manured).	Alfalfa.
Alfalfa (manured).	Alfalfa.

Rotation plan or order of crops on each field.

- 1st year.....Alfalfa.
- 2d year.....Alfalfa.
- 3d year.....Alfalfa plus manure.
- 4th year.....Alfalfa plus manure.
- 5th year.....Corn.
- 6th year.....Corn.
- 7th year.....Corn.
- 8th year.....Small grains (seed to alfalfa in fall).

If the above plan keeps too much land in alfalfa, the farm may be divided and the following systems of rotation practiced on each division of four fields for eight years, when the sys-

tems may be interchanged, the first taking the place of the second, and the second of the first, as follows:

**No. 2 A.**

Rotation plan or order of crops on each field.

- 1st year.....Alfalfa.
- 2d year.....Alfalfa.
- 3d year.....Alfalfa plus manure.
- 4th year.....Alfalfa plus manure.
- 5th year.....Corn.
- 6th year.....Corn.
- 7th year.....Corn.
- 8th year.....Corn.

**No. 2 B.**

Rotation plan or order of crops on each field.

- 1st year.....Legumes and forage.
- 2d year.....Corn.
- 3d year.....Corn plus manure.
- 4th year.....Spring grains.
- 5th year.....Legumes and forage.
- 6th year.....Corn.
- 7th year.....Corn plus manure.
- 8th year.....Spring grains (seed to alfalfa).

It may be desirable to grow grass as well as alfalfa on the same farm in order to supply pasture for cattle and hay for horses, etc. If this is de-

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Stock Printing Department

Topeka

Kansas

irable then the alfalfa-rotation plan may be slightly changed and a third system introduced, making a double eight-year or a sixteen-year rotation, as follows:

No. 2 C.

Rotation plan or order of crops on each field.  
 1st year.....Alfalfa.  
 2d year.....Alfalfa.  
 3d year.....Alfalfa plus manure.  
 4th year.....Alfalfa plus manure.  
 5th year.....Corn.  
 6th year.....Corn.  
 7th year.....Small grains.  
 8th year.....Small grains (seed to grass).

No. 2 D.

Rotation plan or order of crops on each field.  
 1st year.....Grass.  
 2d year.....Grass.  
 3d year.....Pasture plus manure.  
 4th year.....Pasture plus manure.  
 5th year.....Corn.  
 6th year.....Corn.  
 7th year.....Small grains.  
 8th year.....Small grains (seed to alfalfa).

This rotation of crops is only well adapted to a farm which carries a large amount of live stock. It will be observed that four fields, or one

fields of small grain, although if it were preferable, corn or some other crop might be grown instead of small grain, on one of these fields each year previous to the year in which the land is seeded down, and not interfere at all with the regular system of rotation.

With this plan of rotation successfully carried out, each of the eight fields in the farm will have been in alfalfa four years and in grass four years at the end of sixteen years of cropping, and during this period the whole farm will have been manured twice. Meanwhile four fields have produced, each year, large crops of corn and grain, and there is little question but that a farm thus managed may be even more fertile at the end of the sixteen years than it was at the beginning.

ROTATION PLAN NO. 3.

The farm plan showing crops on all fields for one year.

Grass.	Corn.
Pasture (manured).	Small grain.
Corn plus legumes.	Wheat (Seed to grass).

A. Rotation on Eight Fields with Alfalfa, Grass, Corn, and Small Grains, Being an Exhibit of Rotation Plans Nos. 2 C and 2 D.

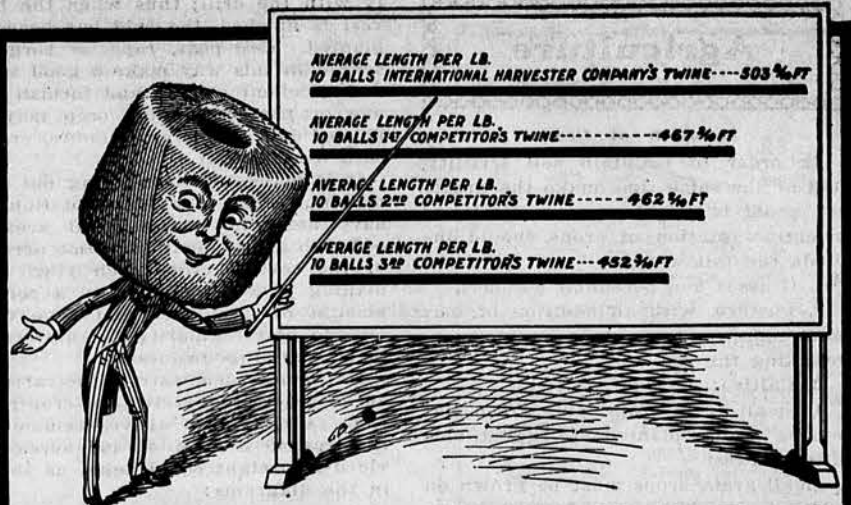
YEAR.	Field 1.	Field 2.	Field 3.	Field 4.	Field 5.	Field 6.	Field 7.	Field 8.
1906	Small grain (S A)	Corn (M)	Corn	Corn	Small grain (S G)	Corn (M)	Corn	Corn
1907	Alfalfa	Small grain (S A)	Corn	Corn	Grass Meadow	Small grain (S G)	Corn (M)	Corn (M)
1908	Alfalfa (M)	Alfalfa	Corn (M)	Corn (M)	Grass Meadow	Grass Meadow	Small grain (S G)	Corn
1909	Alfalfa (B)	Alfalfa	Small grain (S A)	Corn	Meadow or pasture (B)	Grass Meadow	Small grain (S G)	Corn (M)
1910	Corn	Alfalfa (M)	Alfalfa	Alfalfa	Corn	Meadow or pasture (B)	Grass Meadow	Corn (M)
1911	Corn (M)	Alfalfa (B)	Alfalfa	Alfalfa	Small grain (S A)	Corn	Meadow or pasture (M)	Small grain (S G)
1912	Small grain (S G)	Corn	Alfalfa (M)	Alfalfa (M)	Alfalfa	Small grain (S A)	Grass Meadow	Grass Meadow
1913	Grass Meadow	Small grain (S G)	Corn	Alfalfa (B)	Alfalfa	Small grain (S A)	Grass Meadow	Meadow or pasture (M)
1914	Grass meadow	Grass Meadow	Small grain (S G)	Alfalfa (B)	Alfalfa (M)	Small grain (S A)	Corn	Meadow or pasture (B)
1915	Meadow or pasture (M)	Grass Meadow	Grass Meadow	Corn	Alfalfa (M)	Alfalfa	Small grain (S A)	Corn
1916	Meadow or pasture (B)	Grass Meadow	Grass Meadow	Small grain (S G)	Alfalfa (B)	Alfalfa	Small grain (S A)	Corn (M)
1917	Corn	Grass Meadow	Grass Meadow	Small grain (S G)	Corn	Alfalfa (M)	Alfalfa	Small grain (S A)
1918	Corn (M)	Grass Meadow	Grass Meadow	Small grain (S G)	Corn (M)	Alfalfa (B)	Alfalfa	Small grain (S A)
1919	Small grain (S A)	Corn	Meadow or pasture (M)	Grass Meadow	Small grain (S G)	Corn	Alfalfa (M)	Alfalfa
1920	Small grain (S A)	Small grain (S A)	Meadow or pasture (B)	Grass Meadow	Small grain (S G)	Small grain (S A)	Alfalfa (B)	Alfalfa
1921	Alfalfa	Small grain (S A)	Corn	Grass Meadow	Small grain (S G)	Corn (M)	Alfalfa (B)	Alfalfa
1922	Alfalfa	Small grain (S A)	Corn (M)	Grass Meadow	Grass Meadow	Small grain (S G)	Corn	Alfalfa (M)
1923	Alfalfa	Small grain (S A)	Corn (M)	Grass Meadow	Grass Meadow	Small grain (S G)	Corn	Alfalfa (B)
1924	Alfalfa	Small grain (S A)	Corn (M)	Grass Meadow	Grass Meadow	Small grain (S G)	Corn	Corn

(M)=Manured. (B)=Break sod either in fall or spring. (S A)=Seed to alfalfa, this may be done in the fall in the West and South, and in the spring with the grain in the Central and Eastern States. (S G)=Seed to grass which may also be done in the fall in the West and South, and in the spring with the grain in the Central and Eastern States.

half of the farm, is always in alfalfa or grass, but occasionally there may be only one field in alfalfa and three in grass, or vice versa; this is the result of the arrangement by which the seeding and breaking of grass and alfalfa sod is made to come alternate alfalfa sod is made to come alternate evenly from year to year. There will always be two fields of corn and two

Rotation plan or order of crops on each field.  
 1st year.....Grass.  
 2d year.....Pasture (manured).  
 3d year.....Corn plus legumes.  
 4th year.....Corn.  
 5th year.....Small grain.  
 6th year.....Wheat (seed to grass).

The above is a six-year rotation and



How LONG is Your Pound of Binder Twine?

DID that question ever occur to you while laying in your supply of twine for harvest? Makes a good deal of difference. "A pound's a pound the world around," it is said. But that rule does not measure the length, strength or quality of binder twine. And these are important to you.

offered at a reduction of a quarter of a cent a pound.

The answer depends upon whose binder twine you buy. Of course competing sellers can make all kinds of assertions. It's not bald assertions you want, but proof as shown by actual tests.

Accepting present prices as a basis for figuring, and considering one-quarter cent difference, the so-called "cheap" twine will cost one-half cent more per pound than the International Harvester Company twine.

Now here is one test that has been carefully made—and what is better, one you can make yourself without any trouble.

In these tests there is a difference of 51.5 feet to the pound in favor of the International Harvester Company twine.

Five hundred feet is considered the standard for length of sisal and standard twines. When your twine runs below this you are not getting what you are paying for.

You'd be glad to buy 46 to 51 feet of binder twine for a quarter of a cent wouldn't you?

Ten balls each of the International Harvester Company's regular Standard twine, and ten balls each of three competitors' standards were tested.

That is the amount more that you get by paying the extra quarter of a cent for the International.

The above illustration shows that competitors' twines run from 467 2-10 feet to as low as 452 3-10 feet to the pound—while International runs above 503 feet to the pound.

Which is the inexpensive twine?

There's a great difference in pounds, as you will observe.

As to strength: These tests showed that while International Harvester Company twine averaged 59 and 9-10 pounds one competitor's barely reached the standard (50 pounds) and the other two fell below from 2 and 7-10 to 4 and 4-10 pounds.

Means a great difference in price also. The International Harvester Company twine is the least expensive twine, as you can figure at a glance. Frequently so called "cheap" twine is

It is easy to see which twine is the longest, which the strongest and which is the least expensive.

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It is a good wagon loader. Team only travels twice as far as the load is raised. The load can be carried and dumped at any point of elevation. It is a great labor saver.

We also manufacture two patterns of Sweep Rakes. We Ship Responsible Parties on Trial. Give us a chance to do so by letting us know your wants.

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 ROLLER RIM GEARS  
 THEY STOP THE WIND AND LESSEN THE WEAR. LATEST, STRONGEST, BEST. FACTORY, BEATRICE, NEB.

can not be well adapted to eight fields, but it is given to show how crops may be arranged for a smaller number of fields.

a hose and spray nozzle, that a large field might be sprayed at an estimated cost of \$4 an acre, that is, \$3 for Disparene and \$1 per acre for labor.

ROTATION PLAN NO. 4.

A Sixteen-year-Rotation with Alfalfa, Small Grain, and Corn on Four Fields.

Year.	Field A.	Field B.	Field C.	Field D.
1906 .	Small grain. (S)	Corn.	Corn. (M)	Corn.
1907 .	Alfalfa. (M)	Small grain. (CC)	Corn.	Corn.
1908 .	Alfalfa.	Corn. (M)	Small grain. (CC)	Corn.
1909 .	Alfalfa.	Corn.	Corn. (M)	Small grain. (CC)
1910 .	Alfalfa. (B)	Small grain. (S)	Corn.	Corn. (M)
1911 .	Corn.	Alfalfa. (M)	Small grain. (CC)	Corn.
1912 .	Corn.	Alfalfa.	Corn. (M)	Small grain. (CC)
1913 .	Small grain. (CC)	Alfalfa.	Corn.	Corn. (M)
1914 .	Corn. (M)	Alfalfa. (B)	Small grain. (S)	Corn.
1915 .	Corn.	Corn.	Alfalfa. (M)	Small grain. (CC)
1916 .	Small grain. (CC)	Corn.	Alfalfa.	Corn. (M)
1917 .	Corn. (M)	Small grain. (CC)	Alfalfa.	Corn.
1918 .	Corn.	Corn. (M)	Alfalfa. (B)	Small grain. (S)
1919 .	Small grain. (CC)	Corn.	Corn.	Alfalfa. (M)
1920 .	Corn. (M)	Small grain. (CC)	Corn.	Alfalfa.
1921 .	Corn.	Corn. (M)	Small grain. (CC)	Alfalfa.
1922 .	Small grain. (S)	Corn.	Corn. (M)	Alfalfa. (B)
1923†	Alfalfa. (M)	Small grain. (CC)	Corn.	Corn.

\*It is assumed that this farm has been cropped largely with corn and small grains and has received little rotation of crops. No alfalfa is growing on the farm in 1906, when field "A" is seeded. The rotation really begins in 1907.

†Observe that this is a repetition of 1907 crops; viz., this rotation is repeated every sixteen years, each of the four fields having received a rotation of four years in alfalfa.

S=Seed to alfalfa in fall. B=Break alfalfa sod. (This should properly be done in the spring when the new catch of alfalfa by fall seeding is assured.) CC=Catch crop or green-manuring crop, planted in the stubble after the small grain is harvested. M=A dressing of barn-yard manure applied in the fall and winter on alfalfa or corn-stubble land and plowed under previous to planting the following crop of corn.

This plan of rotation is more readily understood in this way: It is really a three-year rotation on three fields, one of the four fields being kept continually in alfalfa, as shown in the plan. The order of rotation on each field is corn, followed by corn, followed by small grain. Thus, two fields of corn, one of small grain, and one of alfalfa are grown on the farm each year. At the end of four years the field in alfalfa, which has not been included in the three-year rotation, is plowed and planted to corn the succeeding season, while one of the three fields which has been in the regular rotation is seeded to alfalfa and comes out of the regular three-year rotation plan, remaining in alfalfa for four years, when this field is plowed and planted to corn and becomes one of the fields in the three-year-rotation series, while another field which has been seeded to alfalfa is thrown out of the regular rotation system. It will be observed that such a plan may be followed with five fields, six fields, or in fact any number of fields. With four fields, by the method described, one-fourth of the farm is kept continually in alfalfa. With five fields, one-fifth of the farm would be in alfalfa each year, and it would take twenty years for the alfalfa rotation to be carried out on all the fields. With three fields, one-third of the farm would be in alfalfa all the time and the rotation system would be completed in twelve years.

A. M. TEN EYCK.

Spraying Alfalfa to Kill Web-Worms.

I have a problem to present to you that I have not seen agitated as yet, namely, the "web-worm," the worm that plays such havoc on the alfalfa, especially during seeding time, often destroying the entire crop of seed. You doubtless know of it. I am now in correspondence with the people who are putting out "Disparene" as a spraying material for orchards, etc. I see by their advertising that it is supposed to be sure death to "canker-worms," "maple-worms," etc., then why would it not be the thing to kill "web-worms?" It is claimed for this Disparene that it will not burn the foliage no matter how strong it may be used. "Disparene" is represented as an "arsenate of lead" that adheres to the leaf or plant, will not wash off with the first rain, but will stand a great deal of rain. It can be bought for \$15 a hundred pounds regular. About three pounds are used to fifty gallons of water for spraying. It will take perhaps 350 gallons to spray an acre. That amount will give a fraction over 2 ounces (fluid ounces) to the square foot, which might be sufficient. I calculate that with a large tank, holding 200 or 300 gallons, with a strong force-pump attachment and

Again, if this material is as adherent as represented, it might be possible that the alfalfa straw might not be suitable or safe for feed, which is ordinarily considered worth at least half as much as the hay for feeding, or probably \$1 per acre for the loss of the straw which will make the total estimated cost \$5 an acre or at an ordinary price of a bushel of seed. When the worms are bad it means no seed at all and a great loss even on the hay by the leaves being destroyed, while if this spraying is successful, it means ordinarily at least 3 to 5 bushels of seed per acre. I wish you would take this subject up with your investigators and give me your idea as to the utility and practicability of the experiment. When would be the right time to do the spraying? I have observed that the web-worm makes its appearance about the time the blooming begins. My idea would be to spray just about the time the blooming begins, taking a time when the plant is dry so that the spraying material will adhere better to the plant. In the meantime, if you know of anything else as good that is cheaper would be glad to know what it is. I intend to experiment with this subject this season anyway, and would be glad for suggestions or information along this line. "FARMER."

Lyon County.

The answer to the above letter addressed to Prof. Ten Eyck, referred by him to me, has been long delayed on account of my almost continuous absence from the college in orchard-inspection work, but is still in good time, as the web-worm has not yet made its appearance, so far as I have noted.

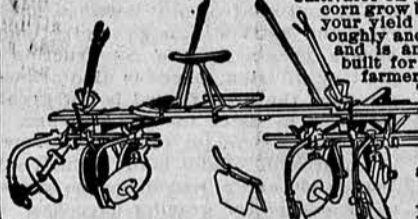
The suggestion as to the possible spraying of an alfalfa-field to kill the leaf-feeding worms is bold though scientific. It is well understood that the web-worm may be killed by the application of arsenic, of which "Disparene" is a form, as certainly as the potato-beetle or the cotton-worm are killed by this medium. Northern farmers are slow to adopt such methods in field work, though their Southern brethren have long availed themselves of this mode of treatment in the cotton-field. The question of treating the alfalfa-field in this manner resolves simply into a question of cost and profit. But there are several points in connection to be carefully considered. The web-worm is not necessarily an annual visitant in destructive numbers. Even in seasons when not destructive, it is present though unnoticed. If spraying is delayed till the worms are fairly well grown, which is when they are first usually noticed at work, the result is not satisfactory as the damage is already proportionally too great. Practically, spraying against the web-worm should be done almost in antici-

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Mention The Kansas Farmer.

pation of their appearance, or at least at once after a practiced eye has determined their presence while they are yet very young. Another point should not be overlooked; the field border may be thoroughly infested almost in one night by the half-grown worms from a weedy area adjoining, from which they will travel without fail as soon as they have eaten up the pasture therein. As the worms are not long in attaining their full growth, any preventive or remedial measures must be put quickly into effect if at all. In the third place, the web-worm operates mostly in the cluster of the youngest leaves at the end of the stem. These are constantly opened farther out by the rapid growth of the plant. If the plant is sprayed to-day, it will be but a day or two till abundant new growth, free from the poison, will be ready for the worms. At best, then, the destruction of the worms will be but partial, even with care in applying the proper materials.

It is certainly true, as the writer suggests, that the hay from sprayed alfalfa will not be available for feed, and its value must be included in the cost of the work. It is also probable that the application of Disparene or other arsenic mixture will serve appreciably in killing the grasshoppers so troublesome at the time of bloom and seeding, though my observations on the poisoning of these pests do not warrant me in the belief that such treatment will secure entire immunity from injury from this source.

In localities where the seed-crop is practically certain so far as the climate is concerned, it will be an interesting and possibly profitable experiment to undertake the protection of a small area of alfalfa by the measures contemplated in "Farmer's" communication.

E. A. POPENOE.

## Stock Interests

### PURE-BRED STOCK SALES.

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

- May 23-June 1, 1906—Sale of all beef breeds, Kansas City sale pavilion, D. R. Mills, Mgr., Springfield, Ill.
- June 7, 1906—F. M. Marshall, Blackwater, Mo.
- June 12-14, 1906—Sale of all beef breeds at Sioux Falls, S. D., D. R. Mills, Mgr., Des Moines, Iowa.
- June 18-21, 1906—Dispersion of Tebo Lawn Showhorns, E. B. Mitchell, manager, Clinton, Mo., at Kansas City.
- June 28-28, 1906—Sale of all beef breeds at Des Moines, Iowa, D. R. Mills, Mgr., Des Moines, Iowa.
- October 2-4-5, 1906—Glasco Live Stock Association sale of pure-bred stock, Glasco, Kans.
- October 10, 1906—H. L. Faulkner, Jamesport, Mo.
- October 17, 1906—W. J. Honeyman, Madison, Kans.
- October 17, 1906—Poland-Chinas, W. A. Pruitt, Asherville, Kans.
- October 18, 1906—Poland-Chinas, W. A. Davidson, Simpson, Kans.
- October 20, 1906—W. R. Dowling, Norcat, Kans. Poland-Chinas.
- October 23-24, 1906—E. A. Eagle & Sons, Agricola, Kans.
- October 24, 1906—Poland-Chinas, Frank A. Dawley, Waldo, Kans.
- October 25, 1906—D. W. Dingman, Clay Center, Kans., Poland-Chinas.
- November 1, 1906—Frank Zimmerman, Centerville, Kans.
- November 5, 7, 8, 1906—Sale of all beef breeds, Kansas City Sale Pavilion, R. A. Ford, Lawson, Mo., Manager.
- November 8, 1906—T. P. Sheehy, Hume, Mo.
- November 13, 1906—Howard Reed, Frankfort, Kans.
- November 18, 1906—G. M. Heberd, Peck, Kans.
- November 20-23, 1906—Blue Ribbon sale of all beef breeds, D. R. Mills, Mgr., Des Moines, Iowa.
- November 27, 1906—L. C. Caldwell, Moran, Kans.
- December 4, 1906—Poland-Chinas, Lemon Ford, Minneapolis, Kans.
- December 11-12, 1906—James A. Funkhouser and Charles W. Armour, sale pavilion, Kansas City.
- Improved Stock Breeders Association of the Wheat Belt—November 13, 14, 15, 1906, at Arkansas City, Kans., I. E. Knox, Nardin, O. T., manager; Dec. 6, 7, 1906, at Anthony, Kans., Chas. M. Johnston, Caldwell, Kans., manager; Dec. 18, 19, 1906, at Wichita, Kans., J. C. Larrimer, Derby, Kans., Manager; Feb. 13, 14, 15, 1907, at Caldwell, Kans., Chas. M. Johnston, Caldwell, Kans., manager.

### Control of Grazing on the Public Lands.

Now that the Government grazing policy is in successful operation on the National forest reserves, the question has arisen whether the same or some similar policy might not be applied to the open public range.

The policy of the Forest Service is not to hold the reserves out of use, but to secure their fullest and most permanent use. To this end, grazing under proper restrictions is permitted. Happily, these restrictions have thus far met with general approval.

From the first, the importance of fitting the regulations to local conditions has been recognized. Rules occasioning needless hardship to stockmen have been modified, and emergencies demanding instant action have been promptly met.

When a new reserve has been proclaimed all stock grazing upon it is allowed to remain during the first year; if, afterwards, this number is found to be too great for the resources of the range, it is gradually reduced. Stockmen are aided in effecting a satisfactory distribution of their stock upon the range and in securing from it the

most profitable and permanent use. Small stock-owners living in the vicinity of the reserves are given such preference in the allotment of grazing privileges as will protect their interests. First occupants of the range and farmers owning improved lands adjacent are also preferred. The rights of large owners based upon the range custom of the past are recognized, and reductions in the number of their stock are required only when necessary to protect the range or the grazing rights of bona fide settlers.

Necessary range divisions between owners of different kinds of stock are made, and controversy between sheepmen and cattlemen is promptly ended. Where necessary, the construction of drift or division fences is also allowed, provided the area fenced is not greater than one needs of the stock-owner.

Outside the forest reserves, however, is an area of public land, estimated at 400,000,000 acres, which has no present value except for grazing purposes. On this land grazing is wholly unrestrained by law. Commercial interests, great and small, have competed for its use, and the result has been abuse of the range. Millions of acres have been recklessly overgrazed and practically ruined. In his last annual message the President says: "It is probable that the present grazing value of the open public range is scarcely more than half what it once was or what it might easily be again under careful regulation." Some stockmen have, to the exclusion of others, possessed themselves of the strategic positions—that is, the lands controlling the streams, springs, and other watering places, and by this means have secured temporary control of the adjoining grazing lands. Charges of fraudulent entry have led to litigation. Great areas have been illegally fenced. Again, stock-owners, notably sheep- and cattlemen, have defended their conflicting claims by force of arms, causing serious loss of property and even of life.

Obviously, such conditions should be corrected by law. The remedy would seem to be to apply to the open public range the regulations already governing the forest reserves. This conclusion is strengthened not only by the success attending the forest-reserve policy, but also by the effect of fencing the public grazing lands. Though illegal, this fencing has in most cases greatly improved the condition of the area inclosed. Care, however, must be taken to avoid the application of sweeping and ironclad regulations to an area so vast and to conditions so different. The investigations of the Public Lands Commission show that immediate application of any inflexible rule to all grazing lands alike, regardless of local conditions or grazing values, would be disastrous, and that improvement must be sought through the gradual introduction into each locality of such form of control as is specifically suited to it.

In his message, already referred to, the President says:

"The best use of the public grazing lands requires the careful examination and classification of these lands in order to give each settler land enough to support his family and no more. While this work is being done, and until the lands are settled, the Government should take control of the open range, under reasonable regulations suited to local needs, following the general policy already in successful operation on the forest reserves."

Should the policy thus suggested be established by law, great good would undoubtedly result.

### Imaginary Objections to Tamworth Swine.

E. L. Linder, of Clay Center, Kans., farms over 800 acres of land and consequently handles large numbers of hogs and cattle. Let him tell you what the Tamworth has done for him:

We often hear it said "that if the packers will not give more for Tamworths than for other breeds of swine, there is nothing gained by raising them."

And in reference to that matter I wish to say that if we can take a pure-bred Tamworth and a pure-bred hog of any other breed, give them the same treatment until they are matured or marketable, and the Tamworth weighs as much as the other, then we have lost nothing, and if the Tamworth has made more of the high-priced cuts of pork than the other, we have gained something. After experimenting with him in many ways for sixteen years, I am fully convinced that on the farm, the Tamworth is the most profitable hog now known. He will transform more cheap farm products into high-priced bacon than any other hog. I am asked why I think so. I answer simply be-

cause he will grow and do well on grass, artichokes, stock beets, peas, etc., all of which are the cheap farm products, and he will also do well when fed on high-priced feed like corn, ship-stuff, oats, etc.

The first of September, 1899, I put a hog on dry blue-grass pasture, corn, and water. A short time before Christmas we slaughtered it at 14 months old and obtained from its carcass 10 gallons of lard, 5 gallons of sausage, and each of the hams when trimmed close weighed 24 pounds.

We have recently sold the culls from our last autumn litters that have been grown without grass or roots, and at 6 months old they made an average of 153 pounds.

Their very large litters are enough to commend them to the common farmer if they had no other good points, and as they are good mothers they save most all of their pigs.

Farmers in our county are putting the Tamworth to a practical test by the side of other breeds, and many of them have been compelled to change their former views concerning the breed.

### Memory of Horses.

All of the lower animals, particularly horses, have wonderful memories. That this is so is demonstrated by the experience of men who have to do with horses day by day.

"Ponies and horses do not forget tricks once they have learned them," said H. B. Gentry, the widely known horseman and manager of the famous dog and pony shows which bears his name. "It sometimes takes many months of patient work to teach a horse or a pony a certain trick, but after it is once learned it is never forgotten. We have ponies and other animals that have become too old and infirm for exhibition purposes, and they have been pensioned at our farm. These ponies have not been asked to perform their acts for years, yet frequently they go through the old acts, and it is not unusual to see an old and infirm pony go through a solitary drill of its own accord."

"There is only one successful way to train animals, and that is by the use of patience and kindness, and any man who possesses these qualities can successfully train animals. That is the method we have always pursued in the training of dogs and ponies, and after an animal has learned to do certain things, if you treat him kindly, he will do it always without a single mistake. He does not make a mistake simply because whenever he gets anything firmly fixed in his head he does not forget it."

That a horse does not forget is illustrated by the following story, recently published in a Springfield (Ohio) paper:

"Fritz, an old horse who was recently replaced at the patrol house by a new team of smaller horses, has displayed a remarkable bit of horse sense, also showing his fondness for his old home on the farm. Nearly thirteen years ago the animal was purchased from John Schwartzbaugh, a farmer living near New Carlisle. He was drafted into service at the patrol house, and until a few weeks ago served the city in that capacity. When he was retired, Patrick Kearns took the horse and had him in a pasture on Eastern Avenue. The other day he escaped and was found the following day at the Schwartzbaugh farm, near New Carlisle."—Texas Stockman and Farmer.

### Auctioneers' Convention.

EDITOR KANSAS FARMER:—The next annual International Auctioneers' Convention will be held in Chicago on June 12-13-14, with headquarters at the Sherman House, located at the corner of Randolph and Clark Streets. There has been a rate of one and one-third fare for round trip on all roads granted on the certificate plan. After considerable correspondence, most of the Kansas and Oklahoma auctioneers have decided to take the Rock Island Route, and will go as follows: From Herington on to Chicago they will take train No. 12 on June 11. The train leaves Herington at 12.06 p. m. and arrives in Kansas City at 5.40 p. m.; it leaves Kansas City 6.30 p. m. and arrives in Chicago at 9.40 a. m., June 12, landing us there in due time for the opening session, which is at 2 p. m. on the 12th. A hearty invitation is extended to all honorable auctioneers to attend this meeting. It will be a splendid meeting, as some of the foremost men of the profession in the United States, Canada, and Mexico have promised to make speeches, read papers, or give lectures on some topic or subject of interest to the profession. Kansas was well rep-

## Horse Owners! Use

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A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPPURES ALL GOUTS OR FURING. Impossible to produce scar or Blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

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WILL SAVE YOU DOLLARS

By preventing loss and sickness among your farm animals. Time to save is before loss occurs. Keep your live stock free from disease. DIPOLENE will do it. It kills disease germs, destroys ticks, lice, fleas; cures sheep scab, mange, eczema. Protects against mosquitoes, and keeps stock in a healthy, sanitary condition. It's easy to use. Powerful, sure and pure; DEATH TO DISEASE but perfectly harmless to animals, hair, feathers or wool. A gallon makes 100 gallons dip. Write for price and FREE book, "DIPOLENE FOR DOLLARS."

Box 13, MARSHALL OIL CO., Marshalltown, Iowa.

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Fistula and Poll Evil Cure

—even bad old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in

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resented at the last international convention, let it be better this year. So wake up, take a few days' recreation, and attend this meeting.

Iowa Swine-Breeders.

The annual meeting of the Iowa Swine-Breeders' Association and the National Association of Expert Swine-Judges will be held at Des Moines, Iowa, June 5 and 6, 1906.

TUESDAY, JUNE 5.—AFTERNOON SESSION. "Forty Years a Swine-Breeder"—W. Z. Swallow, Waukeo, Iowa.

"Is Our Present System of Judging, as Practiced at Leading Shows, for the Best Interests of Breeders for the Standpoint of Usefulness?"—N. H. Gentry, Sedalia, Mo.

"Outlook for Hog-Raising from a Breeder's Standpoint."—W. R. Hakes, Williamsburg, Iowa.

"The World's Greatest Swine Show—the Iowa State Fair—and the Value of the Swine Industry in the Upbuilding of Iowa."—J. C. Simpson, Des Moines, Ia.

"The Duties and Obligations of the Breeder to His Patrons: Guarantees."—John M. Cox, Jr., Harlan, Iowa.

"The Grass-Grown Hog and His Value as a Breeder."—G. W. Hockett, Manning, Iowa.

"Care of the Brood Sow and Her Litter, and Selection and Care of the Herd Boar."—E. E. Henderson, Central City, Iowa.

"Showing Barrows at the International."—James Atkinson, Des Moines, Iowa.

"Does the Farmer or Feeder Demand a Stronger Bone and Back Than Is Produced by the Breeder of To-day?"—J. A. Benson, Primghar, Iowa.

"Tuberculosis in Swine."—Dr. J. A. McNeill, Ames, Iowa.

"Mendel's Law and Its Bearing upon Practical Breeding Operations."—John Thompson, Sioux City, Iowa.

Headquarters for both associations will be at the Wellington Hotel.

Commencement Week at the Kansas State Agricultural College, 1906.

Sunday, June 10—Baccalaureate Sermon, College Auditorium, 4 p. m., Rev. Daniel McGurk, Pastor Grand Avenue M. E. Church, Kansas City, Mo.

Monday, June 11—Recital by Music Department, College Auditorium, 8 p. m.

Tuesday, June 12—Examinations from 8.30 a. m. to 2.40 p. m.

Wednesday, June 13—Examinations from 8.30 a. m. to 11.50 a. m.

Thursday, June 14—Annual address, College Auditorium, 10 a. m., Prof. Edwin Erie Sparks, Ph. D., Dean of University College, The University of Chicago.

Friday, June 15—Annual address, College Auditorium, 10 a. m., Prof. Edwin Erie Sparks, Ph. D., Dean of University College, The University of Chicago.

Gossip About Stock.

T. A. Hubbard, Wellington, Kans., can supply customers with Poland-Chinas of either sex from pigs just weaned to aged sows bred or 400-pound yearling boars.

Zenoleum Kills Lice, Cures Mange.

Leading hog breeders, the world over, use Zenoleum, have used it for years, and are enthusiastic in its praise. Every gallon is guaranteed to please—or Money Back. Used and endorsed by 41 agricultural colleges.

IOWA AGRICULTURAL COLLEGE. "We had an outbreak of hog cholera, but we stopped it. We attribute our success in no small way to the use of Zenoleum." W. J. Kennedy, Prof. of Animal Husbandry.

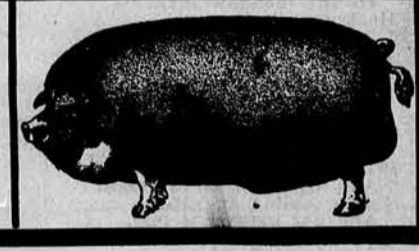
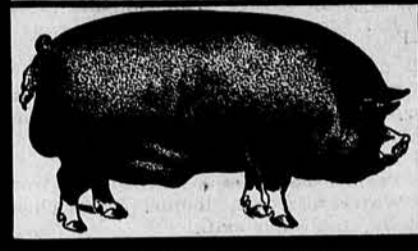
ILLINOIS AGRICULTURAL COLLEGE. "We have used Zenoleum quite extensively for destroying lice on hogs and find it a very efficient remedy." H. W. Mumford, Prof. of Animal Husbandry.

INDIANA AGRICULTURAL COLLEGE. "We use Zenoleum and find it a very satisfactory dip for hogs. We use it in disinfecting the feeding and living quarters also." J. H. Skinner, Prof. of Animal Husbandry.

NEBRASKA AGRICULTURAL COLLEGE. "We have been greatly benefited by dipping our hogs in a 3% solution of Zenoleum, as it kills lice and leaves the skin in perfect condition. I have given Zenoleum a severe test and am more than pleased." Dr. A. T. Peters, Station Veterinarian.

KANSAS AGRICULTURAL COLLEGE. "We are using Zenoleum as a disinfectant with excellent results. It kills lice on either cattle or hogs. I can recommend it as an economical and effective disinfectant." D. H. Otis, Prof. of Animal Husbandry.

OHIO AGRICULTURAL COLLEGE. "A dipping tank containing Zenoleum, prepared according to directions, will suffice to remove the lice and cleanse the pigs." C. S. Plumb, Prof. of Animal Husbandry.



Prices, Freight Prepaid One Gallon, Only \$1.50. Two Gallons, Only \$3.00. Five Gallons, Only \$6.25. "VETERINARY ADVISOR" FREE IF YOU ASK. Zenner Disinfectant Co., 61 Lafayette Ave., DETROIT, MICH.

As a hay-rack it is 16 feet long and 7 1/2 feet wide, and strong enough to carry two tons. The changes are easily made by one man. For further information address Des Moines Wagon Works, Des Moines, Iowa.

Kansas City Grain Markets.

Wheat.—No. 2 hard, nominally 79@83c, 1 car yellow 83c, 4 cars 82c, 1 car 81 1/2c, 18 cars 81c, 10 cars 80c, 1 car like sample 79c; No. 3 hard, nominally 77@81 1/2c, 3 cars 80c, 1 car 79c, 2 cars 78 1/2c, 10 cars 78c; No. 4 hard, nominally 79@77c, 2 cars 76c, 3 cars 75c; rejected hard, nominally 60@70c, 1 car 68c, 1 car 67c, 3 cars 68c; Live weevily hard, 1 car 78c; No. 2 red, nominally 90@92c; No. 3 red, nominally 86@91c, 1 car 88 1/2c; No. 4 red, nominally 75@85c; No. 3 mixed, 1 car 90c.



THE WEANER THAT'S A WINNER Not a cheaper weaner, but a better one. No straps to break or spikes to injure cow. Fastens to nose with a spring wire, permitting animal to eat, drink and graze without discomfort, but it can not suck. Guaranteed to stay on and not make the nose sore. If your dealer hasn't it, send us his name and 60 cents for prepaid sample. Money returned if weaner is not satisfactory. Call, yearling and cow size; special for cows that suck themselves, 75 cents, prepaid. IOWA MUZZLE CO., Dept. M., Carroll, Iowa.

largely to light, half-fat and grassy heifers, and these did not sell better than steady to 10c lower. There was a small showing of quarantine stuff, mostly cows and calves. These met a very good demand and were quickly closed out at satisfactory prices, calves selling at \$5.75@6.25 for the bulk, while cows went at \$3@3.25. There was practically nothing doing in the stocker and feeder line although prices were quoted steady at last week's decline. The outlook of the cattle trade seems to favor a healthy market.

Kansas City Live-Stock Market.

Stock Yards, Kansas City, Mo., May 28, 1906. Receipts of cattle last week were exceedingly light after Tuesday. The week footed up only 32,000 head, against 34,000 the previous week and 38,000 same week last year.

No More Blind Horses

For Specific Ophthalmia, Moon Blindness and other Sore Eyes, BARRY CO., Iowa City, Ia., have a cure.

COLLAR GALLS need not interfere in the least with your work, if you will use BICKMORE'S GALL CURE. Guaranteed to cure all harness, collar and saddle galls, speed cracks, scabs and greenhorns. Look for trade mark. Take no substitutes. Bickmore's Horse Book and 1-oz. box Bickmore's Gall Cure FREE for No. to Pay Postage. Write today. Sold by dealers. Bickmore's Gall Cure Co., Box 116, Old Town, Maine.

Every Medicine Shell KENDALL'S SPAIN CURE. Should have the great remedy for SPAINING, RINGBONES, CURBS AND SPLINTS. Kendall's Spain Cure. 1 oz. a Bottle for 25c. All Druggists. Write for Free Circular on the Horse. DR. B. J. KENDALL Co., Keosauqua Falls, VI.

A Great Fountain Pen Offer

Our Best \$1 Fountain Pen and the Kansas Farmer one year, both pre-paid \$1.50. Our best \$1.50 Fountain Pen and the Kansas Farmer one year, both prepaid \$2.00. Our best \$3 Fountain Pen and the Kansas Farmer one year, both \$3.00 prepaid.

GOLD GOLD GOLD

Investors who wish large profits should write for prospectus of the Hazel Mines Company at Bullfrog Nev., located on the same vein with Original Bullfrog Mine, which produced 70,000 from 20 tons of ore.

The market opened steady on all classes Monday, but lambs declined 10@20c by the end of the week, sheep held nearly steady account of scarcity. Top lambs sold at \$7.65 Monday, 5 cents below last week's top, shorn lambs at \$6.65. Some Texas grass wethers sold up to \$5.85. Supply to-day 6,000, market steady, top lambs \$7.45, bulk at \$6.70, yearlings at \$5.25@6.25, ewes \$4.80@6.30, stock sheep \$3.50@5. Light receipts will rule from now until the fed season. Most of the supply from now on will come from Texas and the Southwest. J. A. RICKART.

When writing advertisers please mention this paper.

## Home Departments

CONDUCTED BY RUTH COWGILL.

### Song of the Prairies.

Sing with me the chorus  
Of the green, short grass;  
How the birds are warbling  
As the cool winds pass!  
Think of how we canter  
On the sand-hill plains  
When the things are sprouting  
From the last big rains!

Sing with me the chorus  
Of the soft day breeze  
Breathings of the spirits  
When we pray to these;  
There is an hour of peace  
That is wafted o'er  
With the happy breezes  
From an unseen shore!

Listen to the singing  
Of the meadow lark!  
He knows it is even,  
And 'twill soon be dark;  
But see! The sun goes down  
Like a ball of fire—  
Gods have built an altar  
To the One God higher!

This is just my worship—  
Just the plains' plain plan—  
Breezes tell of heaven,  
And my heart knows man!  
Nature builds an altar,  
And her incense is rest,  
And she burns it in the sunset  
Away out West.

—Clyde Adams.

### Home Atmosphere.

Every home has its atmosphere just as sure as this earth has, and its influence is as far-reaching—yes, even more so. The earth's atmosphere has its influence upon everything animate and inanimate, and varies with the locality. It is affected by the changes in the temperature and by the gases caused by decaying matter continually taking place in nature.

As an illustration, we have the Egyptian obelisk which was placed in Central Park, New York, a few years ago. It had withstood the ravages of centuries in the dry atmosphere of Egypt, but it is rapidly disintegrating since being placed in this country. It is interesting to study this phase of the subject, but the atmosphere of the home is of vastly more importance and interests a larger number of people. Perhaps you do not know about this home atmosphere nor understand its cause and effect. You have doubtless felt its influence and wondered at its changeable moods. You may not know, fathers and mothers, that you make it what it is to a great extent, nor realize perhaps that like fairy godmothers and godfathers you are able to make it what you will. You may create in your home an atmosphere of joy and love and peace.

The dominating spirit that pervades the home is the atmosphere. It is as subtle and difficult to describe as the wind that "bloweth where it listeth," but by your own personality you make it. If you are cross and harbor in your heart unkind feelings, even though you say not a word, notice how quickly the children feel it and how soon they assume the same spirit. When you are overtaxed and nervous from your many cares and vexations, even the baby will feel it, and you wonder why he is so fretful and cross and will not go to sleep. If you can at such times drop "every care that doth so easily beset you," and cast your burdens on Him who is able to sustain, the atmosphere will clear.

Laughter is a promoter of the atmosphere of joy—the real laughter that ripples up from the heart spontaneously and joyously. It is contagious, and chases away many a cloud of discontent and, like the sun, drives the mist of sadness before it. Joy is a duty, and it is the duty of every father and mother to make their home one of joy. In the home where the laugh of the children is hushed, something is seriously wrong. Such an atmosphere would be oppressive and depressing. Let the children laugh all they wish and laugh with them. Let your happy laugh, mothers and fathers, ring in the ears of your children long after you have ceased to laugh. It will be a happy memory to them when they have grown into manhood and womanhood.

### Home Preservation of Fruits.

The season for the preservation of fruit is approaching. While all good housekeepers take pride in a well-filled fruit-closet, many doubt if the home-prepared article is as economical, time and fuel being taken into consideration, as the commercial brands on the market. Recent investigations in the experiment stations indicate that a

large proportion of the canned foods on the market have preservatives, coloring matter, or other adulterants added to them, and not a few have proven to have all the objectionable features. Admittedly one can not purchase as pure, as cleanly prepared, and as good quality as she can prepare at home unless she purchases the best brands in the market, which are always very expensive. The choice, then, becomes one between these: cheap, adulterated, inferior canned foods, very expensive foods, or home-prepared materials. Eliminating the first as in all cases undesirable, the choice between the two latter will depend upon cost; not upon cost of material, but upon cost of material plus cost of woman's time and strength. Concerning this, each individual case must be decided according to its peculiar conditions, yet as every housekeeper must let some things go undone in order that others may receive her attention, we are often led to the conclusion that many tasks that might be delegated or omitted are done by women who think that it does not pay them to can their own fruit, when it would have been better to omit other duties. It could be proven that in every case the first cost of material is far less than the cost of the commercial food.

A series of experiments carried on through several years, under rather unfavorable cost conditions, have given results somewhat as follows: From 16 to 20 quarts of peaches may be canned from one bushel of the fresh fruit. Peaches at \$1 per bushel and sugar at \$5 per hundred would make the home-canned fruit cost from 6 cents to 7½ cents per quart, cost of jar not included. The quart of peaches thus prepared will contain more solid than the ordinary three-pound can as purchased. Blackberries and raspberries yield from 13 to 17 quarts per crate, there being little waste if in good condition when used. Tomatoes should yield 13 quarts to the bushel. Grapes yield one pint of juice to each two pounds of fruit, and this juice is most excellent for use in sickness or in health. One quart of juice and 1½ pounds of sugar gives six glasses of grape jelly. Pine-apples purchased when cheapest can be obtained for 75 cents per dozen. One pine-apple fills a pint jar.

The following suggestions may prove helpful to the young housekeeper. Can fruit in small quantities daily while preparing meals rather than canning large quantities at one time and becoming over fatigued. Cover pie tins with several layers of butcher's brown paper, wet in hot water; place jars just removed from boiling water on this paper; put rubber in place, fill at the range, wipe with cloth wrung from hot water, screw lid in place and invert on table. By this method of handling neither stove nor table becomes soiled, and at the end of the work the paper can be destroyed and a minimum of cleaning remains to be done. Every housekeeper should have a strong hook placed over the kitchen table (a bird-cage hook answers the purpose) where she can suspend the jelly-bag while it drains. If the fruit is cooked and hung in the evening it will all drain out before morning, thus avoiding tiresome squeezing and heated, stained hands. By making the jelly in the morning hours, jelly-making ceases to be a dreaded task.

There is such satisfaction in the result of the labor expended in canning, such unvarying success where intelligent attention is given to details, that it seems reasonable to conclude that in the majority of cases it would be better to use home-prepared foods even if other tasks were sent out of the house.—Henrietta W. Calvin, in The Industrialist.

### Do You Rest Properly?

Remember that the most complete and the most natural rest should come at night, when the day's bustle and worry over, the tired brain and body is given an opportunity to throw off the strain of the work, and for eight hours or so may be freed from nervous tension. Not one person in ten knows the benefit to be derived from real rest, because she does not know what real rest is.

Lying with stiffened spinal muscles, constrained chest, and head bolstered up on large pillows, often the hands clinched and face drawn into grotesque shapes—that is not real rest.

So much wasted energy when life is so short, and so much energy is needed for necessary work and so much more for necessary enjoyment!

It is not easy to learn—relaxation—but it can and must be mastered before one can in any wise get that full measure of life and health which is his rightful inheritance. Relaxation can not be taught; it only comes with intuition and becomes easy with practice, just as one forms the habit of waking at a certain hour in the morning.

Learn to let the couch hold you. Most of us cling to it, unconsciously, of course, as though at any moment it might go down beneath us. Let the muscles, which have been all day like rubber bands stretched to their fullest length, come to normal. Drop all your petty cares, shut out all plans and conjectures and schemes, breathe deeply and regularly the fresh air from your opened windows and sleep.—Ex.

### Vegetable Medicines.

Turnips, onions, cabbage, cauliflower, water cress, and horseradish contain sulfur.

Potato, salts of potash.

French beans and lentils give iron. Watercress, oil, iodine, iron, phosphate, and other salts.

Spinach, salts of potassium and iron. Food specialists rate this the most precious of vegetables.

Cabbage, cauliflower, and spinach are beneficial to anemic people.

Tomatoes stimulate the healthy action of the liver.

Asparagus benefits the kidneys.

Celery for rheumatism and neuralgia.

It is claimed the carrot forms blood and beautifies the skin.

Beets and turnips purify the blood and improve the appetite.

Lettuce for tired nerves.

Parsley, mustard, cowslip, horseradish, dock, dandelion, and beet tops clear the blood, regulate the system, and remove that tired feeling so peculiar to spring.

### What To Teach Your Daughter.

Teach her that one hundred cents make one dollar.

Teach her how to wear a simple muslin dress and to wear it like a queen.

Teach her how to sew on buttons, darn stockings, and mend gloves.

Teach her how to dress for health and comfort, as well as for appearance.

Teach her to arrange the parlor and the library.

Teach her to love and cultivate flowers.

Teach her to have a place for everything and to put everything in its place.

Teach her to say no and mean it and to say yes and stick to it.

Teach her to have nothing to do with intemperate and dissolute men.

Teach her to pay regard to the character of those she would associate with, and not to how much money they have.—Detroit News.

### Three Grades of Mankind.

Henry Thomas Buckle's thoughts and conversation were always on a high level. Once he remarked: "Men and women range themselves into three classes or orders of intelligence; you can tell the lowest class by their habit of always talking about persons; the next by the fact that their habit is always to converse about things; the highest by their preference for the discussion of ideas."

A youngster was holding a horse's head, while a blacksmith was shoeing the animal. The horse, being a young one and restless, did not seem to enjoy the process, and plunged occasionally. The smith, who was putting on a hind shoe, getting impatient, requested the boy to keep the horse quiet, whereupon the youngster replied, "My end is quiet enough, guv'nor; see to yours."

I believe that there is no away, that no love, no life, goes ever from us; it goes as He went, that it may come again, deeper and closer and surer, to be with us always even to the end of the world.—George Macdonald.

The craving for sympathy is natural enough, and it ought never to be treated harshly, nor thought of as a fault, but it easily becomes ignoble and very morbid, because very selfish.—Charles G. Ames.

Men are apt to fret and worry,  
But what's the use?  
Just to keep business boomin',  
Men do lots of things inhuman—  
Even argue with a woman;  
But what's the use?

**"A Kalamazoo Direct to You"**

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**The Young Folks**

**Hammer and Tong.**

A man arose at the peep of dawn,  
He girded his dally armor on.  
He took his pick and his spade and hoe  
And off to the fields, patient and slow,  
And all day long with dripping brow  
He smote the rocks and held the plow,  
For well this sturdy toiler knew  
Of all the labors he had to do  
The only way to move it along  
Was hammer and tong, hammer and tong.

A schoolmaster stood on the rostrum  
And watched the children file in the door,  
And he saw in the face of many a child  
A turbulent spirit, untaught and wild.  
His brow was creased with a worried frown  
As he thought of the task of gentling down.  
To winnow the right from out of the wrong  
Was hammer and tong, hammer and tong.

An engine dashed with a sudden roar  
Out of the roundhouse's open door,  
And seized with a mighty grip of steel  
Many a loaded truck and wheel.  
And over the hills and plains afar  
Trundled the passengers' truck, and car.  
A pillar of fire the whole day long,  
Hammer and tong, hammer and tong.

An author sat in a leathern chair,  
He gnawed his pen and he rumbled his hair,  
For men of learning, wise and profound  
Garnered and gleaned from the self-same ground,  
Leaving but stalks and straws behind,  
For shears are sharp and readers unkind,  
But the author wove sweet story and song  
With hammer and tong, hammer and tong.

At the word of God the Heavens re-sound  
And out of nothing came solid ground.  
A million of stars lit up the skies  
And angels looked down with wonder-ing eyes.  
A little was left for puny man  
To build and rear as best he can,  
But for ages and ages he struggles along  
With hammer and tong, hammer and tong.

—John C. Baird.

**Fleetfoot; the Autobiography of a Pony.**

MARION SEWELL.

**CHAPTER XIV.—THE STATE FAIR.**

Autumn was well advanced and school had been in session a month or more when one day the children announced that it "was time to be think-in' about the State Fair." Having never heard of such a thing before I was at a great loss to know what a State fair was like, but I naturally supposed that it was a variety of fall apple. Of late I had eaten delicious Ben Davis, Seek No Further, Rome Beauties, and others too numerous to mention; so now I was anxious enough to sample a few State Fairs.

It struck me as rather strange that so much preparation was necessary in order to reach this new fruit, but in my easy-going way concluded that perhaps it was a long distance to this orchard, and made up my mind to patiently await developments. A couple of days before our pilgrimage commenced, Lyall tightly braided my tail and mane in small plaits, and curried and brushed my already glossy coat until I began to fear that he would quite wear it out.

One cool and frosty morning my young master carefully undid the before-mentioned braids, and lo! a curly, flowing mass of hair was the result; then after more currying and brushing I was led out into the lot. To my surprise Big Jake, "the match team," and a long, slim bay that I had never seen before were standing waiting for us. They all wore blue halters and were very proud and restless.

As we passed the house, Mrs. Dearcot, Daisy, and our own two girls, besides several visitors came out to admire us and bid us a short farewell.

Marcella came over to give me a final pat and tell me not to be afraid of anything, to keep close to Big Jake and she knew I would win a prize. Of course these remarks were rather hazy to me, but knowing that my little mistress had my interests at heart I did not worry about what I could not understand; so I just laid my moist lips on Marcella's neck and then we were off.

It was not far to the city, that place being our first destination, and arriving there we were directed to the "stock-yards." A big, red house which some one called a "car" was right in the way, but instead of taking the thing somewhere else, they tried to make us walk through it. I rebelled at once and jerked back, a perform-

ance which caused Big Jake to glance at me with a mixture of displeasure and surprise.

Then a man who knew us both suggested that some one should take our reins and lead us in together, and this plan worked like a charm. The far end of the car was partitioned off for Big Jake and me, much to the amusement of some idle bystanders.

A little later I heard heavy tramping over the wooden floor, and I knew that many other horses were being brought in. Pretty soon another car banged up against the one we occupied, and the jolt was so sudden and severe that I plunged both my front feet into the narrow manger near by. Big Jake looked at me with the quiet sympathy of one who is used to such inconveniences, and when I became less nervous he allowed me to come between him and the partition where, with his huge frame forming a solid wall, I felt that no danger could find me out. In the meantime the loud mooing of cows, squealing of hogs, and bleating of lambs could be heard above the lesser noises made by unloading wood and connecting different cars.

Presently, after considerable chugging and tooting, the train started on its winding path, and this being my first ride I enjoyed it to a certain extent, although the window through which I should have observed the scenery was behind us, and Big Jake kept so near me that I was prevented from turning round.

It was not very long until the cars slowed up and then stopped entirely. I heard the grating sound of opening doors, and I knew that the horses and other stock were being unloaded. The disturbance seemed to come nearer and nearer, then suddenly the partition was moved back and a man of large proportions and genial nature stood in the newly made vacancy and grinned. "Augustus Caesar!" he exclaimed. "What have we here? I expected to find something for the exhibition, but instead run onto a ten-cent show. Come on, boys. Only a dime to see the largest and smallest horse in the world. Come up, good people, come up." Laughing and pushing, a crowd gathered and made Big Jake and me objects of merriment. Above the war of words I heard one gentleman say, "Upon my honor, that's the finest make of a pony I ever saw."

Just then a loud voice shouted, "Why don't you fellows finish unloading that car? Those two animals must go with the Dearcot and Dennison exhibit." A sudden lull fell on the gay company, one stranger muttering, "Dearcot and Dennison; then I suppose that mountain of flesh is no other than the celebrated "Big Jake."

Respectfully we were led out of the car into the open air, and by dodging in all directions succeeded in evading several large droves of stock. Unheeding we passed a number of big, towering buildings, but when we came to one painted gray and trimmed in white the procession stopped, and a man riding out to the side announced that, "the little fellow goes in there," whereupon my course of travel was turned, and before I realized the fact, I was separated from Big Jake, and was being led down the center of this strange new barn.

Filled with wonder I found myself in a tiny stall with a darling manger and the daintiest feed-box you ever saw. I looked overhead to see if the roof was going to fall on me, and being satisfied that it was good and sound I allowed my eyes to roam about and size up the other occupants of the building. They were all ponies, and of such a variety that you would become an unbelieving Thomas were I to tell you all about them. Suffice it is to say that there was every kind of a pony, some a great deal larger than myself, and others so small they could pass between my feet. I was especially in love with one little chap that had the color of our Maltese kitten at home. He was very short and fat, and wore a long, light mane, and in his eyes was such a humorous twinkle that I at once desired to be friends with him.

I was just beginning to feel at home in my new quarters when Mr. Dearcot came bustling in, and the first thing he did was to begin to laugh. "Hello Chub!" he exclaimed, as he made straightway for my stall. "You look like a fish out of water. Seeing the world, eh, old boy? You thought you were the only pony in the broad land, didn't you? That is right, Robert. Give him his fill of oats (this to the man who came in to feed us). Oats are good for homesickness. Yes, I'll stroll about and see the other wares. Such an assortment!"

After he had made the rounds he

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came back and stood beside me. "A fine lot of ponies," he remarked with the air of an expert judge, "but I do not see one that would match up with this fellow. You don't happen to know where I could get a likely mate for him, Robert?"

"No, Sir," respectfully replied Robert, as he paused in his feeding operations. "Your pony is an off color, I believe, sir."

#### CHAPTER XV.—SWEET HOUR OF PRIDE.

I never had any idea what a big world I lived in until the time of the State Fair. During my stay there my nights were passed in peace and tranquillity, but in the hours of daylight there seemed to be nothing but noise and confusion. An endless stream of people walked through our stable, and my neck tingled with all the admiring pats I received, and my brain reeled trying to remember the numerous compliments which were hurled at me. The grown people expressed their pleasure in smooth and easy language, but the little children could find no words in keeping with the delight they felt in my company. I was fondled and caressed until I was in a fair way of becoming spoiled. Even the babes in arms would cry when finally carried away and insist on coming back to touch the "booful pony."

I pretended to myself that so great an amount of attention wearied me, but such was not really the case, as was proved by the loneliness that I felt when the gates were closed for the evening, and the odd tug at my heart when any one stopped to speak to the "Maltese" pony in the stall adjoining mine.

Although I have not thought it necessary to mention the fact, my own folks came to see me nearly every day. Marcella complained that I was getting entirely too fat, and she feared that I could win no more races; but Doris, who was herself very plump, considered flesh an indispensable part of beauty, and in consequence fed me large quantities of apples.

Lyall and Archibald Lamb had doubts about my winning a blue ribbon (the same as if I needed such an article). My "funny" color was against me, Archibald explained; then again I should have been smaller. One pony there was no bigger than a shepherd dog.

But the judges evidently did not look at matters in that light, for when the time came for awarding the prizes a beautiful blue ribbon was tied in my curly mane. The "Maltese" pony got no notice at all, and the second premium, designated by red ribbons, was claimed by a glorious little team of blacks. I believe some insignificant reward went to the tiny Shetland pony, but, everything considered, I was the most important feature of the pony show.

The next day closed the fair. About 10 o'clock Mr. Dearcot, carrying a side-saddle across his arm, came proudly in, and was followed by Marcella, whose bright looks shed radiance over the rows of disappointed would-be prize-winners. Her joy and excitement made it impossible for her to stand still, so she flew from stall to stall, condoling with the ponies while her father tightened the saddle on me. When I was fitted with a bridle my young mistress lightly mounted and giving me free rein, we had soon left the building and were out in the big world again. The din and confusion which greeted us was something terrific, but my having Marcella with me and knowing that she was safe from all harm gave me courage, and in a moment I was taking long breaths of fresh air and enjoying the sound of my hoof-beats upon the paved streets. Never until then did I realize how fast I was capable of going, nor how pretty was the motion of my feet.

I thrilled with delight as we passed corners where large crowds of people stood, waiting for us with admiring looks, pointing as we passed, and commenting on the style and beauty of us (Marcella and me).

After a little while we came to where loomed up a great round building and Marcella checked me at its yawning doors.

The sound of music came nearer and nearer, and I raised my front feet high and champed spiritedly on my slender bit. The band was marching into the big building; men wearing silver helmets and red clothes, walking two and two, each with an instrument and playing the sweetest music I ever heard. Then came a couple of boys bearing a large banner on which was printed in glaring letters, "Dearcot and Dennison's Exhibit." My heart swelled with pride at the sight, but it nearly stopped beating entirely when I be-

came aware of what followed. Big Jake! splendid, wonderful Big Jake was being led into the ring in all the glory of his blue ribbons. With his head held high, his coat actually dazzling in its brightness, and the wavy, dusky mane hanging almost to the ground, he presented a magnificent sight.

He recognized me at once, and stopped to greet me, and the man who was leading him might have been a fly for all the attention Big Jake paid to the impatient tugging at his halter. When he was ready he went into the building meekly enough, and other fine-looking horses followed one by one. Then came the "match team" with streaming red ribbons.

Lyall came after this, gracefully riding the slim bay horse that I had never seen before or since the morning we left home. Later I learned this was "Morning Star," a well-known pacer and quite important in his own class. Marcella turned me into the procession, and as we entered the doors the whole building reechoed with hand-clappings and cheers. The music started up in a lively strain and there was great pounding of drums and blowing of fifes as we marched round the ring. Big Jake led, of course, but pretty soon he and all the horses, excepting the one Lyall was riding, were allowed to pass out again through the wide doors. After young master had shown all the paces of "Morning Star," and received a due amount of applause, he galloped off also. This left me quite alone in the ring and I began to feel a little nervous. The band struck up a merry tune, and at a word from Marcella I made the circuit at my fastest gait, and then pranced in front of the judge's stand where Mr. Dearcot and the manager were holding a conversation. Marcella's father turned smilingly towards us, and taking my bridle rein in his hand guided me up the several steps onto the stand in the midst of a dozen or more important-looking people. They all rose and spoke to me kindly and pleasantly, but I was so excited by this time that I did not remember what they said.

The band ceased playing, and the manager who had been conversing with Mr. Dearcot put up a hand and announced in a loud voice that if there were any children in the audience who

desired to "speak to this beautiful little prize-winner they might do so now, as he will hold a reception for the next few minutes."

They needed no second invitation, but commenced coming in such swarms that the stand threatened to give way under the over-increasing weight.

Well, I have told you before how the happy, healthy children caressed and petted me and were unwilling to leave my side, but I never mentioned until now about the little boy with the pitiable cork leg, who sold popcorn and peanuts, and on account of his infirmity was unable to reach where I stood, but climbed feebly to the railing of the stand and strained his tear-dimmed eyes in my direction. The best of the story is that Marcella saw the small wail and motioned him to come near. Slowly he stumbled along, wondering why he should be noticed by the lovely fairy child who owned the enchanted pony. Marcella smiled sweetly, and said that as I liked popcorn and peanuts she would buy a few packages, and she fed me some of each for the amusement of my youthful admirers. The little lame boy patted my neck and showed his delight so plainly that my pride was still increased by the thought of what a generous, kind-hearted little mistress I possessed.

When I went back to the stable it was noon and some of the ponies were already eating their dinners. Two men were attending to our wants, and when I was unsaddled they came and stood beside me.

"So this is the prize-winner," said one. "If there is anything superfine about him I can't see it."

"I've been 'round a great deal," returned the other man, whom Mr. Dearcot had earlier in the week addressed as Robert, "and I never saw but one pony like this young shaver, and the owner of that noble animal is offering \$500 for a match."

The listener gave a surprised ejaculation, then, after a moment's thought, remarked sagely, "I hear this Dearcot fellow is a sort of left-handed farmer."

"He is State's Attorney," corrected Robert.

"Oh!" exclaimed his companion, "that explains things. Doubtless he carries his head so high that he doesn't take the trouble to lock his stable doors." "Hold your tongue!" growled Rob-

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ert savagely, just as Mr. Dearcot and a friend came strolling in. How glad I was to know that the State Fair was over and I would soon again be enjoying a quiet life.

I got home safely, and that night as I lay awake and watched the moonbeams slanting across my bed, I pondered on many things that I heard and saw during the past week.

Among other conversations came the sharp command of Robert to his associate. I considered it an uncalled-for insult to tell any one to "hold his tongue," just because he was curious to know if Mr. Dearcot kept his stable doors locked.

**The Little Ones**

**Little by Little.**

Little by little, and straight and high,  
A bush to a tall tree grows.  
Little by little the days go by,  
And a bud becomes a rose.  
Little by little the children grow  
Taller and taller, and then  
Little by little they change, and lo!  
They turn to women and men!

—Arthur Macy, in Youth's Companion.

**How Connie's Temper Was Cured.**

Connie was the only child of wealthy parents, yet he was never lonesome. He had pets of all kinds—dogs, cats, birds, and all those dear creatures that children love. His mother taught him always to be kind to his dumb friends, and Connie was usually gentle and devoted to his little pets. But he had a temper which his mother had tried in vain to cure.

One day things all seemed to go wrong. His dogs would not work in harness, and Connie rudely struck them and left the faithful creatures in the hot afternoon sun.

He next turned his attention to his pony, which was always a delight to him. But that afternoon his playmate seemed restless, and he was beaten and neglected.

His cats were his next victims. He pinched their ears, pulled their tails, and worried them till his mother, who had been watching his cruel deeds all afternoon, quietly led him to his pretty room and told him to think over his conduct.

Connie was tired. His eyes began wandering over the beautiful things in his room. Gradually they faded away and Connie found himself in a beautiful meadow, which seemed to be the general meeting place of the whole horse tribe. They were telling their experiences. Some related stories of loving kindness and others of cruel deeds.

Finally from that vast throng Connie saw his patient, faithful pony step forth. How his conscience smote him! Slowly the story was told. "This afternoon while at the farther side of my pasture my little master came for a canter. I did not feel in a playful mood and so appeared reckless and excited. Then he cruelly beat me and left me with this added sorrow in my heart. Yes, this has been a day of great sadness to me."

Suddenly the scene changed. Under some great trees a large number of dogs had come together, and they, too, were telling their experience. Connie saw that his pets were speaking. Breathlessly he listened to their story. "Our young master put us into harness this afternoon for a play. We were ready and willing, but the harness fit us badly and hurt us. A hard strap ran across our eyes and caused us pain. Because we could not please him he left us in the hot sun till we were faint." Connie's heart sank as he listened to this sad story.

Again the scene changed. This time in a dark cellar some cats had met, and poor Connie heard the treatment of his dear cats related. O, he felt so heart-sick!

Then suddenly things changed again. He saw his own room with things in their natural places. He rubbed his eyes and realized that he had slept and dreamed.

Yes, it was only a dream, but it meant something in the life of Connie. He realized how unmanly he had been and resolved never again to be cruel to the helpless animals which depended upon him for strength. And bravely the dear boy has kept his resolution.—  
Pets and Animals.

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Rec. Secretary.....Mrs. W. D. Atkinson, Parsons  
Treasurer.....Mrs. H. B. Asher, Lawrence  
Auditor.....Mrs. Grace L. Snyder, Cawker City

**Our Club Roll.**

Women's Literary Club, Osborne, Osborne County (1902).  
Women's Club, Logan, Phillips County (1902).  
Domestic Science Club, Osage, Osage County (1888).  
Ladies' Crescent Club, Tuttle, Rawlins County (1902).  
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).  
Chalisco Club, Highland Park, Shawnee County (1902).  
Cultus Club, Phillipsburg, Phillips County (1902).  
Literateur Club, Ford, Ford County (1903).  
Sabean Club, Mission Center, Shawnee County Route 2 (1899).  
Star Valley Women's Club, Iola, Allen County (1902).  
West Side Forestry Club, Topeka, Shawnee County, Route 8 (1903).  
Fortnight Club, Grant Township, Reno County (1903).  
Progressive Society, Rosalia, Butler County (1903).  
Pleasant Hour Club, Wakarusa Township, Douglas County (1899).  
The Lady Farmer's Institute, Marysville, Marshall County (1902).  
Women's Country Club, Anthony, Harper County.  
Taka Embroidery Club, Madison, Greenwood County (1902).  
Prentiss Reading Club, Cawker City, Mitchell County (1902).  
Cosmos Club, Russell, Kans.  
The Sundowner Club, Perry, Jefferson County (1902).  
Chaldean Club, Sterling, Rice County (1904).  
Jewell Reading Club, Osage County.  
The Mutual Helpers, Madison, Kans. (1906).  
West Side Study Club, Deiphoes (1906).  
Domestic Science Club, Berryton, Shawnee County (1906).  
Mutual Improvement Club, Vermilion, Marshall County (1906).  
(All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

**Sabean Club.**

The Sabean Club year begins in October (second Tuesday) and ends the last of April (fourth Tuesday). We used the Bay View course.

Our club has decided on its program for the coming year. We have elected to take up the "History of Kansas," and as I am the chairman of the program committee, I shall see to it that we make it thorough from Coronado to Cy Leland.

It is a pleasure to read the various programs suggested in the KANSAS FARMER, and really I would have relished adopting one. The club seemed to think my program severe. (We ended the year with a miscellaneous program of my concocting. I intend to make Kansas History strenuous.)

We had no year-book, for the Bay View course made it unnecessary. The committee will have one prepared for the coming year and will certainly send you one.

I will also send you a report of our year's work, or at least of our "winding up," new officers etc., as soon as possible.  
MRS. MCCracken.

**Program Of Domestic Science Club.**

Responses—Poultry notes: incubators; mother hens; select reading; hen-houses; poultry-feeding; select reading.

"One impulse from the vernal wood  
May teach you more of man,  
Of moral, evil and of good,  
Than all the sages can."

Responses—"Tree Descriptions: The orchard; the grove; the garden; select reading.

"Mid pleasures and palaces oft tho' we roam,  
Be it ever so humble there's no place like home."

Responses—My childhood home: Relation of parents and teacher to the education of the child.  
How far should the lives of parents be subordinate to their children.  
Child study.  
Select reading.

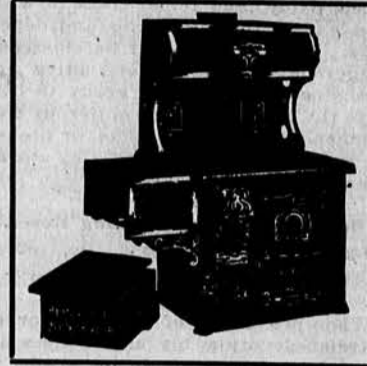
I am in receipt of the new year-book of the Domestic Science Club, near Osage City, for the year 1906 beginning in April and ending Dec. 20. It is a neat typewritten book tied with a yellow ribbon. On one of the pages in the front of the book is the pledge which reads: "Holding my membership in the Domestic Science Club as worthy of esteem and loyalty, I promise to perform promptly and cheerfully and to the best of my ability any work assigned me."

The program is exceedingly good and is so full of splendid topics I will give them to the readers from time to time, hoping they may be of use to them in making up their own for the coming year. The ones above are for April and May.



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Then why pay your local dealer fifteen to thirty dollars more for a range than you can procure a better article for of us? Our "FACTORY TO FAMILY" plan enables you to buy of us by mail safer than of your local dealer.

We have pleased customers in nearly every county in the United States. Their letters show that we saved them money and gave them entire satisfaction. We know that we can give you satisfaction and save you money. You run no risk because we ship on

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## Horticulture

### A Dangerous Pine Bark-Beetle in Kansas (Tomiscus grandicollis, Eichhoff).

ELBERT S. TUCKER, MUSEUM ASSISTANT IN SYSTEMATIC ENTOMOLOGY, UNIVERSITY OF KANSAS, LAWRENCE.

The following letter was addressed to the editor of THE KANSAS FARMER who has referred it to me for reply. The specimens were likewise submitted.

"We have about 200 pine-trees on our farm, and they are dying quite rapidly of late. We would like to know the cause and a remedy if there is any. We find in the trees after they are dead a great many small black beetles which we do not find in the live trees. These beetles do not seem to be the same as the pine-destroying beetles described in the Year-book of the U. S. Department of Agriculture, for 1902. Under separate cover we send you some of the insects and a small piece of bark in which they have worked. If there is any way to prevent the pines dying, please publish it in the "old reliable" KANSAS FARMER so that others who have pines may keep them from being destroyed."

Chetopa, Labette County, April 21, 1906.

The insects received are a species of bark-beetle belonging to a family called Scolytidae, of which many kinds attack pine-trees. These beetles gnaw their way into the bark and sap-wood where their eggs are deposited, and, from this spot, the mines or galleries are further extended by the brood of larvæ which in time transform into adults that escape by cutting openings called "shot-holes."

Prof. A. D. Hopkins, a specialist in the study of forest insects and now connected with the Bureau of Entomology, U. S. Department of Agriculture, Washington, D. C., wrote as follows in confirming my identification of the specimens, some of which were sent to him.

"The species is Tomiscus grandicollis, Eichhoff, which name preoccupies caco-graphus, Le Conte. There is some slight difference between this specimen



Tomiscus grandicollis.—Drawn from figure in Bulletin 56, Agricultural Experiment Station of West Virginia.

and those found in the East, but apparently not sufficient to distinguish them as materially different. As a rule, this species attacks trees injured or dying from other causes. Therefore, I would suggest a careful examination for the primary cause.

"I shall be glad to examine specimens of other species collected from the same trees. It is not improbable that Dendroctonus frontalis may be at work there, as it is found further south, in Texas. Very truly yours,

A. D. HOPKINS,

"In Charge of Forest Insect Investigations."

Concerning remedies and means of prevention, some references are here quoted from Professor Hopkins' report known as Bulletin 56 of the West Virginia Agricultural Experiment Station:

"The best preventives against attack of injurious and even destructive Scolytid enemies of forest- and fruit-trees is a vigorous and healthy condition of the kind of trees which it is desired to protect. In the cultivated forests of Europe, and in the orchards, parks, and lawns of this country this is possible, but in the American forests, except where a thorough system of forest-management is practiced, the difficulty of preventing losses from these ravages is much greater. In the case of cultivated forests this end is accomplished by a system of thinning out the inferior, unhealthy, and matured trees, in order to give the young and vigorous ones the best opportunity for healthy growth. In the indigenous forests and farmers' wood-lots, an attack on healthy trees by Scolytids, which are capable of attacking and killing such trees, but prefer to infest injured or recently felled ones, may often be prevented by providing a supply of such material as will be attractive to them. This may be done by felling or girdling a few inferior trees, or cutting out useless or objectionable trees during the winter and early spring, and

leave them on the ground until the adults of the Scolytids have entered the bark and deposited their eggs, which, as a rule, will be accomplished by the middle or last of May, when by removing the bark from the trunks, and burning the branches and tops, they are all destroyed.

After a tree is once invaded by Scolytids, there is seldom any hope of its recovery. So far as an invasion by the destructive species which prefer to attack the healthy trees of a forest is concerned, there is no remedy except the possible introduction or encouragement of such enemies as will reduce their numbers or prevent an excessive increase."

He says further regarding the genus Tomiscus: "They are distinguished by the peculiar concave or flattened elytral declivity which is armed on the sides with teeth of various sizes.

"All of these species show a decided preference for the living bark of diseased, dying, and felled trees in which to excavate their galleries and deposit eggs. Yet they may all be classed as dangerous secondary destructive species, since they are ever ready to complete the destruction of coniferous trees commenced by other insects, or prevent the recovery of trees injured by storms, disease, or other causes."

#### Best Twelve Everblooming Roses.

HENRY N. WILD, SARCOXIE, MO., BEFORE THE MISSOURI HORTICULTURAL SOCIETY.

When we think of a farmer or orchardist devoting his entire time and energy to raising fruit or grain, we feel that there is something omitted from the enjoyment of the family and home circle, and this is generally apparent in the home surroundings.

Horticultural societies, in general, exert an influence in encouraging the more liberal planting of roses, shrubs, and herbaceous plants.

What a brightening influence the sight of flowers has. Their mission seems to be to beautify the world and uplift disconsolate, discouraged humanity. Oftentimes there are persons who have become so discouraged that they seem to value even life very lightly, when the sight of some beautiful flowers will recall memories which arouse their better nature and cause them to take hold of life again with renewed energy and ambition and loftier purposes.

The sick room would be a dreary place without flowers, and here is where the cheering influences are best brought about, as oftentimes even friends are not permitted to enter the sick room, but flowers usually have the right of way.

Of all the flowers that bloom, we think almost all will call the rose the queen of flowers. Then we must plant roses, and plant them extensively.

For continual bloomers, tea-roses to which I shall confine my paper particularly fill the desired place. Everblooming tea-roses should be planted for a succession of blooming, as they bloom from June until frost.

They should be planted in an open situation, if possible, for best results. Clay loam is a very suitable soil, but any soil well enriched will do. Plant 18 to 24 inches apart, where they are expected to remain and are to receive winter protection.

Of varieties, the following will give good results, and while they need some winter protection, they amply repay the protection given them:

**Bridesmaid.**—This is by far the most valuable for cut flowers. Color, bright pink. It is easily grown as a summer bedder, and produces flowers continually during the growing season. Protect plants by covering with some kind of litter, excelsior or straw will do, but it must not be compact.

**Clothilde Soupert.**—This is a good rose as a pot-plant. In the open ground it is a strong, vigorous grower. Flowers are borne in clusters, and the color varies from a soft shell pink to a pure white. Often the center of the open flower is a beautiful pink surrounded by the white outer petals. For freedom of flowering it ranks first, and is hardy in the open ground.

**Duchess de Brabant.**—This variety is among the strongest growers, is a profuse bloomer, often blooming after the first frosts have killed all others. Color, light rose, a charming sight, highly perfumed. Hardy in South Missouri.

**Etoile de Lyon.**—Of all the yellow tea-roses that can be easily grown none surpasses it for general planting. It is a constant bloomer and has that sweet-tea fragrance so much desired. It needs winter protection, or it can be taken up and potted, and after a

month's rest will bloom through winter months in a warm room.

**Helen Gould.**—This is an ever-bloomer that might be called hardy. Its color is a deep crimson, is a profuse bloomer, but should be disbudded some in order to allow more foliage to grow, otherwise every shoot will produce flowers.

**Hermosa.**—This was a good rose a quarter of a century ago, and has lost little of its popularity, as it is still a favorite. It is a shade of pink that is very attractive, blooms continually, and is hardy enough for our winters without protection.

**Kaiserin.**—Fills the place occupied by no other. A peculiarly long, pointed, opening full, creamy white at first. Is very fragrant, ranks high as a cut flower, blooms profusely. Protect it in winter.

**La France.**—Here is one of our favorites, but it must have the best soil. When the season is not too wet, it produces flowers of immense size. Color, silvery rose, with a mingling of peach. Its fine clear color makes it unsurpassed as a fine flower. Needs but little winter protection.

**Mad. Francisca Kruger.**—If one wants a rose to bloom the entire season, here it is, and while its color is decidedly coppery colored at first, mingling later with beautiful salmon rose, its free flowering makes it a favorite. Buds are well-formed, fragrant, almost hardy.

**Marie Guillott.**—This white rose is admired by all and stands in a class of its own. It is not a strong grower, but a very fair bloomer. Needs winter protection.

**Moselle.**—This is one that, like Clothilde Soupert, blooms in clusters. It is well formed and very double. Color, white edged with yellow ground. Like Clothilde Soupert, it can be left unprotected and is quite hardy.

**Perle des Jardens.**—Those who can not succeed with Marechal Niel conclude that this is the nearest approach to it. Color, a clear yellow; flowers all that could be desired. Its blooming capacity is not equal to some others, but it makes up in perfectly formed buds or flowers; needs winter protection.

We can not close without calling attention to some of the best hybrid perpetuals, besides a few climbers of the Crimson Rambler type.

**American Beauty.**—Who has not heard of the American Beauty rose. Finest deep pink, with a carmine shading. Can be found on the flower market at all times of the year. Is a fine variety for forcing, and is perhaps more valuable for such than any of this class. Blooms freely in the open ground.

**Caroline Marinese.**—Here is a constant-blooming hardy, white rose, suitable for cemetery planting. The flowers are not large, but no other white rose will endure the hardships a cemetery rose is subjected to as this one. It is good anywhere.

**Gen. Jacqueminot.**—This crimson rose, though not a full flower, is a favorite. Habit, upright, and it is very hardy, making it one of the easiest to care for.

**Mad. Masson.**—Here is a profuse bloomer to the last. Large size and very durable. Reddish crimson in color, of fine form. Rather dwarf in habit of growth. Hardy.

**Paul Neyron.**—No planting is complete without this variety. Flowers largest in size. If you are looking for a rose without thorns, this comes very near being one. Color, pink to rose. Was largely planted at the World's Fair.

**Vicks Caprice.**—Here is a truly striped rose. Flowers large, bud is exceptionally well formed. Color soft pink with carmine markings, reminding one of some varieties of tulips.

**Crimson Rambler.**—Climber or pillar roses. Blooms but once, but is a glowing mass of crimson. For covering porches or verandas, this rose is very much in demand.

**Dorothy Perkins.**—Of the rambler class. Flowers, shell pink, full double. Other colors are being brought to the front, and soon the prairie rose will be supplanted by this class of climbing roses.

#### Pruning for Unfruitful Apple-Trees.

We have about four acres in Ben Davis apple-trees that have not borne many apples, yet the trees are about 18 years old. The trees have been trimmed only lightly to keep them in shape. They are very large for their age. The lower limbs reach nearly to the ground. Would a good pruning make them bear better? What time should they be pruned if at all?

Clay County. HENRY SMITH.  
Any treatment given apple-trees

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24 Michigan Ave., N. W., Cleveland, Ohio.

that retards the growth usually induces fruitfulness to a greater or less degree. Pruning, both branches and roots, girdling, etc., are often resorted to where thrifty trees have been unfruitful so far beyond an age at which they are expected to bear. We have never believed in the severe pruning of apple-trees in Kansas.

We girdled several hundred Ben Davis trees two years ago, taking out all the bark for from three and one-half to four inches entirely around the trunk at about ten inches from the ground. This was done on alternate trees. These trees were near the same age as yours. While the result as to making them bear was not all that we could have desired, because of the unfruitful season, yet those girdled had more fruit than those not so treated. So far, there have been no harmful results from this treatment.

Pruning or girdling should be done about June 1 for best results.

WALTER WELLHOUSE.

#### Spraying in a Large Way.

E. F. STEPHENS, CRETE, NEB.

EDITOR KANSAS FARMER:—The weather just at this time is very favorable for spraying orchards. Fortunately, we have been having clear, dry weather without rain. This gives ideal conditions for successful work. May 19 we completed our second spraying on the eighty-acre home orchard and six of our contract orchards which we have near by.

For fifteen years we have been using a power sprayer, the pump geared to the wagon wheel. This year, however, we have installed an entirely new spraying apparatus run by a gasoline engine, which is far superior, throwing a steady, strong mist of spray and applying more gallons in a day. By using two teams and four men, we are able to apply about 2,500 gallons of spray daily. One team draws the spray-tank and gasoline engine combined, while the other hauls the liquid from the mixing tanks to the spraying outfit in the orchard, so as to run the engine continuously.

In order to preclude the possibility of running out of water at this crucial time, we have put in a cistern holding six thousand gallons of reserve water, so that we are able to spray steadily without being entirely dependent upon the wind. We have also put in a system of elevated tanks in order to facilitate the mixing the ingredients of which the spray is composed.

So far we have sprayed with Bordeaux mixture, using four pounds of sulfate of copper and five pounds of lime to fifty gallons of water. To this

we add two and one-fourth pounds of arsenate of lead.

The first spray was applied before the blossom-buds opened, but while they were showing. We have just finished the second spraying, aiming to get some of the poison within the slowly closing calyx of each apple. We at once begin the third spraying, using this time only arsenate of lead in the strength of two and one-half pounds to fifty gallons of water and two pounds of lime. The object of this application is to serve as a check on the spraying just completed, in case any branches were missed. Having covered the orchard the third time, we will then postpone all further spraying until the middle of July, when we will again spray with the Bordeaux mixture and arsenate of lead, hoping to check by this means the work of the second brood of our ever-persistent enemy, the codling-moth.

We daily use 192 pounds of sulfate of copper, 108 pounds of arsenate of lead, one barrel of lime, and 2,500 gallons of water. The daily cost—including labor and material—is \$37.50. The cost per tree will be estimated and set forth in another article at the close of the season.

**The Tomato.**

In the cry raised against harmful preservatives of food-stuffs, there is danger of injustice to the conscientious packer of these goods as well as needed cautioning against a real menace to health. It is claimed by the "National Association of Packers of Pure Canned Food" that its members have no incentive to use chemical preservatives, but that in the general attack upon doctored foods, the public is not as discriminating as it ought to be. With a view of giving information that may be useful at this time, this association asks the publication of the following: "What a great discovery the tomato was as an article of food. While most food-plants are of comparatively ancient origin, there are plenty of people living to-day who can remember when it was only an ornament cultivated for the beauty of its dainty blossoms and handsome fruit. While its beauty was admired, it was considered like the poisonous oak, dangerous to even handle except by 'dark complected' persons. Years of acquaintance, however, wore off its superstition, and a few 'fool-hardy' actually owned up to having tasted the fruit.

"From this small beginning, has gradually grown a use that makes today an industry with a combined capital of over thirty millions of dollars, which disburses millions of dollars to its employes each year, and aggregates an output of two hundred and forty million cans. This product goes into every household in the land, and is as familiar an article of diet as any other of the staple products of the soil. Each year sees an increasing consumption, and the more intimate the acquaintance the greater the use.

"The reason for this is very obvious. There is no better appetizer, and as an article of seasoning the tomato imparts a taste that can not be imitated. It is so distinctive that its presence can be located even in minute particles, yet the pungency has everything that delights the palate and nothing that offends the nostril.

"The growth of its general popularity dates back to the time of the first successful packing houses. When the use of the tomato as a food was established, demand made it necessary to have a cheaper price than the local market-gardener could afford, and to meet this the tin-can as a diminisher of space was called into requisition. It was found much cheaper proportionately to raise one thousand bushels than ten, so by the aid of the tin the cooked product could be placed on the consumer's table at a price so reasonable as to enable its daily use. Moreover, the article put in the can is brought fresh picked from the field, hermetically sealed, and immediately sterilized by heat, while the uncanned fruit is frequently shipped for hundreds of miles before it is used as a food. This artificially ripened fruit must be gathered green and the red color it finally assumes is the withering of hungry tissues that should have fed the fruit with the red nourishing juice that comes from the soil and by the aid of Mother Nature is thus transformed. No preservative is used by the canner, as the action of heat insures keeping for an indefinite time.

"There is nothing so healthy as this rich, ripe fruit dumped out of the clean white can ready for any use. The taste is equal to the fresh fruit and every semblance of waste in shape of rind or core has been removed. Eat it?"

why the very sight and smell are irresistible, and the most insistent appetite can be sated because of its absolute harmlessness. Its healthfulness has never been attacked and the rich juices colored as the life-giving fluid act as a tonic even for the invalid stomach. There is no home where its visits are not welcome, and the table of either the millionaire or peasant is alike familiar with its presence. As Indian corn, it is distinctly of American origin, and proud indeed can we be of both of these excellent food-plants."

**Miscellany**

**The Underflow in Arkansas Valley in Western Kansas.**

An investigation of the underflow of the Arkansas River, Western Kansas, was made during the summer of 1904 by members of the United States Geological Survey. They worked under the general direction of Prof. Charles S. Slichter, who has since written a report of the investigation, which the Survey publishes as Water-Supply and Irrigation Paper No. 153.

The water-plane or ground-water level was mapped within a distance of 6 to 12 miles from the river channel, and observations were made by the electrical method of the rate of movement of the underflow. The ground-water levels were obtained by observing the water levels in private wells in the neighborhood of the river, and in a few wells which were sunk especially for this purpose.

It was found that the underflow of the Arkansas River moves at an average rate of 8 feet per 24 hours, in the general direction of the valley. The water plane slopes to the east at the rate of 7.5 feet per mile, and toward the river at the rate of 2 to 3 feet per mile. The moving ground-water extends several miles north from the river valleys. No north or south limit was found. The rate of movement is very uniform.

The underflow has its origin in the rainfall on the sand-hills south of the river and on the bottom-lands and plains north of the river. The influence of the floods in the river upon ground-water level does not extend one-half mile north or south of the channel. A heavy rain contributes more water to the underflow than does a flood. It was found that on the sandy bottom-lands, 60 per cent of an ordinary rain reaches the water plane as a permanent contribution.

The amount of dissolved solids in the underflow grows less with the depth and with the distance from the river channel. There is no appreciable run-off in the vicinity of Garden, Kans. Practically all of the drainage is underground through the thick deposits of gravels. Carefully constructed wells in the Arkansas Valley are capable of yielding very large amounts of water. There is no indication of a decrease in the underflow at Garden in the last five years, as the city well showed the same specific capacity in 1904 that it did in 1899.

Private pumping plants in the bottom-lands will be profitable for irrigation, if proper kind of power be used. There should be a large field of usefulness for suction gas-producer power plants of from 20 to 100 horsepower, with Colorado hard coal or coke as fuel. Kansas crude oil in gas generators should prove profitable for use in the smaller plants. The present cost of pumping with gasoline for fuel is not encouraging.

**Facts that All Should Know.**

In view of unfounded reports with relation to the recent earthquake at San Francisco and other points in its neighborhood, the facts regarding the Sacramento Valley should be made widely known.

This earthquake was barely felt in Sacramento and the Sacramento Valley generally, and did absolutely no harm in this city or any other point in the Valley.

In all the history of California there is no record of a serious or destructive earthquake in this city or elsewhere in this Valley, causing loss of life or ruining any substantial building.

Among the people of this city and the Valley, including the oldest inhabitants, there is no fear of earthquake. The slight tremors that have at times been experienced are not of an alarming character.

The floor of this Valley consists of alluvial deposits of earth, sand, clay, and gravel, extending to a known depth of nearly half a mile and probably much deeper. This loose formation is

believed by geologists to afford security against destructive earthquakes, as any serious jar from the solid rock far below must be dissipated and lost in the alluvium, as the force of a bullet is spent in sand.

The San Francisco earthquake caused small loss in comparison with the fire which followed it. And that earthquake was no more characteristic of California than the Charleston earthquake was of the Atlantic Coast.

No such shock is likely ever again to visit any part of California, and certainly not the city of Sacramento or the Sacramento Valley.—The Evening Bee, Sacramento, Cal.

**The Census Report on Telegraphs and Telephones.**

A report on the telephone and telegraph systems and the municipal electric fire-alarm and police-patrol systems of the United States has just been published by the Bureau of the Census. The statistics were collected and compiled under the supervision of Mr. W. M. Stuart, chief statistician for manufactures, and the text was prepared by Mr. Thomas Commerford Martin, of New York City, expert agent.

This is the last of a series of reports on the generation and utilization of electric current for the transmission of power, messages, and conversation. Former reports relate to street and electric railways, and central electric light and power plants.

This report presents statistics concerning the physical equipment, service, and financial operations of the commercial and mutual telephone and telegraph systems of the country, and the physical equipment of independent rural telephone lines.

The statistics of the telegraph and telephone industries of the United States were first shown in the census of 1880. At that time telegraphy had been growing steadily for nearly forty years and telephony was in the formative stages of development. Since then, however, telephony has progressed to such an extent that it has surpassed telegraphy in physical and financial magnitude.

In 1902 the telephone systems operated more than three-fourths of the wire mileage reported for both telephones and telegraphs, gave employment to seven-tenths of the wage-earners, paid more than two-thirds of the wages, received more than two-thirds of the total revenue, and paid more than two-thirds of the total expenses.

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President H. A. Anderson of the Central Kansas Business College, Abilene, Kans.

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the strongest features of the school and maintains a high standard of instruction in the art of phonography. Many graduates of this department, who have also completed the commercial work, are now holding positions at from \$40 to \$125 per month and have no trouble whatever in securing good employment as soon as thoroughly competent. The school makes a further high standard by producing a better quality of book-keepers and stenographers than most commercial schools do, and absolutely guarantees to locate any graduate who has finished both the commercial and shorthand work.

Nothing is lacking in the tone and progress of the school, and each and every student seems to be thoroughly in earnest about his work, willing to do his very best to make a thorough success.

The school has different organizations, such as a social club, baseball, football, and many other little recreations that are necessary in order to produce the very best standard of physical, mental, and spiritual strength.

During the past year the school has had a very large attendance, and from present prospects it is evident that the school will have an attendance which will no doubt exceed the past year's attendance by 50 to 100 per cent. Students have enrolled from many different States, recognizing the superiority of the work done.

The citizens of the city of Abilene realize that they have a first-class commercial school and are always proud to speak words of appreciation for it. Every live community can well afford to give encouragement and moral support to an institution of this character.

The Central Kansas Business College is as thoroughly prepared and equipped as any institution of its kind that we are acquainted with. The faculty is complete in every sense and are experienced men and women engaged in a practical educational work and in every way give their very best attention and instruction to the advantage of each and every student of the school. Cigarette smokers are not encouraged to attend the institution because the business world does not, as a rule, wish to employ young men and young women who have any detrimental habits that would keep them down in their positions.

Business men who have employed graduates of the Central Kansas Business College appreciate the fact that they have received honest treatment on the part of the school and absolutely truthful recommendations in regard to the help employed and the quality of work done.

We, as publishers of THE KANSAS FARMER, take pleasure in giving this partial information in regard to the Central Kansas Business College, its methods, equipment, and teachers. For particulars in regard to the school write to Prof. H. A. Anderson, president of the school, who will take great pleasure to send special information to any one.

**Dairy Interests**

**Milking.**

The new book "Profitable Dairying," by C. L. Peck, published by the Orange Judd Company, should be in the hands of every keeper of cows. Any one who will read it and apply the information gained can add enough to the profits of every cow to pay for the book and the time required to read it. The following chapter on "Milking" gives a good idea of the practical nature of the book:

So far as possible, the same persons should milk the same lot of cows. No greater nonsense was ever promulgated than that all talking and whistling should be prohibited in the stable. The cow should be familiar with the voice of her attendant, and she should never hear it in other than kindly tones. She should be called by name, and talked to individually when he has occasion to speak to her. Whistling and singing to a moderate degree are not objectionable in the stable.

Mr. H. B. Gurler says that the cows invariably fell off in their yield under the care of a certain attendant. The man was kind, milked his cows quickly and clean, and seemed to give the same care as others. Still, he could not keep up the flow of cows under his charge. It was noticed that he rarely spoke in the stable, and still more rarely to the cows milked. His attention was called to the fact, and he was asked to change his methods and familiarize the cows with the tones of his voice. He did so, and the problem was solved. The cows had never become acquainted with him. Cows like to hear the voice of the attendant, especially when in a kindly manner he speaks their names.

Milking should be done quickly, kindly, and cleanly. If a part of the flow is left in the udder each time, the cow soon learns to secrete just that amount less, and there will be a corresponding falling off in the flow. The same sequence of milking should be followed each day, so that each cow will know when her turn comes. Attendants have probably noticed that when they sit down to milk one cow, the udder of the next one will begin to fill, and milk will often begin to flow from her teats before they get to her. If she is not milked in her order, she will manifest her displeasure by her nervous actions, indicating disappointment. The first few streams of milk from each teat should not be put in the pail. Bacteria gather in the end of the teats between milkings. These in the milk will increase with great rapidity, often seriously injuring its quality for butter and cheese. As soon as drawn, the milk should be removed from the odors of the stable. There is nothing that will more readily absorb noxious odors than cooling milk.

The cow is a creature of habit. If regularly fed before milking she will, when this order is changed, be restless and often refuse to give down her milk. It is better to feed after milking. If silage, at all defective, be fed before milking, the odor is likely to appear in the milk. Odors from food reach the milk in an incredibly short space of time. Two minutes will serve to take the odors of food to the udder and milk-pail. If fed after milking, silage will not, unless very bad, taint the milk. Milking should be done at periods as near twelve hours apart as practicable, and at the same time each day.

After the cow has fed and lain down she should not be disturbed more than can be helped. Good, comfortable bedding, such as barn-floor litter, chaff, and buckwheat straw, should be kept under her. Oat straw is good, but does not keep its place as well as the articles mentioned. There is no economy in stinting the cow in the matter of bedding, as no more is wasted when liberal bedding is used than when it is stinted. No dog should be allowed in the barn or about the cows, and the animals should never be chased or hurried. Ill treatment of this kind will be evident in the production. In winter turn the cattle out not more than an hour a day in mild weather; less time when colder, and in stormy weather not at all.

**BAD HABITS TO AVOID.**

Jerking downward with the hand when milking is a bad practice. It is not uncommon to see a milker jerk a teat as if he were trying to separate it from the udder. Many a fine cow has been ruined in this way. After the attendant has carefully wiped off the

udder with a piece of dry burlap or other suitable material, he should grasp the teat, milk slowly for the first few moments, then with a slight downward pressure force the milk from the teat. He will find that it requires less exertion to milk in the proper manner than in the old way. An attendant who will not reform should be promptly discharged or dismissed from the barn. Garget, injured quarters, lumps in teats and udder, deformed udders are common results of this violent jerking down when milking. Wetting the hand or teat is another bad practice. It is filthy as well as injurious. If the teat be feverish, sore, or cracked, a little vaseline will soften it. This is an article that should always be on hand in the cow stable.

Cleanliness should be a standard requisite in the dairy. Cows well bedded and daily carded and brushed will be in condition to produce pure milk. The udder should be wiped with a coarse, rough cloth. This cloth should not be allowed to become filthy. If necessary to bathe the udder, it should be wiped dry before milking.

**The Grading of Cream.**

Under the system of cream grading recently adopted and now in general use in Kansas, two grades are made.

First-grade cream shall consist of hand-separator cream, delivered at least three times a week in warm weather, the deliveries not to be more than three days apart; and delivered at least two times a week in cold weather, deliveries not to be more than four days apart; free from bad odor, reasonably sweet, and testing 30 per cent or higher.

Second-grade cream shall consist of hand-separator cream delivered at least twice a week in warm weather, deliveries not more than four days apart; and at least once per week in cold weather, deliveries not more than six days apart, and the cream in fair condition. All cream testing less than 30 per cent is second-grade cream.

Frequency of delivery will be shown by station reports, and at all times a premium will be paid for first-grade cream.

**To Keep Cream Properly.**

The first step in keeping cream properly is to keep it clean. Every dairy utensil that comes in contact with the cream should be thoroughly washed in warm water, then scalded, dried, and exposed to the sun and air each time it has been used. This applies especially to the separator bowl and tin-ware.

The second step is to remove the animal heat from the cream as quickly as possible after separation. This is easily done by setting the cream in cold well water and thoroughly stirring it. After it has been reduced to the temperature of the water, it may be poured into the supply can for delivery to the station. The supply can should be kept in cold or running water.

The third step is to deliver the cream as promptly as possible. It is age rather than sourness that injures the cream for good butter-making. Cream should be delivered every day, but where this is not practicable, it must be delivered at least twice a week in winter and three times a week in summer.

Remember to keep the cows as well as the dairy utensils clean. Do not allow cows to drink impure water nor to remain in unclean stables. Milk absorbs odors and disease germs more readily than most substances, and it is impossible to make good butter from poor cream.

There are millions of pounds of last year's butter now in cold storage in the great markets for which there is no sale, while good butter is always in demand and at a premium. The future of the dairy industry in Kansas depends upon the delivery of better cream.

I. D. GRAHAM,  
Secretary.

**An Official Cream Test Free.**

Since the inauguration of the system of cream grading in Kansas, there have been some complaints made by the patrons of creameries because the testing of cream is being done at the central factories instead of at the receiving stations as heretofore. They claim that they are not fairly treated, and are given low tests and under grades when the quality is decided out of sight of the seller.

Of course, this is possible, but with the thousands of dollars invested and the keen competition among creameries, it is not likely to happen very often.

Let us view the matter fairly. The



Washed in 1 minute

Count the pieces—notice the difference—and you'll understand why the one who has to do the cleaning prefers the simple Sharples Tubular.

There are other advantages just as much in favor of the Tubular. Write today for catalog V-165—it tells you all about the gain, use, and choice of a separator.

The Sharples Separator Co.  
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**A Big Difference**

One Minute's Washing as compared to at least fifteen. Wouldn't you like to save at least fourteen minutes, twice a day? One minute with a cloth and brush cleans the absolutely simple Sharples Dairy Tubular Cream Separator bowl shown in the upper picture. It takes fifteen minutes to half an hour with a cloth and something to dig out dents, grooves, corners and holes to clean other bowls—one of which is shown in lower picture.



Washed in 15 to 30 minutes

**Peerless Cream Separators**

**Reasons Why the PEERLESS is the Best**

- 1st—Twice the capacity of any other bowl. That is to say two times smaller than any other bowl of equal capacity.
- 2d—Compound feature, two bowls in one, hollow bowl, and disk bowl, combining all the features of the tubular and disk machines.
- 3rd—Enclosed frame. Free from dust. Injury resulting from machine impossible.
- 4th—Perfectly noiseless.
- 5th—Heavy enough and strong enough to lift a box car, which insures durability.
- 6th—The bushings made of phosphor bronze—the most serviceable material for the purpose. Fitted and guaranteed to be accurate to 1/1000 of an inch.
- 7th—Every journal bushed with brass or phosphor bronze. This fact together with the fine adjustment described above, accounts for the light draft of the Peerless machine. Each bushing is made in duplicate and interchangeable and if at any time they show wear they can be replaced at small cost.
- 8th—At normal temperature the skimmed milk will always show less than 5-100 of 1 per cent of butter-fat and generally less than 1-100 of 1 per cent butter fat. PEERLESS CREAM SEPARATORS are guaranteed to anybody—everybody, anywhere—everywhere.

For further information, write  
**BRADLEY, ALDERSON & CO.,**  
Tenth and Hickory, KANSAS CITY, MO.

**Ship Your Cream Direct**

Where They

**PAY SPOT CASH**

And Always

**Protect Your Interests**

No long waits for your Money

No danger of losing a month's pay

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**BLUE VALLEY CREAMERY CO**

ST. JOSEPH, MISSOURI

**LAKE BREEZES MANITOU**  
Can be enjoyed in safe delight on the STEEL STEAMSHIP  
**FOR COMFORT, REST AND PLEASURE**  
It offers an unequalled opportunity  
**First Class Only—Passenger Service Exclusively**  
Modern comforts, electric lighting, an elegant boat equipped for people who travel right. Three Sailings Weekly between Chicago, Frankfort, Charlevoix, Petoskey, Harbor Springs and Mackinac Island connecting for Detroit, Buffalo, Duluth and all Eastern and Canadian Ports. Ask about our Week-end Trips for Business Men. For Terms, Booklets and Reservations, address,  
**JOS. BEROLZHEIM, G. P. A. Manitou Steamship Co., Chicago**

markets demand better butter and the Central West must produce it. This can not be done without better cream. Quality in cream has a value and should be paid for. For this reason cream must be graded. There is not one in a hundred of the receiving-station men who knows how to test, much less grade cream. Neither are these men in a position to always tell the farmer the truth about his cream. If they did they would lose custom.

If the farmer suspects dishonest methods, he should own a Babcock testing machine which will not only enable him to keep tab on the creamery people, but will more than pay for itself by showing which are the unprofitable cows in the herd.

But an authentic check test is needed and this can be had free. Professor Oscar Erf, Chief of the Dairy Husbandry Department of the Kansas Agricultural College at Manhattan, has been making free tests for patrons over the State for two years past, and will gladly test any fair sample free of charge. The cream for sampling must be thoroughly stirred by pouring from one can to another at least four times. From this a three-ounce bottle that has been thoroughly cleaned may be filled full, corked tightly, and sent to Prof. Erf in a mailing tube and he will report results immediately and free of cost.

**Construction of Dairy-Houses and Ice-Houses.**

The need of information as to the construction and arrangement of dairy- and ice-houses has prompted the United States Department of Agriculture, through the Dairy Division of the Bureau of Animal Industry, to take up the study of this subject with a view to offering its assistance to persons who wish to build such houses. This is a phase of dairy work which has not heretofore received the attention it deserves.

To attain success in the dairy business, it is important that every branch of the work be faultless in itself. A dairyman may have a clean herd and an excellent barn built on modern principles, but if he lacks the facilities for properly handling the milk or cleaning the utensils, or if his storage is faulty, one of these things alone may cause failure. He must have a suitable building and apparatus for cleaning and sterilizing dairy utensils, cooling, bottling, and storing the milk and cream, or making butter and cheese. It is not uncommon to find a milk-cooler hung in or near the cow stable, where the air is laden with dust, dirt, foul odors, and possibly disease germs, which readily pass into the milk. The best dairy practice requires that the milk shall be removed from the stable as quickly as possible after it is drawn, preferably to a building or room independent of the barn, where it can be aerated with pure air and cooled at once in clean surroundings.

Many dairies have no facilities, or at least very poor ones, for heating water or generating steam. The result is that the dairy utensils are not properly cleansed. As a result of the neglect of these things, which are so essential to good work, a large percentage of the milk supplied to our cities contains great numbers of bacteria, this condition often making it necessary to pasteurize the milk immediately in order to prevent its souring before it reaches the consumer.

A common fault in milk and cream is the poor keeping quality, due in many cases to its being held at too high a temperature. This trouble can be obviated by having a supply of ice and the proper conditions of storage.

In some localities it would not be found practicable to harvest ice, but some cold-storage place should be provided. Water from a spring can be conducted to the dairy-house and cement tanks arranged with overflow, so that reasonably cool storage can be provided for dairy-products. In some of the large dairies, machinery is installed for artificial cooling.

An ice-house is a convenient and valuable adjunct to any dairy-farm. This building can be constructed very cheaply, either separate from or in connection with the dairy-house. The capacity should be ample to hold an abundance of ice for dairy and household purposes during the season. Many dairymen would construct such a building if they knew how to do it with as little outlay as possible.

The Dairy Division proposes to give assistance by supplying specifications for dairy- and ice-houses to persons who make application. Dairymen who have buildings of this character that have been found practical will confer a favor by writing to the Dairy Division and giving a sketch of the plans and as many of the details as possible. Correspondence and suggestions bearing on this subject should be addressed to the Dairy Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C.

**How to Keep Milk Sweet.**

W. J. Frazer, of the Illinois Experiment Station, gives these suggestions in regard to securing milk from your cows that will keep sweet for a remarkable length of time:

Keep the cows clean, and do not compel or allow them to wade and live in filth. This means clean yards and clean well-bedded stalls. Everything short of this is absolutely repulsive and should not be tolerated any longer in a civilized community.

Stop the filthy habit known as wetting the teats, by which is meant the drawing of a little milk into the hand with which to wet the teats before and during milking, leaving the excess of filthy milk in the pail.

Wash all utensils clean by first using lukewarm water, afterwards washing in warm water, and rinsing in an abundance of boiling water, then exposing until the next using in direct sunlight which is a good sterilizer.

Use milk-pails, cans, etc., for no other purpose but to hold milk.

Keep out of these utensils all sour or tainted milk, even after they have been used for the day. Using them for this purpose at any time infects them so badly that no amount of washing is likely to clean them. Bacteria are invisible, and millions can find lodging in the thin film of moisture that remains after dishes are apparently clean.

It has finally been worked out that the per cent of butter-fat in milk can be increased by generous feeding. The increase is not startling in its amount nor does it substantiate the old-time belief that liberal feeding would promptly, surely, and materially increase the per cent of butter-fat. This was an idea advanced in explanation of some of those phenomenal butter-tests alleged to have been made some years ago. Since that time experimentation has failed to confirm the idea until Cornell undertook a two-year test with ten cows, using sufficient time and cows to give substance to conclusions. Beginning with a herd of poorly-fed cows, generous rations of feed-stuffs readily digestible and of nitrogenous character were continued for two years and an average gain in per cent of butter-fat amounting to one-fourth of one per cent was shown. This was equivalent to about 6 per cent increase in the per cent of butter-fat, and it was attended by an increase of 50 per cent in the total amount of milk and fat yield. It is said that the increase was secured economically. The feeds relied on in this test were linseed-meal, cottonseed-meal, bran, gluten feed, and buckwheat middlings. The conclusions of the experiment is of practical interest, as it indicates the value of intelligent feeding in the improvement of the quantity and quality of milk from a dairy-herd.

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From Kansas City via Chicago Great Western Railway. Tickets on sale June 1 to September 30. Final return limit October 31. Equally low rates to other points in Minnesota, North Dakota, Wisconsin, and Lower Michigan. For further information apply to Geo. W. Lincoln, T. P. #11, West 5th St., Kansas City, Mo.

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This is the record of the DE LAVAL machines, which is of itself a mountain of strength beside which the records of all would-be attempting cream separators are but mole-hills. It means a feeling of confidence in the purchase of a cream separator to know that you are putting your money into the machine which was FIRST and which has LED in every single step of cream separator IMPROVEMENT, all imitating machines simply taking up such old features as expiring patents leave open to them.

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48 pages of well-printed, easy reading, finely illustrated facts for the farmer who wants to make his cows pay the biggest profit. One cent brings you new Catalogue No. 91. Write the postal today.

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are best for general use, are grown in the very heart of the region once known as the Great American Desert, at an altitude of over two thousand feet above sea level and without irrigation. They are time tried and drought tested and have proved producers of profitable crops of both grain and forage. Write for list of specialties and prices.

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All stock guaranteed disease free and true to name.

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**Get the Cream**

GET IT ALL. GET THE LAST DROP. BUY DIRECT FROM THE FACTORY AT FACTORY PRICES AND SAVE 20% to 50%

It's to your interest to know about the liberal selling plan of the

**Davis Cream Separator**

No other skimming device known so surely gives you all the cream, and none does it with so little work. It is absolutely the simplest and easiest running separator. Only 8 pieces in its bowl. Think of the ease of keeping such a bowl clean. It never can get out of balance. The tank is only one inch high, no high lift. You should know all about the Davis. Investigate before you buy. Write today for money saving circular No. 129.

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BARRED PLYMOUTH ROCK EGGS - From free range stock, no other fowls kept on the farm.

BLUE BIRDS-Barred to the skin. Hawkins Ringlet strain. Eggs, \$1 per 15, \$5 per 100.

BARRED PLYMOUTH ROCKS-Large pure-bred good laying strain. Male, weight 11 to 13 pounds.

EGGS FOR SALE-Buff Rocks, exclusively farm range; 50 cents per 15; \$3 per 100.

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WHITE PLYMOUTH ROCK EGGS from high-scoring show birds. \$1.50 per 15; \$2.50 per 30.

WHITE PLYMOUTH ROCK exclusively-Eggs for hatching from a pen of fine birds.

EGGS FROM MAMMOTH BARRED PLYMOUTH ROCK CHICKENS \$1.50 per 15.

B. P. ROCKS AND BUFF ORPINGTONS-Eight grand matings. Send for price list on eggs and Collie pups.

Barred Plymouth Rocks

Exclusively-"Superior Winter Laying Strain" noted for size and quality.

Eggs for Hatching

Send for my special Barred Rock circular, also ten other varieties of choice standard leaders.

A. H. DUFF,

Larned, : : : : Kansas

White Plymouth Rocks EXCLUSIVELY.

Good for Eggs, Good to Eat and Good to look at W. P. Rocks hold the record for egg-laying over every other variety of fowls.

WYANDOTTES

FOR SALE-White Wyandottes, one pen high scoring; also eggs \$1 per 15.

WHITE WYANDOTTE COCKERELS, (Stay White), \$1 to \$5 each.

WHITE WYANDOTTES-the lay all winter kind. Bred to high score, large egg record cockerels.

BARRED AND WHITE ROCKS-Seven years breeder of exhibition birds scoring 94 1/2 to 96 3/4.

PURE BRED White Wyandotte eggs for sale \$1.00 for 15.

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EGGS, EGGS- All kinds of fancy pigeons, also Toulouse geese eggs at \$1 per sitting.

SILVER LACED WYANDOTTES-Thorough bred cockerels, \$2; pullets, \$1.50.

SILVER LACED AND WHITE WYANDOTTES \$1 per sitting of 15. Eggs guaranteed.

White Wyandottes Exclusively

Pen 1 headed by 1st prize cockerel, Topeka; hens scoring 98 1/2 to 95; eggs, \$2 for 15.

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BLACK LANGSHAN EGGS-From main flock, 15 for \$1.00; 100 for \$5.00.

BLACK LANGSHANS-Hens scoring 98 and upward-headed by 2d and 4th prize cockerels from Kansas City 1906 show.

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White \$2, Black \$2, \$1 and \$5 per 100; Buff Leghorns, Orpingtons, Cochins, S. & D. C. B. and White Leghorns.

Imported and native high-scoring blood in our yards. Mention Kansas Farmer when writing.

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Cornish Indian Game Eggs. Write L. C. Horst, Newton, Kansas.

The Poultry Yard

Conducted by Thomas Owen. Gapes in Chickens.

Our chickens have been having the roup. We used the remedy given in your paper and it is all right.

What are the gapes like? How do chickens act with them? We thought that was what our chickens had until one got as we had read in the paper.

ANSWER-The gapes is a disease of the throat and windpipe of young chicks, caused by a parasite or small worm.

It causes the chick to be continually gaping, as if it was choking or short of breath, hence the name, gapes. The best remedy is to take a feather, dip it in coal-oil or turpentine, push it down the chick's throat.

Poultry Notes.

Try to keep ahead of the lice in the poultry-house by keeping it thoroughly disinfected with a good lice-killer or germicide.

See that your sitting hens are free from lice, for it is utterly impossible to raise a brood of chicks from a hen that is literally swarming with lice and mites.

Give the chicks a large run in the grass and they will fare much better than when cooped up in some box or coop.

In many cases, summer diseases are due to overfeeding. Put the fowls on a different diet and feed sparingly until the malady is over.

It is probable that during the warm weather many of the hens will lay double-yolk eggs. If so, it is a sure indication that you are overfeeding them.

A correspondent asks for the cause and remedy of soft-shelled eggs. The cause of soft-shelled eggs is generally attributed to a lack of lime or shell-forming material.

It is more prevalent among old fowls than young ones, especially the Asiatic breeds, as they are liable to get plethoric and fat.

At the present time there are placed on the London market quantities of American poultry at prices ranging from 14 to 18 cents per pound.

Our Poultry in England.

In England the whitest flesh is considered best for table purposes. The home breeds are Dorkings, Old English Game, and Scotch Greys.

Great Britain makes large imports of poultry, chiefly from Russia, Austria, Italy, and France.

Only the best class comes from France, imports from other countries being medium to poor in quality, although showing some improvement of late years.

Eggs could not be profitably shipped from America to England.

How to Make Money With Turkeys.

In view of the fact that hundreds of our people have the idea that turkeys are difficult to raise and will not venture to launch out on the sea of turkey-culture, we wish to deal with the question of starting young poult.

From years of experience in raising turkeys we find the best solution to prevent mortality in young turkeys is to not overfeed.

Where those two special features are kept strictly in the bounds of intelligence, almost every turkey hatched should be raised, for there isn't a fowl raised that is harder than turkeys when judiciously managed.

LEGHORNS

S. C. B. LEGHORN SPECIALIST-Breeder 22 years. Utility and exhibition stock or eggs-\$1 per 15, \$4 per 100.

ROSE COMB BROWN LEGHORN EGGS, 15 for \$1, \$5 for \$2.50, 100 for \$4.

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SINGLE-COMB WHITE LEGHORN cockerels, \$1 each; two or more, 80 cents each.

EGGS FOR SALE-S. C. W. Leghorns, W. Wyandottes, \$1 per 15. W. H. turkeys, \$1.50 per 9.

FOR SALE-Exhibition S. C. Black Minorca cockerels, \$2. I guarantee them.

Pure Single Comb Brown Leghorn Eggs-80 for \$1; 100 for \$3. F. P. Flower, Wakefield, Kans.

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S. C. Eggs, \$3 for \$1.25, 100 for \$4. John A. Reed, Route 3, Wakefield, Ks.

Johnnie Chase, Glasco, Kas.

Breeds Black Minorcas, S. C. Brown Leghorns and Barred Rocks. Second to none in the state. Eggs, \$2 per sitting.

PRIZE-WINNING S. C. BROWN LEGHORNS

Exclusively. (Short's strain.) Farm stock eggs from pen scoring 190, \$2 per 15; \$1 per 15 as they run.

MRS. W. O. PLAGATAEN, BEATTIE, KANS. Mention KANSAS FARMER when writing.

ROSE COMB BROWN LEGHORNS AT READING, KAN.

Pure stock. 15 eggs \$1.00; \$2.75; 75, \$4.00; 100, \$5.00.

MRS. IDA STANDIFERD, "Up-To-Date" Farm

ROSE and Single Comb White Leghorns and White Wyandottes

UNPARALLELED IN ALL THEIR PURITY Unsurpassed in every respect for beauty, utility as winter layers.

W. S. YOUNG, McPherson, Kansas When writing mention this paper.

MAMMOTH BRONZE TURKEYS

EGGS FOR HATCHING from large high-scoring M. B. turkeys, \$2 per 9; S. C. and R. C. Brown and S. C. White Leghorns, S. Spangled Hamburgs, S. C. Black Minorcas.

Eggs for Hatching

M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2, \$1.50 and \$1.25 per 15. Satisfaction guaranteed.

Eggs For Hatching

WHITE HOLLAND TURKEYS, MAMMOTH PEKIN DUCKS AND BARRED PLYMOUTH ROCKS. \$1 per setting for any of the above, fresh eggs carefully packed and safe arrival guaranteed.

RHODE ISLAND REDS

RHODE ISLAND REDS EXCLUSIVELY-Cockerels \$1. Eggs, sitting \$1.50; for incubators \$5 per 100.

ONE DOLLAR buys 15 eggs of either Rose Comb R. I. Reds or Barred Rocks from prize-winning stock at the college show.

IN ALL THEIR BRILLIANCY-Rhode Island Reds, Rose-Comb and Single-Comb. Write for circular describing origin, prices of eggs, etc.; it is free.

RHODE ISLAND RED EGGS for sale at \$1.25 per 15 eggs, or \$2 per 30 eggs.

BRAHMAS

LIGHT BRAHMAS More prizes than any breeder in the state; 10 first this season. Eggs, \$1.50. Cockerels, \$2 to \$4.

T. F. Weaver. Blue Mound, Kansas

Light Brahma Chickens

Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kan. Route 4

SILVER SPANGLED HAMBURG.

MY SILVER SPANGLED HAMBURGS led their class at the last three State Shows; also have World's Fair Premium. Eggs \$1.25 to \$2.00.

BUFF COCHINS

BUFF COCHIN EGGS-From high scoring prize-winning stock, \$1.25 per 15; \$5 per 100. Stock for sale. A. R. Gage, Minneapolis, Kans.

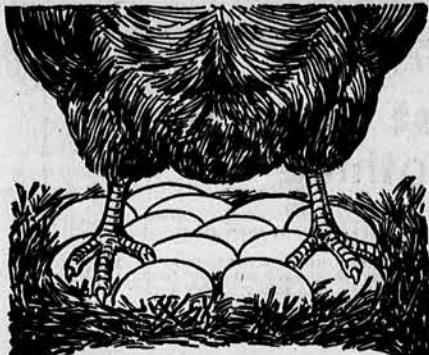
INDIAN RUNNER DUCKS.

Indian Runner Ducks and White Wyandottes Eggs Fresh, fertile and from high-class stock.

Price reduced to \$1 per sitting. L. D. Arnold, Enter-prise, Kans.







**A Setting Hen**

would not be annoyed to death with lice if Instant Louse Killer was sprinkled over the hen and into the nest. She cannot get away; the lice feast happily on the feathered martyr to maternal instinct.

**INSTANT LOUSE KILLER**

(Powder or Liquid)

will make the setting hen and all her children happy. It destroys lice on poultry stock and ticks on sheep. It kills bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. Instant Louse Killer is the original powder louse killer put up in round cans with perforated top. Be sure of the word "Instant" on the can—it has twenty-five imitations. If you will sprinkle Instant Louse Killer on the setting hen and nest, we will guarantee the brood will come off free from lice; it is also a reliable disinfectant and deodorizer.

1 lb. 25c. } Except in Canada  
3 lbs. 60c. } and extreme West and South.

If your dealer cannot supply you, we will forward 1 lb. by mail or express, prepaid, for 35 cents.

Sold on a Written Guarantee. Manufactured by **DR. HESS & CLARK, Ashland, Ohio.**

**GEESE**

BROWN CHINA GESE, Indian Runner Ducks, also Barred Rock cockerels. Prize winners at State Poultry Show. O. C. Sechrist, Meriden, Kansas.



Subscription, 25 Cents a Year.

**"OUT THERE IN KANSAS"**

All about the chicken industry in Kansas, the bees and pigeons. Full of information illustrated and made plain for the people. Practical, by and for practical people. The paper that reaches the chicken folks. If you are interested in poultry, bees or pigeons, THE HELPFUL HEN will interest you. Address THE HELPFUL HEN, Topeka, Kansas.

**BEE SUPPLIES**

We can furnish you bee and all kinds of bee-keepers' supplies cheaper than you can get elsewhere, and save you freight. Send for our catalogue with discount sheet for early orders. **Topeka Supply House**, 7th and Quincy, Topeka, Kansas

**SAVE YOUR CHICKS.**

Use the Itumar Mite and Lice Killer, a mite and lice destroyer. Guaranteed to kill mites and lice if properly used. If not satisfied return bottle and label and money will be refunded.

CHAS. E. MOHR,

Glendale Park, Hutchinson, Kans.

**CHICK FEED**

The cleanest, purest feed for baby chicks on the market. Every day egg producer on alfalfa mash, starts the hens to laying and keeps them laying. Wholesale poultry supplies. Send for circular.

The Otto Weiss Alfalfa Stock Food Co.

Wichita, Kansas

**Farmer's Account Book and Ledger**

Saves time and labor—a few minutes each day will keep it; systematizes farm accounts in every department; shows in the simplest manner how to increase profits and decrease losses; endorsed by farmers everywhere. We stand ready to refund the purchase price on every book not found satisfactory. We deliver this book postpaid, including the KANSAS FARMER one year, both for only \$2.50. Address, **THE KANSAS FARMER CO., Topeka, Kans.**

**PATENTS.**

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

lally with wet foods, produce diarrhea, and if a turkey once contracts diarrhea it is almost as good as dead. Our first feeds for young poulters are varied, but most generally wheat bread soaked in sweet milk, seasoned strongly with ground black pepper, at the same time never failing to provide a dish of sharp sand or small chick grit for them to pick at. Every week without fail we grease the poulters under throat, on neck, around vent, and between the webs of large quill feathers on the wings with butter or lard. This part of the management of poulters must not be neglected or put off until next week or "some more convenient season" or you can count your losses by "tens." Just as sure as you neglect ridding poulters of lice, just that sure you will lose a great number or the entire clutch, as lice simply thrive and breed without any special care on turkey poulters. If this treatment for lice is kept up constantly until turkeys are almost grown, the trouble with lice will be a small affair. The ravages of lice on young turkeys is the great mystery of young turkeys drooping and dying without any apparent cause to the amateur turkey-growers. Give the poulters to the turkey-hen. Never entrust them to a chicken-hen or brooders, but place them as far away from the house as is safe to trust them in order to keep hawks and crows from devouring them. Hawks and crows are our worst enemies, and aside from those destructive enemies we have no trouble in rearing the majority we hatch. If you get turkeys well started the first two weeks, the battle is almost won, and the present inducements being so flattering to turkey-growers, the beginner should not be "tossed about by every wind of doctrine," but should profit by those that have had years of experience in the turkey business. We could name a large number of people who have been in the turkey business for years. Had they found the business unprofitable they would have long since vanished. Those of you who contemplate trying turkeys this season for the first time, don't be slow to procure the best pure-bred fowls money can buy. The day of mongrels and scrubs has gone down as a matter of history, just the same as the ox team and wooden plows. We are looking for higher and better things in this progressive age, and any man or woman can dispose of pure-bred stock at a most remunerative price if advertised in our down-to-date journals. **Saltville, Ind. J. C. CLIPP.**

**Farmers as Poultrymen.**

One of the most serious handicaps that the American farmer has to carry, is the regular annual hen strike. Just as often as the sun crosses the autumnal equinox, just so often Mrs. Hen refuses to do any more business, and leaves Mrs. Farmer with no pin or grocery money. From that time 'til the sun warms the north side of the barn, there is very little "doing" in fresh eggs, and prices soar. We are quite inclined to take this regular yearly "shut down" as necessary, and put up with it, just as we do with the high price of coal. But it's a mistake—there is no more need of suffering that less than there is of standing any other sort of "bunco" game. Mrs. Hen can be made to understand and do her full duty, if you do your duty by her. Did you ever observe your hens closely during this "off" period? If not suppose you do, next time it occurs. You will find them dull, listless, logy and slowly shedding their feathers. Now, moulting is a natural and necessary period in the round of the hen year, but it need by no means be a time of total loss, and if you intend to get your share of the profit sure to come from a constantly increasing demand, you must cut this non-productive period down as much as possible.

The proper thing to do with hens in order to avoid this lost time is to give regularly a small amount of Dr. Hess Poultry Pan-a-ce-a in the morning feed. I do not hesitate to say that there is nothing so well adapted to the poultryman's need as this preparation. Dr. Hess studied every possible phase of the "hen problem" by scientific research and careful experiment under just the conditions which poultrymen are compelled to meet, and Pan-a-ce-a is the result. If you are not acquainted with Dr. Hess Poultry Pan-a-ce-a and what it does, let me say first—it is not a stimulant; it does not excite the hen to an unnatural and artificial production of eggs. It does, however, compel every organ to act in a natural and healthy manner by causing the hen to digest and assimilate the largest possible amount of food taken, so that laying becomes a fixed and constant habit. Poultry Pan-a-ce-a makes rich red blood and supplies the nitrates necessary to assist in throwing off poisonous matter from the system, so that health becomes a natural condition in confinement as well as in liberty. I do not hesitate to say that no flock can be diseased when Dr. Hess Poultry Pan-a-ce-a is regularly given.

If this course is begun with young chicks and followed consistently every day, growth will be rapid and loss practically nothing. I have known pullets hatched in this way to begin laying in October and continue productive through the entire winter, and as I said before it shortens the non-pro-

ductive period for old stock. Dr. Hess and Clark are so certain of the value of their Poultry Pan-a-ce-a that they give a written guarantee with each package; if it does not give results, it costs you nothing. One cent's worth of Poultry Pan-a-ce-a will make a daily feed for 30 fowls. If you use it as directed and occasionally sprinkle roosts and nest-boxes with "Instant Louse Killer" your success will be ample.

**Kansas Fairs in 1906.**

- Following is a list of fairs to be held in Kansas in 1906, their dates, locations, and secretaries, as reported to the State Board of Agriculture and compiled by Secretary F. D. Coburn:
  - Allen County Agricultural Society—Frank E. Smith, secretary, Iola; September 25-28.
  - Barton County Fair Association—W. P. Feder, secretary, Great Bend; August 28-31.
  - Brown County—The Hiawatha Fair Association—Elliott Irvin, secretary; Hiawatha.
  - Butler County Fair Association—W. F. Benson, secretary, Eldorado; October 1-6.
  - Chautauqua County—Hewins Park and Fair Association—W. M. Jones, secretary, Cedar Vale; September 11-13.
  - Clay County Fair Association—Walter Puckey, secretary, Clay Center; September 4-7.
  - Clay County—Wakefield Agricultural Society—Eugene Elkins, secretary, Wakefield; first week in October.
  - Cloud County Fair Association—F. W. Daugherty, secretary, Concordia; September 25-28.
  - Coffey County Agricultural Association—S. D. Weaver, secretary, Burlington; September 18-21.
  - Cowley County—Eastern Cowley County Fair—J. M. Henderson, secretary, Burden; September 26-28.
  - Cowley County Agricultural and Live-Stock Association—W. J. Wilson, secretary, Winfield; October 9-12.
  - Elk County Agricultural Fair Association—E. M. Place, secretary, Grenola; September 19-21.
  - Finney County Agricultural Society—A. H. Warner, secretary, Garden City.
  - Franklin County Agricultural Society—Carey M. Porter, secretary, Ottawa; September 4-8.
  - Greenwood County Fair Association—C. H. Weiser, secretary, Eureka; August 14-17.
  - Harper County—Anthony Fair Association—L. G. Jennings, secretary, Anthony; August 7-10.
  - Harvey County Agricultural Society—J. T. Axtell, secretary, Newton; September 25-29.
  - Jefferson County Fair Association—G. A. Patterson, secretary, Oskaloosa; September 4-8.
  - Jewell County Agricultural Fair Association—Henry R. Honey, secretary, Mankato; September 18-21.
  - Linn County Fair Association—O. E. Haley, secretary, Mound City; September 11-14.
  - Marshall County Fair Association—R. W. Hemphill, secretary, Marysville; September 11-14.
  - McPherson County Agricultural Fair Association—E. S. Guyman, secretary, McPherson; September 4-9.
  - Miami County Agricultural and Mechanical Fair Association—W. H. Bradbury, secretary, Paola; August 28-31.
  - Mitchell County Agricultural Association—J. E. Tice, secretary, Beloit; last week in September.
  - Montgomery County—Coffeyville Fair and Park Association—R. Y. Kennedy, secretary, Coffeyville; August 7-10.
  - Nemaha County Fair Association—V. B. Fisher, secretary, Seneca; August 29-31.
  - Neosho County—Chanute Fair and Improvement Association—A. E. Timpane, secretary, Chanute; August 28-31.
  - Ness County Agricultural Association—R. D. McKinley, secretary, Ness City; September 5-7.
  - Ness County—Utica Fair and Agricultural Association—R. C. Webster, Jr., secretary, Utica; August 30-September 1.
  - Norton County Agricultural Association—M. F. Garrity, secretary, Norton; August 28-31.
  - Osage County Fair Association—M. Carnaveaux, secretary, Burlingame; September 18-21.
  - Reno County—Central Kansas Fair Association—A. L. Sponsler, secretary, Hutchinson; September 17-23.
  - Republic County Agricultural Association—W. R. Wells, secretary, Belleville; September 11-14.
  - Rice County Agricultural and Live Stock Association—F. L. Goodson, secretary, Sterling; August 1-3.
  - Riley County Agricultural Society—W. B. Craig, secretary, Riley; August 28-31.
  - Rooks County Fair Association—E. L. Williams, secretary, Stockton; September 18-21.
  - Shawnee County—Kansas Exposition Company—R. T. Kreipe, secretary, Topeka; September 10-15.
  - Smith County Fair Association—M. A. Dimond, secretary, Smith Center; August 21-24.
  - Stafford County Fair Association—P. O. Gray, secretary, St. John; August 22-24.
  - Sumner County—Mylvane Agricultural Association—Robt. P. Seyfer, secretary, Mylvane.
  - Wilson County—Fredonia Agricultural Association—V. L. Polson, secretary, Fredonia; August 21-24.

A useful book for persons interested in telephones and their installation is the new catalogue of Julius Andrae & Sons' Company, of Milwaukee, Wis. This book covers the construction of farmer telephone lines. On page 139, this company proposes to furnish complete data bearing on telephone construction. If interested, write for a free copy mentioning THE KANSAS FARMER.

In this week's issue will be found the advertisement of the Butler Land Company, of Butler, Mo. This firm should receive special attention from our readers, as their location is such a short distance south of Kansas City. Their country is especially adapted for live stock, fruit, fuel, and climate, and other good things too numerous to mention. Ask them about their county.

**A WOMAN'S ORDEAL DREADS DOCTOR'S QUESTIONS**

Thousands Write to Mrs. Pinkham, Lynn, Mass., and Receive Valuable Advice Absolutely Confidential and Free

There can be no more terrible ordeal to a delicate, sensitive, refined woman than to be obliged to answer certain questions in regard to her private ills, even when those questions are asked by her family physician, and many



continue to suffer rather than submit to examinations which so many physicians propose in order to intelligently treat the disease; and this is the reason why so many physicians fail to cure female disease.

This is also the reason why thousands upon thousands of women are corresponding with Mrs. Pinkham, daughter-in-law of Lydia E. Pinkham, at Lynn, Mass. To her they can confide every detail of their illness, and from her great knowledge, obtained from years of experience in treating female ills, Mrs. Pinkham can advise sick women more wisely than the local physician.

Read how Mrs. Pinkham helped Mrs. T. C. Willadsen of Manning, Ia. She writes: Dear Mrs. Pinkham:

"I can truly say that you have saved my life, and I cannot express my gratitude in words. Before I wrote to you telling you how I felt, I had doctored for over two years steady, and spent lots of money in medicines besides, but it all failed to do me any good. I had female trouble and would daily have fainting spells, backache, bearing-down pains, and my monthly periods were very irregular and finally ceased. I wrote to you for your advice and received a letter full of instructions just what to do, and also commenced to take Lydia E. Pinkham's Vegetable Compound, and I have been restored to perfect health. Had it not been for you I would have been in my grave to-day."

Mountains of proof establish the fact that no medicine in the world equals Lydia E. Pinkham's Vegetable Compound for restoring women's health.

**This Keeps Lightning Out Of Your Telephones**

This is our "No Risk" Lightning Arrester. Pull the knob, and your telephone is absolutely cut out. Lightning cannot enter your house. Simplest positive sure. Book FREE.

Just send your name and address. Our book explains everything—how you can try the "No Risk" Lightning Arrester FREE. Or send us \$2.00 and get the complete arrester. Fully guaranteed to protect as we say or money back. Reliable Agents wanted. One man sold 15 one day. Another 33 in 5 days.

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**PAROID**

Before you buy roofing for any building, from a small poultry house to the largest mill or factory it will pay you to get samples and complete proofs of the superior lasting qualities of Paroid. (We originated the roll of roofing ready to lay with fixtures packed in the center.) Our concern was **Founded in 1817**

We can show you why "Paroid" is the best of them all; why it lasts longer and why it saves most in repairs. Drop us a postal to-day.

**F. W. BIRD & SON,** East Walpole, Mass. New York, Washington, Chicago, Hamilton, Ont.

**ROOFING**

**FREE UNTIL CURED**

Blood Poison, Catarrh, Deafness, Asthma, Stricture, Sexual Weakness, and Consumption. No Deposit or C. O. D. scheme, I trust to your honor to pay when cured. **M. G. SLOCUM, M. D., 200 East Douglas Ave., Wichita, Kansas**

The Grange

"For the good of our Order, our Country and Mankind."

Conducted by George Black, Olathe, Secretary Kansas State Grange, to whom all correspondence for this department should be addressed. News from Kansas Granges is especially solicited.

NATIONAL GRANGE.

Master.....N. J. Bachelder, Concord, N. H. Lecturer.....Geo. W. F. Gaunt, Mullica Hill, N. J. Secretary.....C. M. Freeman, Tippecanoe City, Ohio

KANSAS STATE GRANGE.

Master.....E. W. Westgate, Manhattan Overseer.....A. P. Beardon, McLouth Lecturer.....Ole Hibner, Olathe Stewart.....R. C. Post, Spring Hill Assistant Stewart.....Frank Wiswell, Ochiltree Chaplain.....Mrs. M. J. Ramage, Arkansas City Treasurer.....Wm. Henry, Olathe Secretary.....George Black, Olathe Statekeeper.....J. H. Smith, Lone Elm Ceres.....Mrs. M. L. Allison, Lyndon Pomona.....Mrs. S. M. Finney, McLouth Flora.....Mrs. S. J. Lovett, Larned L. A. S.....Mrs. Lola Radcliffe, Overbrook

EXECUTIVE COMMITTEE.

O. F. Whitney, Chairman.....Topeka, Station A E. W. Westgate.....Manhattan George Black, Secretary.....Olathe Henry Rhoades.....Gardner J. C. Lovett.....Buoyrus

STATE ORGANIZER.

W. B. Obryhm.....Overbrook

Is the Grange a Success?

In discussing the question of organization among farmers, Brother John Biggs, the lecturer of the Ohio State Grange, says:

"This is a question which is often asked of members when they solicit outside parties to identify themselves with the order. Has the Grange as an organization been of any real benefit to the agricultural world? Has it had the effect of bringing about better conditions among the farmers of the country, as was claimed for it by its founders in years gone by?"

"In order to fully meet these inquiries, it is necessary to know what the Grange as an organization has brought about. There are many influences at work now among the rural population of this country which are not directly credited to the Grange, yet are indirectly the effects of its operations and work, and none of which would have been felt for the amelioration of the agricultural classes had the Order of Patrons of Husbandry never been instituted.

THE SPIRIT OF PROGRESS.

"The very spirit of progress which is so marked in our day is largely the result of that inspiration that almost always comes from association. The study of the various intricate questions constantly arising in the wide field of agriculture, horticulture, and other departments of rural labor would not have progressed as far as it has to-day had it not had the stimulating and fostering care of the Grange as an organization to help it along. Our social conditions as a great industrial class have been greatly improved by the influences of organized effort. On the principle that 'what one person does another is sure to do,' this spirit of emulation has worked great changes for the betterment of our rural homes and general conditions of the farmers of the country. It has also created and fostered a stronger feeling of fraternal fellowship among farmers, which of itself is of more value to them than all the organization has cost in either time or money to sustain it and keep it going.

THE BEST FRATERNITY.

"The Grange stands at the head of all fraternal organizations as an educator, both in morals and intellectual development. Education in business, in sociability, in morals, and in all the affairs of good government is a part of its fundamental doctrine. Compare the conditions of the rural population of the country with what they were years ago, and then note the improvements which have come to us as a direct result of the teachings and work of the Grange.

"Probably the political benefits that have been realized by a farming community from Grange effort during the last quarter of a century will take precedence in point of value over all other beneficent influences resulting from the order. Practically all of the legislation enacted either by our State or National law-making bodies is due to Grange work, and the Grange has been the chief instrumentality by which public sentiment in favor of such laws has been created and worked up until it became so strong as to be irresistible, and resulted in the enactment of such laws, that were either for the protection of some feature of agriculture from ruinous and unjust competition or else were the means of fostering some

feature that needed public aid to insure its success.

THE CAUSE OF TEMPERANCE.

"The great advance that has been made in the cause of temperance in the country during the last two or three decades has been in no little degree due to the fact that in all our different Grange meetings, whether local, State, or National, these bodies have almost universally passed strong resolutions in favor of the more stringent legislation in behalf of the cause of temperance. The Grange, in whatever capacity it may meet, never fails to condemn that which is bad in our local, State, or National Government. It is the forerunner of reforms in the affairs of government, whether high or low, and always keeps the public mind directed to governmental affairs in such a way as to attract attention to the misdeeds of public officials or commend and approve that which is for the best interests of the masses of our citizens. And no one will ever be able to measure or estimate the good this order has done in the way of correcting evils and in bringing about improvements in public affairs, that are alike beneficial to the members of the order and all others who belong to the great class of agricultural workers.

GRANGE SECURES LEGISLATION.

"We believe it was ex-Governor G. W. Nash, now deceased, who said, when speaking of the value of the order to the farmers of the country, 'that while there was only about 10 per cent of the farmers of the country organized, yet that 10 per cent had been instrumental in securing more legislation that was beneficial to the agricultural interests of the country than the entire other 90 per cent who were unorganized,' and certainly our honored ex-Governor was in a position to know that he was thoroughly justified in making that statement.

"Another very important feature of Grange work is that of bringing the masses of rural citizens into closer relations with one another than in former years. It thus facilitates the concentration of public opinion upon any one subject much more quickly and with greater effect than where no organization exists.

"Our late and much-lamented President, William McKinley, when Governor of Ohio, said: 'Farmers are at a decided disadvantage as compared with other industrial classes of the country when they endeavor to secure any legislation that will be beneficial to their special interests. They are so scattered that it is very difficult for them to concentrate their influence upon any measure in time to do any good. But with other organized industries it is not so. They can act either through committees appointed for that purpose or by some one chosen to properly represent them before it is too late to do any good.' Continuing, the great McKinley said: 'Now, what is the remedy for this condition of things? There is but one remedy, and that is thorough compact organization among the agricultural classes.'

"William McKinley was in a position to know whereof he spoke on such matters. The truth of his words is apparent on every hand. Farmers have good reason to consider whether they are doing justice to themselves and others of their class by not becoming part of this great organized force.

THE NEED OF ORGANIZATION.

"It is easily seen from the foregoing quotations that our most progressive thinkers and statesmen recognize the need of organized effort on the part of the farmers of the country if they hope to preserve their proper position in society, business, or government.

"Certainly the history of the Grange proves its abundant success, and with all its experience and the accumulated wisdom of the past, with a membership doubled or quadrupled, as it should be in the United States, it would prove itself ever a greater benefactor to the farmers in the future.

"Let us then, as loyal members of an order which has done and is doing so much for us, which has been the means of bringing so much good to us in so many ways, give it our loyal earnest support in every way we can. Let us recommend its principles and disseminate its doctrines until others will see its good features and join us in making answer: 'The Grange is a success.'"

Bates County, Missouri, but 70 miles south of Kansas City, Mo., presents special features for those seeking new locations. The resources are many, with 35 rural routes established, cheap fuel, and an almost ideal farming country. Some exceptional chances now in well-drained bottom-land. Hart & Holloway, of Butler, Mo., will tell you all about it.

This Fence Post Costs the Farmer Nothing. Because it more than pays for itself. It won't rot or burn or decay; it saves the cost of several wooden posts in a short time, and yet it costs the farmer but little more than one wooden post. Then too, it gives absolutely free sure lightning insurance for his stock, for lightning can't run along fences on this post. Every post is grounded by four large cables that go clear to the damp soil—just like lightning rods. Every wire in the fence is connected directly to ground by the cables and staples. W. Wallace Farmer, April 20, says: "It should always be borne in mind that the object of wiring a building or a fence is not so much to carry off the stroke as to prevent the accumulation of electricity." No lightning strikes a fence on these posts. It saves the cost of insurance. A saving in lasting qualities and in insurance makes it more than pay for itself so that it really costs the farmer nothing. And the farmers know. ELECTRICAL CONCRETE FENCE POSTS do this—so they are ready to buy them. To supply this demand for these fence posts makes a fine Opportunity for Enterprising Men to Make Money There is a good profit in concrete work—posts, blocks and tile—and it does not take a lot of capital to equip a plant. We have the best outfits at the lowest prices, and we are anxious to get into communication with men who are looking for a chance to go into a good business. We want to hear from hustlers and men who will push the business—we have a special offer to make them. Send at once for our big new catalogue, which tells all about our posts, blocks and tile, and shows just why they are best—why they can be made cheaply—why the business will pay you. Write today. ELECTRICAL CEMENT POST CO., 108 Washington St., Lake City, Iowa

WALNUT GROVE FARM ...FOR SALE... Upon the advice of several specialists I am going to New Mexico for my health. On this account I must dispose of all my Kansas property, including the famous Walnut Grove farm, the most complete and profitable stock farm in Kansas. This includes 130 acres of the best land in Kansas, two miles from Emporia. Over 200 good O. I. C. hogs. All our Barred Plymouth Rocks, 36 Colliers, 44 head of cows, 8 head of horses, the best farm house in the State. Also one small farm house, 2 large barns, 2 large cattle-sheds, one 300-foot hen house, one 250-foot broiler house, 20 brooder houses, capacity of plant, 4000. The best hog house in the West, double-deck cement floors; many small hog houses. This is not an experiment, but a successful stock farm. Price, \$20,000 cash. H. D. NUTTING, Emporia, Kans.

Stock Dips—Good and Bad. J. S. Woodward, writing in the Rural New Yorker, sharply criticizes another writer for advocating the use of tobacco to kill lice upon animals. Then Mr. Woodward, with singular inconsistency, recommends the use of crude-oil. Tobacco is certainly objectionable, for more than one reason. It is sickening to handle, and, while it will no doubt kill lice, it is not a disinfectant—that is, it does not destroy germ-life. Now, while you are killing lice you may as well destroy the disease-germs with which your stock may be afflicted. A good germicide will help to heal wounds and keep the animals in a healthy and thrifty condition. Crude-oil, as an animal-dip, is even more objectionable than tobacco. It is unpleasant to handle; it blisters the skin; it makes the hair sticky, matted, and mussy, and converts it into a dirt-catcher. Further than that, it is more or less dangerous, because it is inflammable. The case of the herd of cattle that, after being dipped in crude-oil, caught fire, ought to be a lesson to any one who thinks of using it. Why will people dabble with tobacco, crude oil, kerosene, carbolic acid, etc., when there is better, cheaper, safer, and surer material? Is it because they don't want something better, or because they don't know of anything better? If you, reader, are one of those who don't want anything better, we have nothing more to say. You are years behind the times. The procession is moving off without you. But if you are one who really don't know of anything better, we want to tell you about Kreso Dip. This dip is prepared from coal-tar and contains those materials that have long been recognized as the best insect and germ-killers, and at the same time the least injurious to higher animal life. That is where Kreso Dip is strong. It does the work, and it does it without harming the animal. It costs less, and has a greater variety of uses on the farm than any other dip. These are plain, hard facts that you can prove. Now, what excuse is there for letting lice, ticks, mites, fleas, etc., eat the stock alive? Or what excuse is there for using tobacco, crude-oil, kerosene, carbolic acid, etc.? Write Parke, Davis & Co., Detroit, Mich., for free booklets telling how to use Kreso Dip on all kinds of stock, and ask them to tell you the name of a local druggist from whom you can buy it.

illustrated catalogue, showing in detail everything you wish to know, and it is free to any one writing them for it and mentioning THE KANSAS FARMER. This catalogue also shows actual photographs of scenes where a large number of stock have been killed because wooden posts are used. These scenes would be impossible if the electrical cement post were used. It costs nothing to investigate, and it may save you hundreds of dollars. The Electrical Cement Post Company also manufacture the modern episco wire tie building-block machine and episco cement tile molds. These molds, any one can procure of them and make the posts, block and tile, himself. Their catalogue tells all about it. Write them for it at once. Cheap Rates to Boston. \$19 for round-trip from Chicago (plus \$1), via the Nickel Plate Road, May 31 to June 9, inclusive, with privilege of extension of return limit to July 15. \$24 via New York City, all rail, or \$23 via New York City and steamer in both directions between New York and Boston. Stopover at Niagara Falls and Chautauqua Lake points, if desired, within limit of ticket. Tickets good on any train on above dates. No excess fare charged on any train on Nickel Plate Road. Meals in Nickel Plate dining-cars, on American Club Meal Plan, ranging in price from 35 cents to \$1. Mid-day luncheon 50 cents; also a la carte. Three through trains daily, with modern Pullman sleeping-cars to Fort Wayne, Findlay, Pistoria, Cleveland, Erie, Buffalo, New York City, and New England points. Trains depart from La Salle St. Station, Chicago, the only depot on the Elevated Loop. Write John Y. Calahan, General Agent, Room 298, 113 Adams St., Chicago, for reservation of berths in through standard and tourist sleepers, and full particulars. (2)

The Jones National School of Auctioneering and Oratory will open July 23 at Davenport, Iowa. This will probably be the largest attended term ever held by this institution. The instructors in the several departments are men of experience in their respective lines, not only in the work itself, but in teaching others the essential principles of the work. No time is lost in unnecessary work or experimenting at this school. Every minute of the term can be used to the best advantage and we from our knowledge of the course feel safe in saying it is worth the time and expense, for the mind development alone, aside from the essential principles of auctioneering and other commercial business. Send for catalogue mentioning THE KANSAS FARMER.

Ertel's hay-press book is intended to answer all your questions about baling-presses, and tell you just what points are necessary in a good hay-press. No other catalogue or hay-press book is so complete and gives you the details as this does. The man, who is going to spend his money for a hay-press and whose men and teams are to operate it, should read Ertel's book before purchasing elsewhere. All you have to do to get it is to drop a postal card to Geo. Ertel Co., Quincy, Ill., who will send you the book free, without obligation on your part to purchase. Its 80 pages of hay-press information will surely be worth the price of a postal to you.

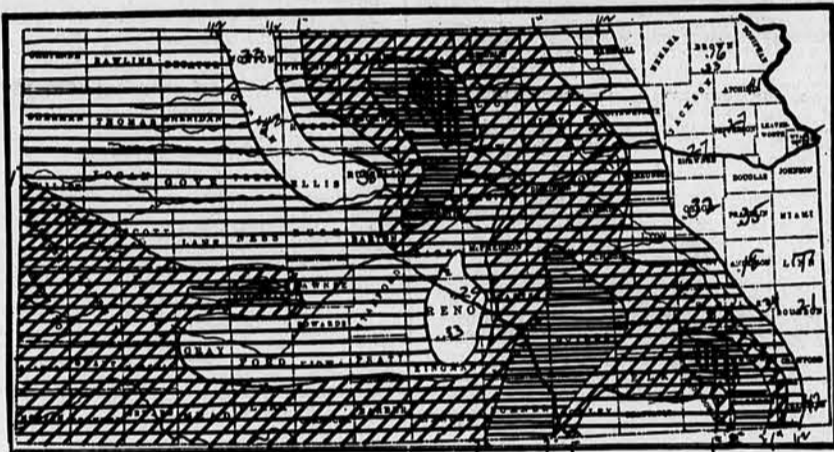
Weather Bulletin.

Following is the weekly weather bulletin for the Kansas Weather Service, for the week ending May 29, 1906, prepared by T. B. Jennings, station director:

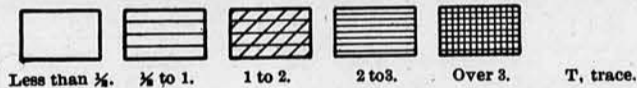
CLIMATOLOGICAL DATA FOR THE WEEK.

Table with columns for Maximum, Minimum, Mean, Departure from normal, and Total. Rows are categorized by Western, Middle, and Eastern Divisions, listing various locations like Cimarron, Colby, Dodge City, etc.

RAINFALL FOR WEEK ENDING MAY 26, 1906.



SCALE IN INCHES:



GENERAL CONDITIONS.

While the week was warm the average temperature was slightly lower than that of the preceding week. There was also a much better distribution of rain over the State.

CONDITIONS IN DETAIL.

EASTERN COUNTIES.

Allen.—The precipitation this week was about the normal amount while the temperature was above the normal. The drought was broken on the 23d when 0.70 of an inch of rain fell. Light showers also occurred on the 24th and 25th. A trace of hail fell on the 25th.

On three days, making the rainfall for the week 0.63 of an inch. The maximum temperature exceeded 80° almost every day, the highest for the week being 90° on the 24th. Crawford.—On the 3d there was a heavy rain, 0.76 of an inch of water falling in twenty minutes. Heavy hail accompanied this rain. Six days of the week were clear and one cloudy.

and 25th. The highest temperature for the week was 84 on the 20th, and the lowest 47° on the 26th. The week was generally warm but ended cool. Russell.—Light, local showers fell on four days. The total rainfall for the week was 0.36 of an inch. Temperatures were seasonable.

ABOUT THE SOUTH

"About the South" is the name of a 64-page illustrated pamphlet issued by the Passenger Department of the

Illinois Central R. R. Co.

In which important questions are tersely answered in brief articles about

- SOUTHERN FARM LANDS, MISSISSIPPI VALLEY COTTON LANDS, TRUCK FARMING, FRUIT GROWING, STOCK RAISING, DAIRYING, GRASSES AND FORAGE, SOILS, MARKET FACILITIES, AND SOUTHERN IMMIGRATION

along the lines of the Illinois Central and Yazoo & Mississippi Valley Railroads, in the States of Kentucky, Tennessee, Mississippi, and Louisiana including the famous

YAZOO VALLEY

of Mississippi. Send for a free copy to J. F. Merry, General Immigration Agt., I. C. R. R., Manchester, Iowa. Information concerning rates and train service to the South via the Illinois Central can be had of agents of connecting lines, or by addressing S. G. HATCH, G. P. A., Chicago, Ill.



Travel Right to Oklahoma

The Missouri, Kansas & Texas R'y has recently inaugurated additional daily trains for Oklahoma City, Guthrie, Cleveland, Bartlesville, Coffeyville, etc. With this added service the M. K. & T. R'y is the logical line between St. Louis and Kansas City and all principal points in Oklahoma.

Change of cars is one of the greatest inconveniences of travel. You don't have to change cars if you travel via the Missouri, Kansas & Texas Railway. Through trains (over its own rails) run from St. Louis and Kansas City to Oklahoma City, Dallas, Ft. Worth, San Antonio and Galveston. All through trains have Chair Cars and Pullman Sleepers.

How to Go. When you have occasion to travel, use the same discrimination in buying a ticket that you would in buying anything else. Assure yourself in advance of what you may expect in the way of comfort and convenience en route.

W. S. ST. GEORGE, General Passenger Agt., M. K. & T. R'y, St. Louis, Mo.

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- The Kansas City Post, a new, metropolitan, Democratic Daily (per year).....\$3.00 Poultry Culture, an interesting monthly poultry journal (per year)..... .50 The Kansas Farmer..... 1.00 \$4.50

We have completed arrangements whereby we can furnish ALL THREE PUBLICATIONS for only \$2.50

THE POST is a good live, Democratic Daily paper containing all the news of importance, complete and accurate market reports; a page devoted to the women folk and the home as well as a page devoted to sports.

THE POULTRY CULTURE is one of the best poultry journals published and is of particular interest to those already engaged or about to engage in the poultry raising business.

Here is a splendid opportunity for you not only to get a good live Daily, a splendid poultry and the "Old Reliable" Kansas Farmer about half price.

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The Kansas Collection Agency

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A Guaranteed Gall Cure.

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