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I have for sale—

300 Head 3 and 4 year old Steers

In good flesh and splendid quality. Will sell in carload lots, on terms to suit. Come and see me, or write. Mention KANSAS FARMER. Address

WALTER LATIMER, Garnett, Anderson Co., Kas.

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G. W. GLICK, ATCHISON, KAS.

Breeds and has for sale Bates and Bates-topped SHORT-HORNS. Waterloo, Kirklevington, Filbert, Cragg, Princess, Gwynne, Lady Jane and other fashionable families. The grand Bates bulls Winsome Duke 11th 115137 and Grand Duke of North Oaks 11th 115735 at head of the herd. Choice young bulls for sale now. Visitors welcome. Address W. L. CHAFFEE, Manager.

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For first choice pigs from stock producing winners of seven prizes World's Fair. Darkens Quality 2d and Ideal U. S. by Ideal Black U. S. head the herd. Both first-prize winners Kansas State fair 1894. Come or write your wants. Willis E. Graham, Burrton, Kas. Secretary Kansas Swine Breeders' Association



## Agricultural Matters.

### HAY.

Henry A. Robinson, Statistician of the United States Department of Agriculture, writes of the hay crop of the country and says:

"The grass crop is the most valuable of any in the country, and while the hay is worth far less than the pasturage, it nevertheless produces an overwhelming proportion of growth in flesh of all animals. In some sections of the country the climate is such that the farmer is compelled to house and feed his stock more than half the time, and unless he has plenty of hay this is an enormous expense, and increases the cost price of his farm animals without a corresponding increase in their value. An abundance of meadow and pasture land in any section indicates a healthy and prosperous condition, and the farmer who has a large area of such land has the elements of wealth at hand. He not only raises his cattle and stock on grass, but they return to the land those fertilizing materials which keep the soil in good condition and insure reliable returns.

"In some portions of the country hay has been neglected in the struggle to realize immediately from special crops, which has usually had the effect of impoverishing the land and not infrequently the farmer.

"Our country presents such a diversity of climate and soil that grasses that thrive and make an abundant crop in one section are practically of no value in another, and there is no doubt that with a judicious selection of varieties and proper preparation of the soil the hay crop would be materially increased.

"Any effort to secure increased facilities for raising and handling hay is a step in the right direction and should be a benefit to every farmer in the land.

The following table, showing the area and product of hay in the United States for 1894 and the value of the product may be of interest in this connection:

	Acres.	Tons.	Value.
Maine.....	1,227,702	1,166,317	\$11,106,642
N. Hampshire	640,832	608,790	6,362,295
Vermont.....	908,126	1,089,751	10,832,125
Mass.....	636,347	801,798	12,427,869
Rhode Island	86,543	64,907	1,059,931
Connecticut	517,699	450,393	7,008,193
New York.....	5,297,087	6,197,592	59,368,739
New Jersey...	546,554	586,443	8,262,982
Pennsylvania...	2,993,275	3,532,065	39,947,065
Delaware.....	61,524	79,981	1,199,715
Maryland.....	343,582	355,949	36,961,712
Virginia.....	656,412	498,537	6,927,605
N. Carolina...	104,525	238,561	2,607,472
S. Carolina...	457,594	241,119	2,592,029
Georgia.....	150,835	174,992	2,166,401
Florida.....	6,719	8,264	134,290
Alabama.....	72,803	195,112	1,855,515
Mississippi...	73,902	135,980	1,814,927
Louisiana...	36,532	71,603	761,856
Texas.....	457,214	608,095	4,633,684
Arkansas...	188,066	248,247	2,192,021
Tennessee...	435,510	513,902	5,791,676
W. Virginia...	546,260	557,185	5,939,592
Kentucky.....	583,937	735,762	7,703,423
Ohio.....	2,312,254	2,936,563	24,813,323
Michigan.....	1,702,306	2,043,867	18,472,038
Indiana.....	2,008,671	2,551,012	19,336,671
Illinois.....	2,408,956	2,745,134	22,807,383
Wisconsin...	1,898,733	2,487,340	19,799,226
Minnesota...	1,602,514	1,634,697	8,663,894
Iowa.....	4,693,307	3,452,115	25,308,990
Missouri...	2,532,316	2,152,469	16,832,309
Kansas.....	3,305,889	2,545,535	13,864,059
Nebraska...	1,095,992	1,124,535	8,006,689
S. Dakota...	2,040,333	1,918,383	8,210,679
N. Dakota...	424,087	505,735	1,957,194
Montana...	376,639	444,767	3,188,979
Wyoming...	224,765	361,872	3,618,720
Colorado...	786,804	1,786,045	13,469,779
New Mexico...	39,846	74,910	861,455
Arizona.....	36,219	60,919	791,023
Utah.....	179,575	452,529	2,016,651
Nevada.....	153,602	620,552	4,409,002
Idaho.....	226,370	552,716	2,485,587
Washington...	372,956	764,560	5,642,453
Oregon.....	642,303	1,284,606	7,527,791
California...	1,665,102	3,213,647	30,529,647
	48,321,272	54,874,408	\$468,578,321

"From 1880 to 1890 there was a steady increase both in acreage and production of hay in almost all sections of the country. The area mown in 1890 shows an increase of 22,317,743 acres, or 72.9 per cent. over that of 1880, and the production increased 31,680,769 tons, or 90.1 per cent. This increase naturally affected the value, which fell from \$11.30 per ton in 1880 to \$7.74 in 1890. The average production per acre, however, was 1.26 tons, against 1.15 in 1880, which, in a great measure, offset the reduction in value.

"The area mown in 1894 as compared with that of 1890 shows a decrease of 4,657,525 acres, or 8.7 per cent., while the production fell off 11,057,072 tons, or 17.9 per cent. The average value per ton, however, was slightly greater, being \$8.54, against \$7.74 in 1890, while the average production per acre fell from 1.20 tons in 1890 to 1.14 tons in 1894.

"The average condition, as reported August 1, 1894, was 24.4 per cent. below the normal. The condition in New England and Middle States and West Virginia ranged from 83 in the last-named State to 100 in Maine, the area

in these States being about the same as in 1893. In the Gulf States the condition ranged from 90 in Mississippi to 101 in Texas.

"The States bordering on the Great Lakes, and those lying along the Ohio, Mississippi and Missouri rivers all showed a reduction of area, and conditions, though varying, indicated a low average of yield. This was especially the case in the terribly drought-stricken States of Iowa, Nebraska and South Dakota. In the Pacific coast region there was on the whole, an increase of area, and the condition, except in California, was generally high. Speaking for the whole country, the quality of the hay harvested in 1894 was excellent, and, though the area and production was less than that of 1890, it must not be inferred that the crop is a decreasing one; on the contrary, the crop of 1894 shows a healthy increase over that of 1880, the increase in area being 17,690,218 acres, or 51.8 per cent., and in production 19,732,697, or 56.1 per cent., and had the size of the crop kept pace with the increase in the quality of the product the hay crop of 1894 would have been one of exceptional value."

### Winter Oats at the North.

In a recent bulletin, C. S. Plumb, Director of Purdue University Agricultural Experiment Station, says:

"The sowing of a certain class of oats in the South in the fall has been a practice for many years. Of recent years some attempt has been made to grow these winter oats in the North. Ten years ago the writer experimented with several varieties, at the New York Experiment Station at Geneva, but all were winter-killed.

"Attempts to grow winter oats in the North as a rule have been unsuccessful. The Wisconsin and Michigan stations report them unable to endure the winter. At the Indiana station, on about latitude 40°, a good stand in the field was entirely killed last winter when wheat grown by the side of it under similar conditions was uninjured. Mr. E. S. Carman grew winter oats from Virginia seed during 1894-95 with success in northern New Jersey, the seed being sown September 15.

"Winter oats have been extensively tried in southern Indiana, with varying success. The writer has received replies to letters on this subject from a number of growers. Mr. O. M. Foster, of Jackson county, reports considerable sown. From one-half to one-third the fields were winter-killed and the ground planted to other crops. The failure was due to late sowing and dry weather last fall. The farmers of our section think they are all right; they have been sowing in this county for five years and in the majority of cases have proved a paying crop. Mr. John T. Cobb, of Jackson county, reports they came through the cold weather as good if not better than wheat. Seed sown the last of September or later killed badly. In this section they should be sown the last week in August or the first week in September. N. D. Gaddy, of Jennings county, reports the winter oats in this vicinity, so far as heard from, as badly damaged by the severe winter. J. H. Hodapp, of Jackson county, writes: 'They suffered in this section from dry weather and the severe winter, but the damage to them was not so great as to the wheat.' J. R. Tinder, of Jackson county, reports that 75 per cent. of the crop sown in 1894 was winter-killed; though the seedlings of the falls of 1892 and 1893 did well. J. B. Smith, of Jennings county, writes of both success and failure. He thinks they are no better than spring oats in this climate and are liable to be winter-killed. A seed firm in Indianapolis has extensively advertised winter oats, claiming they would withstand the severest winter weather, which is not true.

"Unquestionably, winter oats are being grown successfully in southern Indiana, but there is still uncertainty as to how they will survive the winter. In those localities where winter oats have not been planted, it will be advisable to go slow. Experiment on a small scale first. Plant a peck of seed. It is to be hoped winter oats may gradually become acclimated northward, but as yet the writer knows of no case where they have survived the winter north of New Jersey and Cincinnati, Ohio."

Human life is held too cheaply when the individual who needs a tonic for his system, seeks to cover his wants by purchasing every new mixture that is recommended to him. Remember that Ayer's Sarsaparilla has a well-earned reputation of fifty years' standing.

### The Feeding Value of Oats.

What is the best and cheapest feed, under existing circumstances, is a question which will, in the changing prices of products, be an ever present one. The Purdue University Experiment Station has furnished some information which will aid the farmer who desires to make the most product for the least money. The Director says:

"The price paid farmers for oats at the present time is lower than for many years, perhaps the lowest in the history of the United States. From 1870 to 1895, the lowest average value for oats in the United States in any one year was 22.9 cents for 1889. The quotations on oats in Chicago markets to-day are 10 to 12 cents less per bushel than for a year ago at this time. At LaFayette, Ind., farmers are paid 16 cents per bushel for No. 2 white oats, and extra choice old oats can be bought of commission men for 20 cents.

"One hundred pounds of average oats and corn are each supposed to contain the following amounts of food nutrients that are digested by the animal body:

	Protein.	Carbohydrates.	Fat.
Oats.....	9.25.....	48.34.....	4.18
Corn.....	7.92.....	66.69.....	4.28

"Protein is the flesh or muscle-forming material, while carbohydrates and fat are important fat-forming foods. Of the two foods, protein is the most expensive to produce. The so-called 'rich' foods, are so designated on account of having a larger percentage of protein than the others, and they are usually the highest-priced foods in the market. Oil meal is a good example of this class of foods containing a large per cent. of protein.

"From the above it can be seen that 100 pounds of oats contain decidedly more flesh or muscle-forming food than 100 pounds of corn.

"On the basis of LaFayette quotations, 100 pounds of oats would fetch 50 cents, and 100 pounds of corn 48 cents.

"In view of these extremely low prices, the Director believes feeders will do well to feed oats, rather than sell them and buy bran, which is now 70 cents per 100. No other grain is superior, if equal to oats as a food for working horses. For growing cattle or sheep or milch cows it is most desirable, and should be much more generally fed than it is. Instead of feeding corn as the only grain; a decided improvement would be a mixture of two parts of ground corn and one part oats. While oats are less referred to than other common grains, in recommending feeding rations, it is not because of inferior value, but rather from the cost of this food. At the present time, however, the low price will warrant its more extensive use. In a list of 100 rations used by prominent dairy cattle feeders in the United States and Canada, published by the Wisconsin Experiment Station, oats are fed thirty-five times. Of nine Canadian feeders, eight added ground oats to the rations."

### Cowley County Fair.

Special Correspondence Kansas Farmer.

The thirteenth annual exhibition of the Cowley County Fair Association was held at Winfield, on September 25, 26 and 27. Credit is due unto each exhibitor at this fair, for their displays were all choice and deserving special attention, regardless of what "might have been."

The Silver Creek herd of Short-horn cattle, owned by J. F. Stodder, of Burden, Kas., was on exhibition. It is a fine herd, representing the best families and a lot that the owner may well feel proud in possessing. The bull at the head of Silver Creek herd is Champion's Best 114671 by Valley Champion 110477 out of Red Queen (Vol. 39), she by imported Scotchman (105418). Not a hog or sheep on exhibition, nor a draft horse. What a contrast this was to the crowded condition of this same fair ground several years ago, when pens and stalls and all available space was at a premium, with an overflow of exhibits in all departments.

### Miami County Fair.

Special Correspondence Kansas Farmer.

The Miami County Agricultural Society held its seventh annual fair, at Paola, September 24 to 27. To enumerate the choice exhibits here seen would require too much space, but the aggregation of good things was an epitome of the county, and Miami is one of the very best in the State—productive soil, well improved farmsteads, fine forests, ever-flowing streams, excellent water, natural gas, ample railway facilities,

## "Saved My Life"

### A VETERAN'S STORY.

"Several years ago, while in Fort Snelling, Minn., I caught a severe cold, attended with a terrible cough, that allowed me no rest day or night. The doctors after exhausting their remedies, pronounced my case hopeless, saying they could do no more for me. At this time a bottle of



### AYER'S

Cherry Pectoral was sent to me by a friend who urged me to take it, which I did, and soon after I was greatly relieved, and in a short time was completely cured. I have never had much of a cough since that time, and I firmly believe Ayer's Cherry Pectoral saved my life."—W. H. WARD, 8 Quimby Av., Lowell, Mass.

## AYER'S

## Cherry Pectoral

Highest Awards at World's Fair.

AYER'S PILLS cure Indigestion and Headache

numerous trading points, nearness to Kansas City markets, rich tame pastures, choice stock, good school and church privileges, and above all, she has a bright, intelligent, energetic and thrifty class of people.

Among the exhibitors from outside of Miami county appeared H. Davison & Son, of Princeton, and Wm. Higdon, of Richmond, both exhibiting Poland-China swine and each lot prize-winners. D. M. Cherry, of Paola, breeder of Poland-China hogs, had a choice exhibit. R. H. Sherar, of Paola, had an exhibit that was indeed creditable, and one that attracted the attention of every farmer and stockman, whether already supplied with wind pumps or contemplating a purchase of same.

Do not wear impermeable and tight-fitting hats that constrict the blood-vessels of the scalp. Use Hall's Hair Renewer occasionally, and you will not be bald.

### The Premium Gasoline Engine.

The engine which took the highest premium at the Garden City fair and irrigation convention was the Witte made by the Witte Iron Works Co., of Kansas City. Expert irrigationists pronounced this engine, which was one of their latest, to be the best engine now built. Such improvements as exhaust muffler, easy starter, timing valve, automatic speeder and improved oil filter, were all found thereon, and the Witte Co. is to be congratulated on the unanimous opinion of the five judges who awarded them the blue ribbon. It was a delight to see the water forced high in air and discharged with the pressure of a fire hydrant, many feet away. The Witte Co. recently placed two other fine plants, one at Wakeeney, and the other at Ellis, Kas. As a sample of the perfection and reliance of this engine, it is necessary simply to state that the engine on exhibition was shipped late but soon after it arrived it was running without a hitch, and continued so the entire week.

### Kansas City--Cincinnati.

(Wabash and B. & O. S. W.)

A vestibule sleeping car leaves Kansas City Union depot every day at 6:20 p. m., via the Wabash railroad, running through to Cincinnati, O., without change, via B. & O. S. W. railroad from St. Louis, arriving in Cincinnati at 11:30 next morning, making the run in seventeen hours and ten minutes, the fastest time ever made. On this same train are through sleepers to Washington, D. C., Baltimore and Philadelphia, and passengers for points east of Cincinnati can step from the Kansas City-Cincinnati sleeper into the through sleepers any time after leaving St. Louis. Passengers for Louisville and points South leave the sleeper at North Vernon at 9:34 a. m.

For Kentucky and South this sleeper is a great convenience.

The Wabash is the only road offering this through car service. Sleeping car berths secured at Wabash ticket office, Ninth and Delaware streets, or write to

H. N. GARLAND,  
Western Passenger Agent,  
Kansas City, Mo.



## The Stock Interest.

### THOROUGHbred STOCK SALES.

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

OCTOBER 22—J. H. Pegram, Virgil, Kas., Poland-China swine.  
OCTOBER 1—C. G. Sparks, Mt. Leonard, Mo., and G. L. Davis, Elmwood, Mo., Poland-China swine.  
OCTOBER 29—Kirkpatrick & Son, Connors, Kas., Aberdeen-Angus cattle and Poland-China swine.  
OCTOBER 29—Chas. Cannon, Harrisonville, Mo., Poland-China swine.  
OCTOBER 30—L. N. Kennedy, Nevada, Mo., Poland-China swine.

### The Electrozone Hog Remedy.

The Southern Cultivator has the following correspondence, by J. D. Crenshaw, of Alabama, concerning electrozone, the new cholera remedy, from which we extract the following:

"With the prospect of making an ample supply of meat for another year almost definitely certain, only those farmers who have had this hope raised, and who have seen their herd swept away as in a day, can understand and fully appreciate my feelings when, on about the 5th day of August, the hog cholera broke out amongst some forty-five animals, all booked for the smokehouse on the first cold snap in December, or perhaps earlier.

"In this section, Big Bear creek, Colbert county, Alabama, the cholera has been making havoc for the past six weeks among the hogs. Premises after premises among our farmers have been cleared with unerring certainty. With a dread, born of a lifetime experience

closely analogous to the hog cholera, we moistened the dough fed our chickens, and during the past month have not lost one to which we have fed the medicated food. In addition to curing both hog and chicken cholera, I have found it a valuable remedy in distemper among our horses and mules.

"What is Electrozone?—Electrozone is pure sea water, decomposed by the passing through it of the electric current. In the process, the chlorides and bromides, and other elements of sea water, are changed into hypo-chlorites and hypo-bromites and other compounds, which readily act upon diseased tissues, killing germ life and restoring a healthy condition. It is, therefore, germicide, antiseptic, disinfectant and deodorant. It is claimed to be a sovereign remedy in diphtheria, and can be taken internally in full strength, or in dilution, as it answers best in most cases.

"How Used for Hog and Chicken Cholera.—Before the hog is past eating, and most of them are nearly dead when this is so, electrozone should be mixed with all food and drink. When far advanced, electrozone should be drenched down them in six to eight-ounce lots, half and half of water and electrozone. The same proportion should be injected by enema into the bowels. If meditrina be used, dilute with three to four volumes of water. It is important to keep the droppings from the hogs removed, and the floor—preferably an elevated plank one—sprinkled with electrozone. Drop-

three out of four, with strong competition. So we think he has a good show record."

### Publications of United States Department of Agriculture for September.

NOTE.—The Department has no list to whom all its publications are sent. The Monthly List of Publications will be mailed to all applicants, from which they may select only such reports and bulletins as are likely to be of interest to them, which will be mailed to their address on receipt of their application to the Secretary of Agriculture, Washington, D. C., except for the maps and bulletins of the Weather Bureau; requests for these should be directed to the Chief of that Bureau. The serial publications of the Department are not for general distribution. All requests for the same are referred to the Division whence the publication emanates, and applicants will be instructed how to secure regularly the serial desired.

Yearbook of the Department of Agriculture, 1894.—This volume is divided into three sections: First, the Report of the Secretary of Agriculture for 1894, giving a general account of the operations of the Department during the year. Second, a series of papers, prepared for the most part by the chiefs of bureaus and divisions and their assistants, discussing either the general work of their bureaus and divisions or particular lines of work with special reference to interesting and instructing the farmer. Third, an appendix made up of statistical tables and information useful for reference, compiled in the various bureaus and divisions.

The World's Markets for American Products—Canada. (Bulletin No. 4, Section of Foreign Markets.)—This bulletin is the fourth of a series designed to show the world's markets for American products to all those who are sufficiently interested in increasing the demand therefor in foreign lands.

An Example for American Farmers and Dairywomen. (Circular No. 4, Section of For-

## Take Care

of your leather with Vacuum Leather Oil. Get a can at a harness or shoe store, 25c a half-pint to \$1.25 a gallon; book "How to Take Care of Leather," and swab, both free; use enough to find out; if you don't like it, take the can back and get the whole of your money.

Sold only in cans, to make sure of fair dealing everywhere—handy cans. Best oil for farm machinery also. If you can't find it, write to

VACUUM OIL COMPANY, Rochester, N. Y.

of Animal Pathology.)—A technical circular giving description of the disease, economic importance, and diagnosis.

Experiment Station Record, Vol. VII, No. 2. (Not for general distribution.)

Monthly Weather Review—March, 1895.

Studies of Weather Types and Storms.

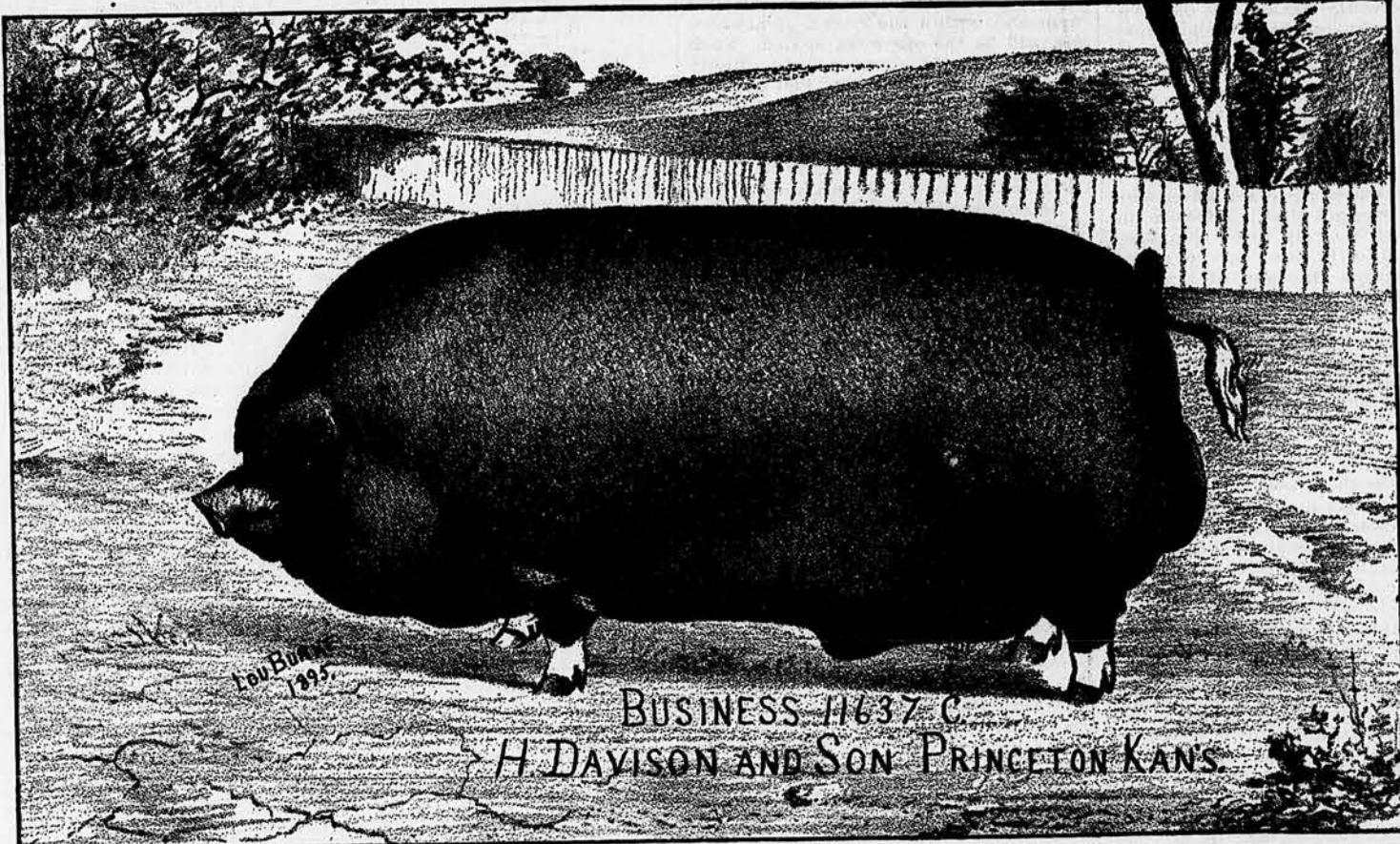
No. 1.—Types of Storms in January. By E. B. Garriott. (Issued by Weather Bureau.)

Charts of the Weather Bureau. (Size 19 by 24 inches.)—Weather Crop Bulletin (series of 1895), reporting temperature and rainfall with special reference to their effect on crops. (Nos. 25, 26, 27 and 28, for the weeks ending September 2, 9, 16, and 23.) Semi-daily Weather Map, showing weather conditions throughout the United States and giving forecasts of probable changes.

### REPRINTS.

Addresses on Road Improvement. By Roy Stone, Special Agent and Engineer. (Circular No. 14, Office of Road Inquiry.)

The World's Markets for American Products—France. (Bulletin No. 3, Section of Foreign Markets.)—This bulletin is the third of a series designed to show the world's market for American products to



of hog cholera, I had folded my arms in submission—ready to bow to the inevitable, when it was suggested to me that a new antiseptic called electrozone might cure the cholera. I procured it, and hastily made an effort in experimenting with it. After an experience of nearly a month, during which time about every hog on our premises has had cholera, we have lost three out of a herd of forty odd killing ones.

"Electrozone has proven to be in these experiments a specific, for which I go on record as saying it will cure hog cholera, and will prove of incalculable benefit to pork-producers throughout the land.

"So prompt and specific a remedy it is, I cite the following, which to me is little less than miraculous: On the evening of the day I got the electrozone (10th of August), and had dosed sick hogs, I thought, to see what effect would follow, went to the dead ground where we had hauled off a fine animal as hopelessly gone. I drenched down the throat of this one a mixture of meditrina (concentrated medicinal electrozone) and water—two ounces meditrina and six of water. The result of this was all but a miracle, as in three hours this animal got up and walked about, and during the night made his way back to the barn, and is to-day perfectly well.

"My experience has been, through all the epidemics of hog cholera in the past, that chicken cholera has been co-existent with it. This season has been no exception, and our chickens were dying. Thinking the disease to be

plings are all but alive with the germs of the disease.

"In the treatment of chickens, we have found that to mix a teacupful of electrozone with half a gallon of corn meal dough and feed to the chickens is an easy and certain means of getting the electrozone in contact with the seat of the disease—through the alimentary tract.

"The writer of this recently heard Mr. E. A. Woolf, a New York chemist, and discoverer of Electrozone, read a paper before a scientific body on the uses of electrozone, in which he hinted at the therapeutic action of electrozone in human cholera. It was from this suggestion that I procured the electrozone and made the experiments in the hog and chicken cholera, with the results as herein above given.

"Note.—Meditrina is the concentrated medicinal form of electrozone. When taken internally, to be diluted, three to six times its volume of water, though it may be taken in full strength. Electrozone may be taken without dilution, and yet may be diluted, one to four times its volume, with very certain results."

The illustration shown herewith, of Business, is a representative Poland-China boar, owned by that splendid Kansas breeder, Mr. H. H. Davison, of Princeton, Kas. Of the recent fair at Paola, Kas., Mr. D. writes: "I took first in class and sweepstakes. I have shown him six times and took six first premiums, and entered him four times for sweepstakes and have taken

elgn Markets.)—Reprint of an article from the Journal of Commerce and Commercial Bulletin of the city of New York, giving agricultural conditions and prices in several European countries.

Monthly Crop Report—September, 1895. (No. 130, Division of Statistics.)—There is appended to a part of the edition of the above report the transportation rates, as required by law, together with certain railroad and transportation statistics.

Organization of the United States Department of Agriculture and List of Exhibits at the Cotton States and International Exposition, Atlanta, Ga., September 18, 1895, to January 1, 1896. (Division of Publications.) For distribution at Atlanta Exposition.

Analysis of Cereals Collected at the World's Columbian Exposition, and Comparison with Other Data. By Harvey W. Wiley, Chief of the Division of Chemistry. (Bulletin No. 45, Division of Chemistry.)

Agricultural Experiment Stations: Their Objects and Work. By A. C. True, Director of the Office of Experiment Stations. (Bulletin No. 26, Office of Experiment Stations.)

Soil Moisture. A Record of the Amount of Water Contained in Soils during the month of May, 1895. (Bulletin No. 1, Division of Agricultural Soils.)

The Hessian Fly. By C. L. Marlatt, First Assistant Entomologist. (Circular No. 12, Division of Entomology.)—This circular treats of the economic importance and general characteristics of the Hessian fly, its distribution, natural history and habits, effect on wheat, natural enemies, and preventive and remedial measures.

Revision of the Aphelininae, a Sub-family of Hymenopterous Parasite of the Family Chalcididae. By L. O. Howard, Entomologist. (Bulletin No. 1, Technical Series, Division of Entomology.)—A technical bulletin intended especially for working entomologists, learned societies and periodicals, and libraries.

Contributions from the United States National Herbarium. Flora of the Sand Hills of Nebraska. By F. A. Rydberg. (Not for general distribution.)

A Nodular Taeniasis of Fowls. By Veranus A. Moore, Chief of the Division

all those who are sufficiently interested in increasing the demand therefor in foreign lands.

Wide Tires. Laws of Certain States Relating to Their Use, and Other Pertinent Information. Compiled by Roy Stone, Special Agent and Engineer. (Bulletin No. 12, Office of Road Inquiry.)

State Laws Relating to the Management of Roads by Local Assessment, County, and State Aid. (Circular No. 3, Office of Road Inquiry.)

An Act to Provide for the Construction of Roads by Local Assessment, County, and State Aid. (Circular No. 3, Office of Road Inquiry.)

**GREAT AUCTION SALE**

OF HEADS OF

**IMPROVED CHESTER WHITE SWINE**

From the "World's Champion Herd"

See them at your own Express Office. Buy them at your own price. Pay for them in your own time. All bids by mail. Bids close Nov. 11. Catalogue and Particulars free.

WILLIS WHITNEY, Salem, Ohio.

## ELECTROZONE

**IT KILLS THE GERM**  
An Absolute Cure for Chicken and  
**HOG CHOLERA**

Mr. JEFF D. CRENSHAW, of Riverton, Ala., in *Southern Cultivator*, of Sept. 25, 1895, says in part:

"After an experience of nearly a month during which time about every hog on our premises has had cholera, we have lost three out of a forty-odd killing ones—ELECTROZONE has proven to be a specific for which I go on record as saying it will cure hog cholera, and will prove of incalculable benefit to pork producers throughout the land."

50c. per quart bottle. Send for circulars and complete information to THE GEO. CARLETON BROWN CO., 73 Park Place, New York City. Manufactured by Electrozone Co. Used by Board of Health of New York City



## Irrigation.

### IRRIGATION FROM UNDERFLOW AND STORM WATERS.

By F. D. Coburn, Secretary State Board of Agriculture, read before the fourth annual meeting of Kansas Irrigation Association, October 2, 1895.

It is a significant and notable event that this meeting of the State Irrigation Association is convened here in the community where the desirability, the necessity and the feasibility of irrigation for Kansas were first suggested or seriously proposed, and in a county growing rich in proportion as its people adopt the idea, as they have already to a much greater extent than has been done in any other. It is appropriate that as friends and promoters of it we are assembled for conference in the city where irrigation for this region was vigorously and most ably advocated, in season and out of season, by at least one journalist and his journal at a period so early that at the time many of us who talk glibly of it to-day scarcely knew the spelling of the word, much less its definition. It is gratifying that the unflinching pioneer in this work which is to do so much toward making this region populous and prosperous, and whose location and early work here have eventuated in not only making Finney county famous wherever irrigation is discussed, but Garden City the Mecca of all who would learn it as applicable to a prairie country, is with us to participate in these deliberations; to give us for the asking his observations and conclusions, as to the progress, the mistakes and successes made, the advances yet possible, and how best to accomplish them.

The problems and conditions which confront the would-be irrigator in Kansas are in several essentials so different from those to be met by irrigators in other States where the chief water supply is from streams, that it seems to me that they are scarcely to be compared or considered in the same category, and in some respects the man of however much experience and wide observation exclusively in a country physically like western Colorado, Utah or California, may have but the most limited comprehension of the needs of a people located on vast stretches of riverless plateaus such as exist in Kansas. Disdaining to take advantage of the information our neighbors have acquired would be a most short-sighted policy indeed, but their situation has not been what ours is and we must find ways and means to meet our own peculiar difficulties. It may as well be accepted in the beginning, that outside our valleys, which, with all their area, constitute but a small percentage of Kansas as a whole, our irrigation must be done with storm-waters we impound behind dams, or from supplies pumped by more or less expensive equipment from considerable depths in the earth. Hence, it seems to me that our primary problem, unlike that in other States where innumerable streams heading in regions of perpetual snow afford abundant water, is, firstly, to ascertain as near as may be the extent of our supply beneath these high prairies; secondly, how near it is to the areas where we need to use it, and thirdly, how we can most readily and economically possess ourselves of it, and place it where, serving as reliable insurance against the vicissitudes of thirsty winds and tardy rainfall, it will give reasonable certainty of five crops in five years instead of but two or three.

Incidentally, but nevertheless closely connected with the fact of our greater dependence being upon the underground waters, is another, from the contemplation of which there is no escaping, namely, that Kansas, in course of a year, has within its borders, independent of underground resources, immeasurable vagrant waters that need only to be seized and utilized to make whole counties rich—to transform uncultivated leagues of parched and profitless pasture into fruitful fields and homes for a prosperous population.

Within sight of where we are assembled there is coursing, during much of the year, a body of water which, taken out upon our incalculably fertile prairies, stored there in the ten thousand reservoirs that nature has provided and man can provide, and properly distributed at the times when most needed, would work miracles and make the country round about a land of fatness. We appear as yet to have no feasible scheme that contemplates this, the hoarding of such surplus as we have, against the rainless day; we lament the destructive dryness while the sources of great wealth sweep past our doors, the meanwhile contributing out of our poverty to the general fund from which is maintained corps of engineers, fleets

of vessels, and armies of dike-builders, costing millions annually, to keep within bounds the wild floods that, unhindered by us, go forth to ravage and destroy the possessions of our fellow citizens and kindred.

Until within a recent period it has been accepted that the frequent seasons of disaster visited upon the people of these plains were unavoidable, but it now seems fairly demonstrated that nature has placed within reach the means to a successful agriculture and we are rapidly learning the ways of using them. Individual enterprise is perhaps scarcely equal to the proper diversion or wisest management and distribution of the great water supply from the Arkansas, the Smoky, Solomon, Republican and Kaw, but it can all be accomplished by co-operation in the communities interested, under such legislative provisions and restrictions as past experience and existing conditions prove best. Its details can be thought out and wrought out by those on the ground and immediately interested.

On the other hand, the paramount problem of watering his land with well water and harvested storm waters, is one in the solving of which the individual must rely on himself, independently of legislation at Washington or Topeka, and as he succeeds in this he is to that extent master of the situation, not subject to the whims of managers nor defaults of corporations nor water courses. In my judgment, after irrigation has been developed, as it is to be in Kansas, the man who controls his own plant, who relies on the resources existing within the boundaries of his own farm and within the crown of his own hat, will be the one most envied. Such men are now in every county quietly laying the foundations for just the sort of success this implies; they are not depending on the Utopian reforms the new Congressman is to usher in nor on the appropriation which is to divert the Missouri river a thousand miles out of its course and make it climb twelve hundred feet in the air in order that it may irrigate their farms in western Kansas. He will have learned much more fully than is now realized the importance of having his soil deeply loosened and saturated with life-giving moisture prior to the planting and growing season, and likewise of having his pumping machinery at work pouring into suitable reservoirs and over his acres during the winter and spring months steady streams of sweet water wherewith to baffle the hot winds and protect from a scorching sun in those trying days when it blasts instead of blesses.

In future, the man who settles here to farm, to stay, to succeed, will consider from the first the subject of water-supply, water-gathering, water-storage and irrigation. His investment, his location, his life-plans will all be made with these in mind. It is superfluous to say to this audience—but to some others it may not be—that this does not imply pumping nor having water to pump over his entire possessions nor the irrigation of this entire region, a condition not thought of by well-informed people nor at all a necessity to intensive farming nor extensive population and production. Let no man be discouraged because of not seeing his way clear to irrigate a large tract in the beginning, for he will be the better equipped to handle the larger tract after having his early experience and made his inevitable mistakes on a somewhat modest scale. He will know infinitely more about the business after he has learned it than he did before, although he may never learn nearly so much as he thought he knew when he began.

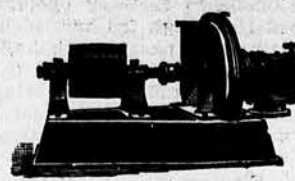
The people who paid their money into the public coffers for these arid or semi-arid lands and gave them to civilization are justly entitled to such surveys and service on behalf of the government as will aid in demonstrating to what extent there is water for their irrigation. I heartily join in all their prayers and petitions "for the old flag and an appropriation," but the man who dams as well as prays and who works the underflow without ceasing, is the one whose promise to pay will always be most esteemed.

#### River Heights in Eastern Kansas.

Editor Kansas Farmer:—The following comparison of mean daily gauge heights on the Kaw, Neosho and Verdigris rivers, from the United States Geological Survey data, may be of interest to the readers of the Farmer.

The stations on these rivers—where readings are taken twice daily—are Lawrence, Iola and Independence.

The gauge at Lawrence is fastened to the south pier of the carriage bridge. The Neosho gauge is about one mile



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west of Iola, at Davis Bros' mill, and the one on the Verdigris is about seven miles southeast of Independence, at McTaggart's mill.

The zero readings of these gauges do not correspond to zero discharge of the streams, indeed it is impossible to have it so, as the beds of the streams are changing some.

There is seen to be a quite close relation between the Neosho and Verdigris readings, the fluctuations in the latter being somewhat greater than in the former. The correspondence between the Kaw readings and either of the others is less close than between the Neosho and Verdigris. This we would expect, since the Kaw has a much larger drainage area than either of the others and the rainfall on a part of the former is quite different to that on the latter.

E. C. MURPHY,  
Hydrographer.

State University, Lawrence, Kas.

AUGUST, 1895.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Stations.....																															
Lawrence.....	*1.5	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	1.2	1.4	1.6	1.8	2.2	2.6	3.0	3.8	4.5	5.0	5.5	5.0	4.7	4.5	3.5	2.5	1.8	1.3	1.2	1.2	3.2
Iola.....	2.8	2.6	3.1	2.9	2.9	3.1	2.7	2.5	2.4	2.5	2.5	2.3	2.6	3.4	3.6	3.9	4.3	3.8	6.1	1.15	8.9	7.4	4.6	7.4	7.7	4.8	4.0	3.5	3.3	3.3	
Independence.....	2.0	2.1	2.2	2.3	2.5	2.9	2.7	2.4	2.4	2.5	2.6	2.6	2.3	2.2	2.5	6.2	4.6	4.2	3.4	3.2	6.8	12.0	7.4	4.3	3.5	3.2	3.3	3.5	3.2	3.0	2.3

SEPTEMBER, 1895.

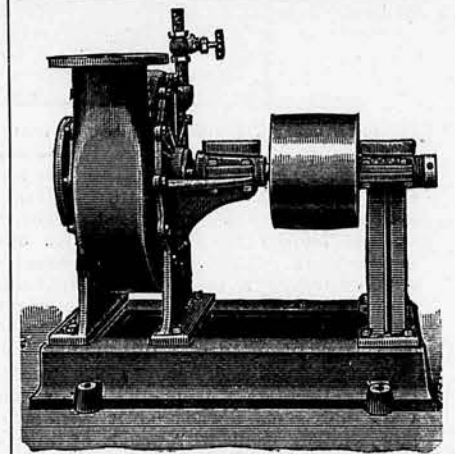
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Stations.....																															
Lawrence.....	4.4	3.7	3.1	2.7	2.3	2.8	2.5	2.4	2.5	2.2	1.9	1.5	1.1	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.4	.....	.....	
Iola.....	3.4	2.3	3.2	3.0	2.9	2.8	3.4	15.18	4.91	320.8	123	4.7	4.0	3.7	3.7	3.5	3.3	3.2	3.1	2.9	2.6	3.3	3.2	3.1	2.5	2.6	2.5	2.4	2.5	2.5	.....
Independence.....	2.7	2.5	2.6	2.3	2.6	3.0	3.5	4.1	21.0	34.0	85.5	185.0	27.7	15.4	6.8	4.5	4.1	4.0	3.8	3.6	3.4	3.3	3.2	3.1	3.1	3.0	2.9	2.8	2.8	.....	

SEPTEMBER, 1895.

Stations.....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Lawrence.....	4.4	3.7	3.1	2.7	2.3	2.8	2.5	2.4	2.5	2.2	1.9	1.5	1.1	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.4	0.4	.....	
Iola.....	3.4	3.3	3.0	2.9	2.8	3.4	3.0	2.8	3.0	2.8	2.4	2.0	1.8	1.3	1.0	0.7	0.5	0.3	0.2	0.1	0.9	0.6	0.5	0.6	0.5	0.4	2.5	2.5	.....
Independence.....	2.7	2.5	2.6	2.8	2.6	3.0	3.5	4.1	27.034	0.985	0.85	0.27	115.4	6.8	4.5	4.1	4.0	3.8	3.6	3.4	3.3	3.2	3.1	3.1	3.0	2.9	2.8	.....	

\*The Lawrence gauge readings from August 1 to 27 are only approximate.

\*The Lawrence gauge readings from August 1 to 27 are only approximate.



### CENTRIFUGAL AND IRRIGATING PUMPS

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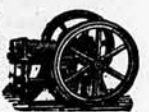
W. S. DICKEY CLAY MFG. CO.,  
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### IRRIGATION.

There is something on earth grander than arbitrary power. The thunder, the lightning and the earthquake are terrific, but the judgment of the people is more.—Daniel Webster.

### WEBER GASOLINE ENGINE

For use in any place or for any purpose requiring power. Only a few minutes' attention required each day. Guaranteed cost of operation one cent per horsepower per hour. The simplest, most economical and best power. Send for circular. Address: Weber Gas & Gasoline Engine Co., 459 Southwest Boulevard, Kansas City, Mo.





than one-third as much wheat, about one-tenth the number of bushels of oats and less than one-sixth the number of sacks of potatoes.

"Compared with the Larimer and Weld canal, the Larimer county ditch has a little more than one-third the acreage of the former in Weld county, and, as might be expected, makes a little better showing, because the water supply of the Larimer and Weld is not as good as that of No. 2; the Larimer county ditch produces with one-third the acreage of her neighbor below, little more than one-fifth the number of bushels of wheat, a little more than one-ninth the number of bushels of oats and a little more than a fifth as many sacks of potatoes. As said before, the record is incomplete, because, as yet, we do not know the total acreage under each canal, but the figures are good and the proportions are about right in Weld county, and it is fair to suppose that the comparison will hold good over the whole line of each canal used for comparison.

"It takes water to grow crops, and other things being equal—that is, with the same cultivation and the same character of soil—the greater the water supply, up to the maximum quantity that can be used to advantage, the bigger the yields and the more profit to the farmer.

"There is another thing these tables show that will be surprising to many of our own people even. Of course, we knew that Greeley and its vicinity grew the bulk of the potato crop of the Poudre valley; but we had supposed the product of the Fort Collins section was considerable. It appears, however, that of a total product of 1,410,723, Larimer county produced a trifle over 100,000 sacks, and that Weld county produced over 1,300,000 sacks."

#### Some Notable Exhibits at the Wichita State Fair.

Our southern Kansas representative writes:

Passing on to the swine department, I found it in charge of D. M. Jones. There were 167 Poland-Chinas, thirty-eight Chester Whites and twelve Berkshires in the department, and from what I could see and learn, Mr. Jones was the right man in the right place, ever looking to the convenience and welfare of exhibitors. The American flag floated brilliantly over the entrance to the swine exhibit—the contribution of C. M. Irwin, of the Elm Beach stock farm, and editor of the American Horticulturist. By the way, Elm Beach farm was well represented in both Short-horns and Poland-Chinas. In their exhibit of Short-horn cattle was the Duke of Elm Beach, sired by Kirklevington Prince 103935, out of Waterloo Lady 2d; Duke of Sedgwick, sired by Winsome Duke 115137, and females, Queen of Shannon 9th, Queen of Elm Beach and Lady Bates, by Winsome Duke 11th. Among their Poland-China hogs I noticed Wide Awake, by Val Tecumseh, and three sows 2 years old and over, namely, Winnie, by Sel-don Found, Champion Girl and Corinne by Dandy Boy 28989 out of Cora S., and five yearling boars. A first premium was awarded their two-year-old sow, Champion Girl, also a first was secured on two-year-old bull and a second on yearling bull. During the fair this firm sold nine young boars and one yearling bull. In addition to sales made they purchased two extra choice gilts bred to the noted Joe Sanders, and a fine yearling boar.

Of course, the Champion herd of Poland-China hogs, owned by Hon. R. S. Cook, received unstinted praise and worthy commendation from all passersby. His was the herd that won seven prizes at the World's Fair, Chicago, 1893, on a show of eight pigs all under 1 year, and five prizes on four pigs all of one litter. At this fair he secured both herd prizes, two specials, nine first and seven second awards. To show the appreciation of swine procured from the Champion herd, I quote the language of a letter received by Mr. Cook, from C. A. Schmiedte, of Rose Hill ranch, California, under date of September 23, 1895. He says: "Friend Cook: I took \$216 in cash prizes at the California State fair, recently held at Sacramento, and ribbons enough to decorate my house. I took first on my old boar, Duncan, in class 2 years old and over, sweepstakes and herd on Cook's Tecumseh. I took first in class 6 months and under 1 year, and second with a boar of my own raising, all in one class. On Duchess (the Baker Girl 2d sow), I took first in class, sweepstakes on best sow any age, and best in herd. She was the best sow

there and had three Shellenberger sows, by Sanders, to buck against, and they were good ones. Wish I owned them." All of his winners were from the Champion herd except one and their offspring, Mr. Cook having sent him six head to start from and a boar this last spring (Cook's Tecumseh) which won all the highest awards in everything he could be shown in. This makes a record that any breeder might well feel proud of, and it is only one of many resulting from patronizing the Champion herd, especially when in search of prize-winning stock.

#### Kansas Swine Breeders' Meeting.

The annual meeting of the Kansas State Swine Breeders' Association was held at Wichita, Thursday evening, October 3, at 7:30, and was one of the most successful in the history of the association. Below we give President Geo. W. Berry's address in full:

#### OBJECTS OF THE ASSOCIATION.

"The membership of such a society as the Kansas Swine Breeders' Association would be presumed to consist of earnest, energetic and enthusiastic breeders of high-class animals of the respective breeds represented, and it is to be expected that the men who take an active part in such an organization as this are men who display more than ordinary interest in rearing improved classes of swine. That such earnest, active, meritorious breeders stand up in an association of the kind, and often reach the front rank, is an effect rather than one of the objects of this association.

"Perhaps as the work of the highest commendation may be mentioned the educational features of our meetings in the way of papers read, with the discussions held on questions pertaining to breeding, feeding and management of swine, important and valuable to the breeder of pure-bred swine as well as to the feeder of grades. Farmers, feeders and young breeders who have attended the annual or semi-annual meetings of our association in the past, have expressed themselves as highly pleased and gratified with the animated and interesting manner of handling topics which come before the society.

"The score-card practice has proved to be a valuable study to our Kansas breeders. Scoring under the rules constitutes the text-book lessons of the breeder; not that I am in favor of the score-card being used as a yard-stick or measure of judging to take the place of comparison in the show yard, but for study in the breeding lot, to analyze and examine the hog in all its parts, and giving due consideration to each and every essential point.

"The history of the Kansas Swine Breeders' Association tells that the purposes are broad enough to include not only the welfare of the breeder, but the welfare of the meat-producer, as well as the tastes and wants of the consumers of pork, sausage and bacon. Permit me to refer to one event in the history of the association: I think it was in January, 1891, when the Department of Agriculture was endeavoring to establish inspection of meats intended for export, that this association, by resolution, encouraged and endorsed the work done on that line, and further recommended that it be extended to cover the entire product of the country, for home use as well as foreign trade. And it is gratifying to be able to state that the recommendations had effect, at least on animals on foot intended for slaughter in the principal packing centers, and that all animals pronounced by government inspectors unfit for food now have tags hung to their ears and are removed to desiccating works and destroyed. Let me say that the better such laws are enforced, the greater will be the renovating influence among those who raise and sell animals for food, as well as establishing confidence and respect among all classes of consumers, thereby lessening prejudices against the use of meats as food, thus stimulating a healthful demand for the products of sound animals.

"The social features of the association are most enjoyable. A society composed of individuals representing different sections, and all the different breeds of improved swine, meeting together, in a friendly manner and enjoying each other's company, extending acquaintance, interchanging opinions and experiences, is not only enjoyable but productive of much that is valuable and profitable.

"I have but touched upon the purposes which the association may, by

active thought and earnest endeavor of its individual members, put into force and effect.

"There is a sense of honor and respectability, and I may add responsibility, in being a member of an organization bound together by ties of friendship and true fellowship, and this thought should make better breeders and better men. No breeder who possesses a proper degree of respect can allow any act of his to lower the standard of honor due the association of fellow breeders, or otherwise than enhance the estimation and popularity of the improved breed of stock he represents."

After extending a vote of thanks to the retiring officers for their untiring efforts in building up the association and to the Mayor of the city of Wichita for the use of the City hall, adjournment was taken to the winter meeting, to be held at Topeka during the week of the meetings of Improved Stock Breeders' Association and the State Board of Agriculture.

#### Gossip About Stock.

V. B. Howey, of Topeka, reports his thoroughbred Poland-Chinas and English Berkshires in perfect health and excellent condition.

At J. R. Killough & Sons' sale of Poland-China swine, at Richmond, Franklin county, October 10, Col. Sawyer disposed of fifty head at an average of \$15.16 per head.

Col. Sawyer conducted a swine sale for Chris Hughes, at Pontiac, October 8. Prices were doubtless affected by the fact that there was hog cholera in the neighborhood. The average was \$13.56.

At the St. Louis fair, the herd Poland-China boar, Chief We Know, owned by Risk & Gabbert, Weston, Mo., was sold to Lloyd & Mugg, prominent swine breeders of Indiana. The price realized was \$500.

Notice the new sheep advertisement of Dorsey Bros., Perry, Ill. They made quite an exhibit of Shropshire and Delaine Merino sheep at St. Louis. They have a class of profitable sheep much needed in Kansas now. Look up their card and write for what you want.

The forthcoming Highland herd sale of Poland-China hogs, first advertised this week by Dietrich & Gentry, of Richmond, Kas., will certainly attract buyers who desire the blood of the leading strains and prize-winners, such as Black U. S., Ideal Black U. S., Lord Corwin 4th, One Price, J. H. Sanders, King Butler and Tecumseh. Notice sale advertisement and write them for particulars.

B. F. Dorsey & Sons, Perry, Ill., made a sensational swine sale during the St. Louis fair. They sold ten head of their prize-winning Poland-Chinas for \$1,200, to C. W. Thomas, Podeton, Texas. These ten hogs won nine first and one second prize at St. Louis. This firm used to show swine at Topeka and Kansas City fairs with great success and have always enjoyed a large trade in Kansas.

Our readers who have been so anxious to secure Shropshire sheep will now have a chance to buy them from one of the most reliable Western breeders, Mr. C. H. Ballinger, Lexington, Neb., who offers to sell ewes and rams singly or in car lots. He will be remembered as an old-time exhibitor at the Kansas State fair. This class of sheep are rather scarce and are considered highly profitable. Notice the advertisement of Alfalfa Shropshires.

Undoubtedly the greatest sale of Holstein-Friesians ever offered in the West is the great dispersion sale to be held October 29, 1895, by M. E. Moore, Cameron, Mo., who is considered one of the foremost breeders of this class of cattle in this country. Ill health compels Mr. Moore to make this sacrifice sale. It is hoped that breeders who want some of the best blood and most profitable Holstein-Friesian cattle to be had anywhere, will not fail to be present at this significant sale. This herd, besides being one of the most successful show herds, also has stock having direct lines of breeding of the largest public and private butter and milk tests in the world.

Our illustration, this week, on page 3, gives a good likeness of Business 11637 C., the celebrated sire at head of the Princeton herd of Poland-China swine, owned by H. Davidson & Son, Princeton, Kas. Individually, Business is a remarkably good animal, and his get prove him to be a strong reproductive sire, the farrows being all that any one could desire. His sire was Square Business 2163 O. He by Minority 1847 O. and out of Virgin 32598 O. Minority was by Success N. 1147 out of Touch-me-not 2068; Virgin was by Tecumseh 5243, out of Variety 12th 20672 O. The dam of Business was Corwin Lass 65818 O., she being sired by Adam 4299, and out of King's Best 2456; Adam was by Victor 4339, out of McKee's Fannie 1278; King's Best was by King Corwin Tribe 1217, out

of Zephyr 15350. Business has been shown at five fairs and secured for his owner five first and two sweepstakes premiums—good enough. The firm has now 125 Poland-Chinas, with six sows yet to farrow. See their card in the "Breeders' Directory" of this paper and then write them. Stock for sale at all times. All inquiries promptly answered.

#### Multum in Parvo.

The language of truth is simple.—Euripides.

Nature ever provides for her own exigencies.—Seneca.

Those we call ancients were really new in everything.—Pascal.

The great art of life is to play for much, and stake little.—Johnson.

That is the best part of beauty which a picture cannot express.—Bacon.

The usual fortune of complaint is to excite contempt more than pity.—Johnson.

The man who feels himself ignorant should at least be modest.—Johnson.

Vice is contagious, and there is no trusting the sound and the sick together.—Seneca.

The only sin which we never forgive in each other is difference of opinion.—Emerson.

We become willing servants to the good by the bonds their virtues lay upon us.—Sir P. Sidney.

Old age is not one of the beauties of creation, but it is one of its harmonies.—Mme. Swetchine.

Rhetoric is nothing but reason well dressed and argument put in order.—Jeremy Collier.

Physic, for the most part, is nothing else but the substitute of exercise or temperance.—Addison.

Some men so dislike the dust kicked up by the generation they belong to, that, being unable to pass, they lag behind it.—Hare.

Time is incalculably long, and every day is a vessel into which very much may be poured, if one will really fill it up.—Goethe.

Every man is an original and solitary character. None can either understand or feel the book of his own life like himself.—Cecil.

The stage is a supplement to the pulpit, where virtue, according to Plato's sublime idea, moves our love and affection when made visible to the eye.—Disraeli.

I have also seen the world, and after long experience have discovered that ennui is our greatest enemy and remunerative labor our most lasting friend.—Justus Moser.

What we truly and earnestly aspire to be, that in some sense we are. The mere aspiration, by changing the frame of the mind, for the moment realizes itself.—Mrs. Jameson.

Gross and vulgar minds will always pay a higher respect to wealth than to talent; for wealth, although it be a far less efficient source of power than talent, happens to be far more intelligible.—Colton.

Youth is not the age of pleasure; we then expect too much, and we are, therefore, exposed to daily disappointments and mortifications. When we are a little older and have brought down our wishes to our experience, then we become calm and begin to enjoy ourselves.—Lord Liverpool.



**SEND 50 CENTS**  
(in postage stamps) with this advertisement for a ladies' cloak. State number of inches around bust and we will send it to you by express C. O. D. subject to examination. Examine and try it on and if found perfectly satisfactory, it is easily as represented and the cloak is sent to you. You may return the balance, \$3.45 and the express charges, \$5.00. Receipts \$10.00. Black Beaver Cloaking cloth, finest tailor made, 27, 30 & 36 in. long, deep double edged self facing, fancy piped, high storm collar, latest mandolin sleeves, double breasted with two covered fancy imported horn buttons. Never sold for less than \$10.00. WE SEND FREE a beautiful cloak catalogue also samples of cloth of cloaks and men's and boys' suits and overcoats. Address, SEARS, ROEBUCK & CO., Cheapest Supply House on Earth, 117-119 W. Adams Chicago. When you write mention Kansas Farmer.

#### Are You an Inventor?

If so, let us make your patterns, models and machines.

**TOPEKA FOUNDRY,**  
Corner J. and Second St., TOPEKA, KAS.



**HORSE BLANKETS**  
ARE THE STRONGEST.  
Awarded highest prize at World's Fair.  
Made in 250 styles.  
Square Blankets for the road.  
Sawing Blankets for Stable.  
All shapes, sizes and qualities.  
The Best 5/A is the

**5/A BAKER BLANKET.**  
Many Have Worn 16 Years.  
Thousands of testimonials.  
Sold by all dealers.  
Write us for 5/A Book.  
WM. AYRES & SONS, Philadelphia.



Hosts of people go to work in the wrong way to cure a

**SPRAIN,**

when St. Jacobs Oil would cure it in the right way, right off.



#### EARLY KANSAS SEED POTATOES!

\$1 PER BUSHEL, F. O. B.

An enormous yielder, a great keeper and a splendid table potato. Supply limited.

—345 BUSHELS PER ACRE!

CLARENCE J. NORTON, Morantown, Kas.



## The Home Circle.

### To Correspondents.

The matter for the HOME CIRCLE is selected Wednesday of the week before the paper is printed. Manuscript received after that almost invariably goes over to the next week, unless it is very short and very good. Correspondents will govern themselves accordingly.

### THAT BROTHER OF MINE.

Who is it comes in like a whirlwind,  
And closes the door with a slam,  
And before he has taken his hat off,  
Calls out for "some bread and some jam?"

Who is it that whistles so loudly,  
As he works at some tangle of twine  
That will send his kite up into cloudland?  
Why, of course, it's that brother of mine.

Who is it that, when I am weary,  
Has always a hole in his coat,  
A button to sew on in a hurry,  
A sail to be made for a boat?  
Who is it, that keeps in my basket,  
His marbles, and long fishing line,  
And expects, undisturbed, there to find them?  
No one else but that brother of mine.

Who is it that tiptoes about softly,  
Whenever I'm sick or in pain—  
And is every minute forgetting,  
And whistling some head-splitting strain?

Who is it that when he is trying  
To be just as still as he can,  
Is always most terribly noisy?  
My brother, of course—he's the man.

Who is it, I'd rather have by me,  
When in need of a true, honest friend;  
Who is that I shall miss sadly  
When his boyhood has come to an end?  
And when he is far from the old home,  
And I long for a glimpse of sunshine,  
Whom then, do you think I shall send for?  
Why, of course, for that brother of mine.  
—Good Housekeeping.

### TO-MORROW.

High hopes that burned like stars sublime  
Go down the heavens of freedom,  
And true hearts perish in the time  
We bitterlest need them.  
But never sit we down and say  
There's nothing left but sorrow;  
We walk the wilderness to-day,  
The promised land to-morrow.

Our hearts brood o'er the past, our eyes  
With smiling futures glisten;  
Lo! now its dawn bursts on the sky—  
Lean out your souls and listen.  
The earth rolls freedom's radiant way,  
And ripens with our sorrow,  
And 'tis the martyrdom to-day  
Brings victory to-morrow.

'Tis weary watching wave by wave,  
And yet the tide heaves onward;  
We climb like corals, grave by grave,  
And beat a pathway sunward.  
We're beaten back in many a fray,  
Yet never strength we borrow,  
And where our vanguard rests to-day  
Our rear shall rest to-morrow.

Through all the long, dark night of years  
The people's cry ascended;  
The earth was wet with blood and tears  
Ere their weak sufferings ended.  
The few shall not forever sway,  
The many toll in sorrow;  
The bars of hell are strong to-day,  
But right shall rule to-morrow.  
—Gerald Massey.

### BE CAREFUL WITH YOUR WORDS.

Words are messengers of thought between minds. They are vehicles of ideas, whose cargo is often much deformed by having been frequently re-loaded. Words are often received as samples of the quality and quantity of the store from whence they came. "By thy words thou shalt be justified and by thy words thou shalt be condemned." They are an index to mind and soul. The Psalmist prayed: "Let the words of my mouth and the meditations of my heart be acceptable in thy sight, O Lord, my strength and Redeemer."

David evidently thought that the welfare and happiness of man lay in the words of his mouth and the meditations of his heart. Who is there among us that has not at times felt sore of heart, because of having said some thing they ought not? If there be any, he is without discretion.

Solomon expresses the highest esteem for the man of discreet words. He reaches the apex of manly satisfaction when he says: "A man hath joy by the answer of his mouth; and a word spoken in due season, how good is it."

"A word fitly spoken is like apples of gold in pictures of silver." On the other hand, he speaks with much contempt of the idle meddler who multiplies words without sense.

"Seest thou a man that is hasty in his words; there is more hope of a fool than of him."

"Put away from thee a forward mouth, and perverse lips put far from thee."

"A wholesome tongue is a tree of life; but perverseness therein is a breach in the spirit."

"A fool's mouth is his destruction, and his mouth calleth for strokes."

Thoughts are like fractions with words for a denominator. Multiply the denominator and you divide the value; divide the denominator and you multiply the value.

"In a multitude of words there want-

eth not sin; but he that refraineth his lips is wise."

Good language regulated with discretion gives character and dignity to its possessor and adds much to his usefulness in society. To use words well and properly is an emblem of wisdom which everybody should covet. When God asked Solomon to choose whatsoever he most desired and he would give it, Solomon chose wisdom. For wisdom we should ever labor, strive and pray. "For wisdom is better than rubies; and all the things that may be desired are not to be compared to it."

### DEFINITIONS OF HOME.

A prize was offered recently by the London Tid Bits for the best answer to the question, "What is Home?" Here are a few of the answers which were received:

The golden setting, in which the brightest jewel is "mother."

A world of strife shut out, a world of love shut in.

Home is the blossom, of which heaven is the fruit.

The only spot on earth where the faults and failings of fallen humanity are hidden under the mantle of charity.

An abode in which the inmate, the "superior being called man," can pay back at night, with fifty per cent. interest, every annoyance that has met him in business during the day.

The place where the great are sometimes small and the small often great.

The father's kingdom, the children's paradise, the mother's world.

The jewel casket, containing the most precious of all jewels—domestic happiness.

Where you are treated best and you grumble most.

Home is the central telegraph office of human love, into which run innumerable wires of affection, many of which, though extending thousands of miles, are never disconnected from the one great terminus.

The center of our affections, around which our heart's best wishes twine.

A little hollow scooped out of the windy hill of the world, where we can be shielded from its cares and annoyances.

A popular but paradoxical institution, in which woman works in the absence of man, and man rests in the presence of woman.

I wonder whether any of the Kansas Farmer readers have tried oil of lavender as a preventive of flies. I should like to know whether the lady who so strongly recommended it had ever tried it. Maybe Kansas flies are tougher than some others. Perhaps what we bought was not as strong as some, but certainly our flies did not object to it, although I really think it kept mosquitoes off. . . . I wish some of the old-time writers would again favor us with their contributions. I have often thought of Mrs. M. J. Hunter, down in Oklahoma, and wondered how she fared through last year's drought. Some down there seem to have suffered very severely. Why don't some of the farmers' wives write to the "Home Circle" and tell us about their difficulties with respect to their children's education? Perhaps some of us might be able to help one another with our experiences. ENGLISHWOMAN.

Paxico, Kas.

If you do not want to find faults in your friends, do not look for them. If you do not want to find your enemies, do not hunt for them; they will hunt for you. And what is worse, they will find you, too. I have known men who passed all their lives hunting for things which nobody wished to have discovered, and which only made the finders miserable. There are men who cannot smell a hellotrope held at their lips, but have a nose for carrion that would be a fortune to some poor struggling buzzard. He never looks for a good point about any man. He finds the spots on the sun, and sees not one ray of its brightness. A clear running spring brook gives him the hydrophobia, and a mud-puddle is a reviving Turkish bath to his mean little soul. If he could go to heaven he would be of all men most miserable, because he could find no mud to throw at the angels!—Robert J. Burdette.

It is with sorrows as with countries—each man has his own.—Chateaubriand.

The best rules to form a young man are to talk little, to hear much, to reflect alone upon what has passed in company, to distrust one's own opinions, and value others that deserve it.—Sir W. Temple.

Solitude relieves us when we are sick of company, and conversation when we are weary of being alone, so that the one cures the other. There is no man so miserable as he that is at a loss how to use his time.—Seneca.

Highest of all in Leavening Power.—Latest U. S. Gov't Report

# Royal Baking Powder

## ABSOLUTELY PURE

### POPULAR IN GEORGIA.

Grand Work Done by Mrs. Thompson for the Atlanta Exposition.

"She shan't want for money to realize her ideas, for I'll back her up if every cent of property I own has to be mortgaged to do it." So says the father of pretty Mrs. Joseph Thompson, president of the woman's department of the Atlanta exposition. His avowal is particularly interesting, throwing light as it does on the attitude of the man of to-day toward the progressive woman.

Every one remembers the substantial moral and financial support Mr. Potter Palmer accorded his wife while she worked for the world's fair. That very enterprising business man was not only proud, but pleased to step entirely to one side and help furnish illumination for the glory that enveloped Mrs. Palmer. He thought it no shame to be secondary on all occasions, trot in her wake, and serve as humble supplement to her fine deeds.

And here again we see this unusual and joyful masculine self-effacement. Mr. Mimms, Mrs. Thompson's father, and Mr. Joseph Thompson, her husband, are prototypes of Mr. Palmer, of Chicago.

Though both of them southern men, and might be suspected of ultra-conservatism, yet they have enthusiastically indorsed Mrs. Thompson on all occasions, and constantly reiterated their determination to stand by her to the full extent of their fortunes.

Nor is the young and very beautiful president of the Atlanta exposition un-



MRS. JOSEPH THOMPSON.

worthy of the ardent admiration of the men of her family. She has for some years been regarded as the social leader and belle of her native city.

Even before her marriage she was her father's close associate. She shared his every interest, and gave as much of her time to the entertainment of the influential strangers who came to Atlanta to transact business with her father as she did to her own young friends.

A few years ago any fine afternoon one might have seen that charming girl in an open carriage, seated beside a silver-haired financial magnate, from a distance, showing him doubtless the city of Atlanta, with genuine pride, and revealing to him its prospects and possibilities.

Her tact, her wit, her sincerity, has probably in this way accomplished much for Atlanta's prosperity.

With every advantage and opportunity, with the benefit of the world's fair exhibit, having gone just before to open the way, she passed six months in Europe, her whole time devoted to the sole interest of the exposition.

She has worked conscientiously all winter at her post in Atlanta, and is now ready to show a brilliant result of the big responsibilities laid upon her youthful shoulders.

To Clean Copper and Brass.

Copper tea kettles and other household articles having polished surfaces should not be allowed to get rusty, as

rust will destroy the metal. If the surface be rubbed but a little every day, the labor of keeping them bright will be very light. In case a rust is formed on the surface, apply a solution of oxalic acid, which, well rubbed over tarnished copper or brass, will soon remove the tarnish, rendering the metal bright. The acid must be washed off with water, and the surface rubbed with whiting and soft leather. A mixture of muriatic acid and alum dissolved in water imparts a golden color to brass articles that are steeped in it a few seconds. To give it a finer polish, go over the surface of the metal with rottenstone and sweet oil, then rub off with a piece of cotton or flannel, and polish with a leather.

### Sachets for Slumber Robes.

One of the prettiest fads of elegantes is the long nightgown sachet, which, holding the gown in present use, lies across the foot of the bed during the day. It is as long as the bed is wide, and is about a foot and a half across. It is made of a handsome brocade, of cretonne, of embroidered linen, whatever material best suits the room, is wadded, sacheted, lined with quilted silk and tied with ribbons. In this sweet nest the nightgown lies folded once near the bottom.

### Richest Women in the World.

The total of the fortunes of six women in the world amounts to \$805,000,000, distributed as follows:

Senora Tsidra Censino.....	\$200,000,000
Hetty Green.....	50,000,000
Baroness Burdett-Coutts.....	20,000,000
Mme. Barrios.....	15,000,000
Mary Garrett.....	10,000,000
Mrs. Woleska.....	10,000,000

### A Chance for Women to Make Money.

I see so many men giving their experience in the Dish-Washer business that one would almost think the men had "taken to washing the dishes," but ladies can do just as well as men. I have been devoting my time for over a year to selling Perfection Dish-Washers. My husband has aided mornings and evenings, and we have cleared \$5,000 in a year. The trouble with people is they will not try new things, so let the golden opportunities pass. Every family wants a Dish-Washer, and any one can sell them if they try. I do not canvass at all; people come or send after washers. I have examined all the Dish-Washers made, but the Perfection has no equal. You can get complete instructions by addressing the Perfection Manufacturing Co., Drawer a-3, Englewood, Ill. I want ladies everywhere to try this business and let us hear how they succeed. A READER.

## German Hair Restorer

N. H. F.—NEVER HAS FAILED—to cure

Baldness, Dandruff and Falling Out of Hair.  
Write for testimonials and prices.

W. F. RIGHTMIRE, Secretary,  
GERMAN MEDICAL CO., Topeka, Kas.

## A NEW BOOK FREE

It has 128 pages, is printed on fine book paper, it has hundreds of illustrations—wood cuts, zinc etchings. Its reading matter is interesting, as much so for a man as a woman, and the children also are not neglected.

The mere sitting down and writing for it will secure it for you FREE. Do you want it? If so, send your name and address to

EMERY, BIRD, THAYER & CO.

Successors to

Bullene, Moore, Emery & Co.,  
KANSAS CITY, MO.



## The Young Folks.

### LIMITATIONS OF YOUTH.

I'd like to be a cowboy an' ride a fiery  
hoss,  
Way out into the big an' boundless west;  
I'd kill the bears an' catamounts an'  
wolves I come across,  
An' I'd pluck the bal'head eagle from  
his nest!  
With my pistols at my side  
I would roam the prairies wide,  
An' to scalp the savage injun in his wig-  
wam would I ride—  
If I darst; but I darsen't!

I'd like to go to Afriky an' hunt the lions  
there,  
And the biggest ollyfunts you ever saw!  
I would track the fierce gorilla to his  
equatorial lair,  
An' beard the cannybull that eats folks  
raw!  
I'd chase the pizen snakes  
And the pottimus that makes  
His nest down at the bottom of unfathom-  
able lakes—  
If I darst; but I darsen't!

I would I were a pirut to sail the ocean  
blue,  
With a big black flag affyin' overhead;  
I would scour the billowy main with my  
gallant pirut crew  
An' dye the sea a gory red!  
With my cutlass in my hand,  
On the quarterdeck I'd stand  
And to deeds of heroism I'd incite my  
pirut band—  
If I darst; but I darsen't!

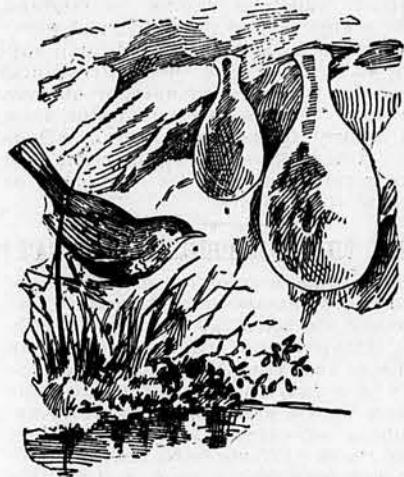
And, if I darst, I'd lick my pa for the times  
that he's licked me!  
I'd lick my brother an' my teacher, too!  
I'd lick the fellers that call 'round on  
sister after tea,  
An' I'd keep on lickin' folks till I got  
through!  
You bet! I'd run away  
From my lessons to my play,  
An' I'd shoo the hens, an' tease the cat,  
an' kiss the girls all day—  
If I darst; but I darsen't!  
—Eugene Field, in Chicago Record.

### SOME QUEER NESTS.

The Architecture of Birds is Very Won-  
derful Indeed.

A curious Australian bird is the little  
rock warbler (*Origma rubricata*), whose  
method of nest constructing is prob-  
ably unique among birds:

Mr. Gould writes: "The true habitat  
of this species is New South Wales,  
over which part of the country it is  
very generally distributed, wherever  
situations occur suitable to its habits;  
water courses and the rocky beds of  
gullies, both near the coast and among  
the mountains of the interior, being  
equally frequented by it; and so ex-  
clusively, in fact, is it confined to such  
situations that it never visits the forests,  
nor have I ever seen it perching on the  
branches of the trees. It does not even  
resort to them as a resting place for  
its nest, but suspends the latter to the  
ceilings of caverns and the under  
surface of overhanging rocks, in a  
manner that is most surprising; the



NEST OF THE ROCK WARBLER.

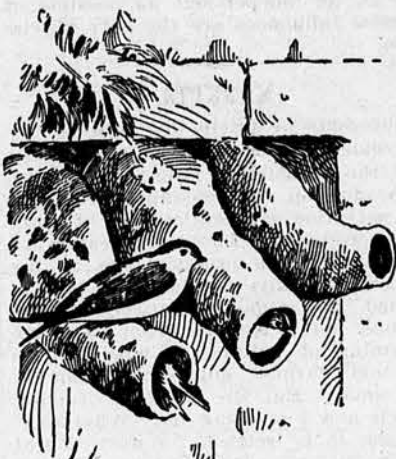
nest, which is of an oblong, globular  
form, and composed of moss and other  
similar substances, is suspended by a  
narrow neck, and presents one of the  
most singular instances of bird archi-  
tecture that has yet come under my  
notice."

Dr. E. P. Ramsay has also given an  
account of the species in the Wide  
Bay districts: "The rock warbler is a  
very pleasing and lively little bird, and  
seems to love solitude. I have never  
seen it perch on a tree, although I have  
spent several evenings in watching it.  
It runs with rapidity over the ground,  
and over heaps of rubbish left by floods,  
where it seems to get a good deal of its  
food. Sometimes it will remain for a  
minute on the point of a rock, then, as  
if falling over the edge, it will repeat  
its shrill cry, and dash off into some  
hole in the cliffs.

"The nest is of an oblong form, very  
large for the size of the bird, with an

entrance in the side about two inches  
wide. It is generally suspended under  
some overhanging rock, and is com-  
posed of fibrous roots interwoven with  
spiders' webs; the bird evincing a pre-  
ference for those webs which contain  
the spiders' eggs, and that are of a  
greenish color. The moss does not as-  
sume the shape of a nest until a few  
days before it is completed, when a  
hole for entrance is made, and the in-  
side is warmly lined with feathers; but  
when finished, it is a very ragged struc-  
ture, and easily shaken to pieces. The  
birds take a long time in building their  
nests; one found on the 6th of August  
was not finished until the 25th of that  
month; on the 30th three eggs were  
taken from it.

"Of the Australian cliff swallow, the  
'fairy martin' of Gould and other  
writers, Dr. Ramsay records an in-  
stance in which he found a mass of  
nests fastened under an overhanging  
rock on the banks of the Bell river. 'I  
counted,' he says, 'upward of one hun-  
dred nests, all built together so closely



NEST OF THE FAIRY MARTIN.

that many of the entrances alone were  
visible, the nest itself being built round  
by others."

Mr. Gould has given the accompany-  
ing remarks on the species as noticed  
by him in Australia:

"I observed it throughout the dis-  
trict of the Upper Hunter, as well as in  
every part of the interior, breeding in  
various localities, wherever suitable  
situations presented themselves; some-  
times their nests are constructed in the  
cavities of decayed trees; while not in-  
frequently clusters of them are at-  
tached to the perpendicular banks of  
rivers, the sides of rocks, etc., gener-  
ally in the vicinity of water. The long  
bottle-shaped nest is composed of mud  
or clay, and, like that of our common  
martin, is only worked at in the morn-  
ing and evening, unless the day be wet  
and showery. In the constructing of  
the nests these birds appear to work in  
small companies, six or seven assisting  
in the formation of each nest, one re-  
maining within and receiving the mud  
brought by the others in their mouths;  
in shape their nests are nearly round,  
but vary in size from four to six or  
seven inches in diameter; the spouts of  
some being eight or nine inches in  
length."—Good Words.

### A SHARP-WITTED CAT.

How He Got Rid of a Dinner Which  
Didn't Suit His Taste.

A correspondent of the London Spec-  
tator reports a clever trick of a black  
Persian cat, by the name of Prin. One  
of his peculiarities is a disrelish of  
meats unless they are roasted. The  
cook undertook to break him of this  
foolish whim. In short, she deter-  
mined to starve it out of him.

She set before him a saucer of boiled  
meat. Prin turned away from it in  
disgust. "Very well," said the cook,  
"it is that or nothing."

For three days the cat went hungry,  
the boiled meat remaining untouched.  
But on the fourth morning the cook  
found the saucer empty.

"Ah, Prin," she said, "so you have  
come to your meat."

That day the cat fared sumptuously  
on roast beef with plenty of gravy.  
But on Saturday, when the potboard  
under the dresser was cleaned, the  
cook found in one of the stewpans the  
boiled meat, which had remained three  
days in Prin's saucer. The cat had  
been too sharp for her.

"I know this story to be true," con-  
cludes the correspondent.

A bully is always a coward.—Hallburton.

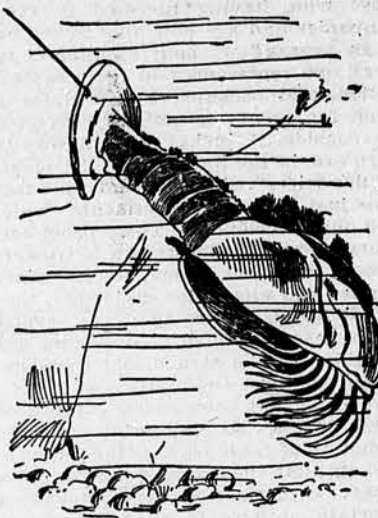
### THE GOOSE BARNACLE.

One of the Most Interesting Members of  
the Shellfish Family.

The goose barnacle does not attach  
itself to an object rigidly by its shell,  
like the common barnacle, but by a  
disk, at the base of a stem or a neck,  
and it is from this stem or neck that it  
gets the name of goose barnacle. With  
a glue or secretion of its own it at-  
taches itself so tightly that it is diffi-  
cult to scrape it off; but the neck is  
flexible. The body of the goose barn-  
acle, when its hand or feeder is within  
its shell and out of sight, looks some-  
thing like a soft-shelled clam; and it is,  
in fact, sometimes called the clam bar-  
nacle. The goose barnacle is not un-  
usual in the waters around New York.

In its earliest existence the goose  
barnacle, like other barnacles, is a free  
swimmer, but it very soon attaches it-  
self, and thereafter it remains fast. It  
may hitch on to a spile in a tideway or  
to some other fixed object, but it is gen-  
erally found moored to a floating ob-  
ject, a piece of wood, a plank, or the  
side of a vessel; fastened to a moving  
object it is more likely to get sufficient  
sustenance.

The barnacle lives upon animalculæ.  
It fishes for its food with a feeder,



which it throws out from its shell and  
uses something like a hand or a net.  
The feeder is made up of many slender  
little fingers, with delicate feathery  
lateral projections, through which the  
water passes easily, but which retain  
the animalculæ. The barnacle throws  
this feeder out from its shell and over  
sweeps it through the water and over  
into its shell again with whatever it  
can collect. It repeats this until it is  
no longer hungry.

The barnacle here pictured was until  
recently at the New York aquarium at  
Castle Garden. It was taken from the  
back of a loggerhead turtle captured in  
the bay. The goose barnacle is deli-  
cate in captivity, and this one proved  
no exception to the rule. In color its  
shell was not unlike that of a clam.  
The growth seen on the side and back  
of the shell and on the neck of the bar-  
nacle is a fine, brown, mossy, marine  
vegetation often seen on such bar-  
nacles. There were also on the shell  
of this barnacle three or four minute  
barnacles of the ordinary kind, ex-  
tremely small, each perhaps not more  
than an eighth of an inch across, and  
yet each provided with one of those  
wonderful hands or nets wherewith to  
supply itself with food.—N. Y. Sun.

Shadow owes its birth to light.—Gay.

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St. Louis quotations for broomcorn are: Choice green, \$50 to \$55; fair, \$35 to \$40; inferior, \$25.

The 1895 meeting of the Texas Irrigation Association is to be held at San Antonio in November.

For two months a severe drought has prevailed all over western Pennsylvania, West Virginia, almost the entire State of Ohio and parts of Indiana.

The severity of the present drought in the greater part of the winter wheat areas of the United States is such that a serious curtailment of area seeded is experienced.

The regular annual meeting of the members of the American Hereford Cattle Breeders' Association will be held at the Sherman House, Chicago, Ill., Tuesday evening, November 5, 1895, at 7:30 o'clock.

Holders of wool are reported to be firm in their views. Latest St. Louis quotations on Kansas and Nebraska wools are: Medium, 14; fine medium, 12; light fine, 11; heavy fine, 8 to 9; extra heavy, 7½; carpet, 10 to 12.

The weekly weather-crop bulletins of the Kansas Weather Service have been discontinued until next spring. It has been arranged, however, that a monthly review of the weather, with a map showing the precipitation for the month, instead of for the week, as formerly, shall appear in the Kansas Farmer. The first of these monthly summaries is given in this paper.

A representative of the Kansas Farmer had the pleasure of calling on Miss Jennie Goodwin, the only lady live stock "commission man" in the world. This is a new field of labor for woman, but there appears to be no reason why Miss Goodwin cannot make it a success. Having old and experienced salesmen in both the cattle and hog department, she is enjoying an excellent trade, which speaks well for the chivalry of the stockmen of the West.

At the late meeting of the Missouri State Grange, at Warrenton, David Lubin, of Sacramento, Cal., who was present by invitation, addressed the Grange in advocacy of the protection of agricultural staples by an export bounty, urging, as a measure of equity, that the producers of these staples are entitled to an equal measure of protection with manufacturers as long as manufacturers are protected. A general discussion then ensued, after which the proposition was put to a vote and carried.

The Kansas Farmer takes pleasure in noting the fact that the present Live Stock Sanitary Commission has proved in every way proficient during this season. Hon. J. W. Moore, of Marion county, and Hon. J. I. Brown, of Ottawa county, are known to be men of wide experience and to have excellent judgment in matters pertaining to the live stock industry in Kansas. They are extensively engaged in the stock business and have a personal interest in protecting stock against any possibility of contracting any contagious disease.

## THE WILDNESS OF SPECULATION.

Among the admonitions to the members of the "Society of Friends"—"Quakers"—the warning against engaging in "hazardous or speculative business beyond their ability to manage," has exerted a potent influence in producing the business conservatism which has made poverty so rare among people of this denomination. But the so-called "business world" seems to have forgotten that there is such a virtue as conservatism. This remark is justified by the way in which the financial world is rushing into speculation in the South African gold fields.

The basic facts on which the promoters of the "Kaffir" schemes have bullded are: First, that in gold production Africa has just now taken the first place, having surpassed successively the United States and Australasia, and second, that some twenty-five of the Kaffir gold mining companies are paying immense dividends on the capital invested. These dividends are reported to average about 20 per cent., while some of the best are paying as high as 65, 75, 90 and even 100 per cent. This, of course, places the selling price of these rich-paying stocks far above par. The legal capitalization of these twenty-five companies is about \$22,500,000, while their present market price represents about \$192,500,000. Naturally, those who, having invested in these companies and are now able to sell out at an average of about six dollars for every one represented in their capitalization, and perhaps several times as much for every one actually invested, are considered lucky; and, naturally, there are, in the financial world, plenty of "financiers" who represent that they have just as good investments, which need only developing. These promoters resort to every device known to trickery to boom the prices of their stocks. They promise and guarantee dividends; they pay dividends before they are earned, and in cases in which no dividends can probably ever be earned. Of these uncertain ventures there are in existence, as reported, 164 enterprises, capitalized at \$218,000,000. So successful have the promoters of these been in the financial markets that they have worked up the market valuation of these stocks of uncertain promise to an aggregate of about \$880,000,000, or about four to one.

So attractive has this field appeared to investors that American investments, the good with the bad, have been largely neglected by English investors, who have tumbled over each other in the effort to get the "Africans" or "Kaffirs." The effect of this has here been to retard the recovery from the panic, and while this is only one of the several important causes of the long-continued depressions, it has been the cause of much of the demand for money on maturing mortgages which might otherwise have been easily renewed.

American financiers are by no means certain that the last of our inconveniences on account of the diversion of investment money from America to Africa has been experienced. It will not be forgotten that the great panic has been traced for its inception to the collapse of some immense South American investments of English money. That many of these South African bubbles must ultimately burst is scarcely to be doubted. It is not easy to trace the effect which this will have upon finances here, but financiers expect no good from it. Speaking of the situation Henry Clews says:

It is not surprising that the sober part of London and Paris should begin to feel uneasy. That all this must end in a terrific explosion there is no possibility of question. That the catastrophe can be much longer postponed is not to be doubted. The symptoms are already ominous. The stage of distrust has been reached, and the next stage must be realizing; and when that comes the collapse will be instantaneous, and hundreds of millions of market value may be wiped out in a few hours or days. At the moment, the stronger speculators are attempting to stay the realizing process by main force of buying; but such stuff cannot be saved by any such tricks, and soon the big speculators and the little ones will be crowding on each other to realize, with no buyers in the field. From the nature of the case it must be so; and it is none too early to discount the inevitable.

The interest of the New York market in this impending explosion lies in this: that as the collapse would affect the whole investment market, our securities held in England would suffer in sympathy, and might consequently be returned on this market.

Just how financial markets "sympathize" with each other is not plain. The fact that the world is so united that no great catastrophe can overtake one part of civilization without disastrously affecting all, is matter of experience. It is to be expected, however, that after the shock of the predicted collapse, attention will be turned

more than ever upon safe and sound investments, opportunities for which are afforded in this country in many forms.

Well, what has this to do with the man who minds his own business, keeps out of debt and don't want to speculate? If, indeed, such a man could be independent of the financial world he would not need to look out for breakers ahead. But the abundance or scarcity of money affects the markets in which every producer must sell. It affects the employment of the millions of wage-earners and their ability to buy and pay for products. Financial panic, from whatever source it proceeds, is a catastrophe for all, and the proper operation of financial machinery is a condition necessary to the prosperity of even the most independent. It is this aspect which gives to financial movements and to financial questions their interest as public concerns, and will cause them to enter yet more fully into public and political discussions. In this matter the whole world is kin, and that there will presently be evolved a science of finance is not too much to expect. In the meantime, conservatism, frugality, industry, and the making of one's existence as independent as possible of outside influences are the part of wisdom.

## MARKETS.

Questions of production and of improvements in methods of production; and the problem of reducing the cost of production, are constantly receiving the attention of scientists and of practical producers. But the question of markets for the products are, so far as comprehensive consideration is concerned, left almost entirely to the chance, not to say the often visionary scheming of politicians, with an occasional earnest suggestion from a statesman. But the question of markets is now a pressing one. Whether it is soon to be settled, for agricultural products, by the natural filling up of the earth, or whether it is still to increase in importance as during the last two or three decades, the present situation is a pressing one and the difficulty of finding remunerative markets for the products of the field, the mine or the factory, is so serious as to seem insurmountable to the average man.

With a short crop of wheat, the price in the country's chief grain center is below 60 cents per bushel, and the receipts are large. Cattle and hogs refuse to advance and incline to go lower. Corn is, of course, low on account of the enormous crop. The horse market has long been overstocked. A few days ago one of the extensive growers of potatoes at Greeley, Col., sold a portion of his land because the potato market is now overstocked and the prospect is dull for the future. So also the leading potato-grower of the Kaw valley proposes to change his line of farming because of the changing situation as to potatoes. Not long ago a prominent western Kansas propounder of a poser, when he asked of an enthusiast as to production of vegetables under irrigation: "But where will you find a market?"

This same question comes to the manufacturer, and after holding his products for some time, with his factory probably shut down, he decides to make a market by reducing the price. With him this leads inevitably to reduction in the price of raw materials or reduction in the scale of wages paid to operatives, or both such reductions.

If the farmer says: "I will ship my products abroad to the markets of the great world," he there meets the products of the ends of the earth. His wheat must compete with that of India, Russia and South America. His wool meets that from Australia, even in our own markets. The manufacturer finds that while, with the present development in the United States, he can more than supply the wants of his countrymen in most lines, yet foreign competition jumps the protective tariff and shares the American market.

The English farmer has organized a great and powerful society in the hope of securing such remedial legislation as will keep foreign competition from driving him out of business. All over the civilized world there is the same apparent plethora of products, a great excess of supplies over apparent demand.

It is worth while here to remember that more than half of the people of the world are under-fed, indifferently clothed and not well housed. It is worth while to consider that a very small increment of the amount now consumed by this poorly-provided half would substitute a shortage for the

present over-supply. It may be overlooked that this under-fed half is, in general, not fully employed. It is easy to conclude that in the advance of civilization its machinery has somehow got out of balance.

The condition as to market for products and market for labor which confronts the world is the inevitable accompaniment, the necessary result of universally falling prices.

Whether prices shall always continue to fall, may be a question. Whether the process of leveling the compensation of labor to correspond with the wages in the countries where competition for places has forced the rates to insignificant figures, shall proceed until the low levels are universal, concerns many people. Whether reductions in the scale of living shall offset increase in population for many years, may be open to controversy. Whether a policy of fostering by artificial means the diversification of industries in our own country, is a subject of dispute between leading political parties.

But that Kansas, under whatever development can be conceived, will always have a large surplus of agricultural products to market, is to be inferred from the character of her natural resources. For Kansas, then, the question of markets for products of her soil is an abiding and an important one. North of Kansas for several hundred miles is a similar country, except that the products of the soil change gradually with the increase in latitude. South, conditions are analogous, except that a different change is observable, products assuming the characteristics of a warmer climate. East lies the State of Missouri, with her immense agricultural resources. True, in southeastern Kansas and in country beyond, are mineral resources capable of large development and destined to furnish a demand for large quantities of farm products. To reach tide-water, our wheat and corn, our beef and pork have generally traversed the long route via Chicago. The shorter route via Galveston still requires that our surplus pay freight past many hundreds of miles of rich farming lands. It is the universally received and unquestioned truth that our markets are in a temporary state, in a formative condition. The present situation is unsatisfactory and the question of the betterments of the future has much to do with the desirability of Kansas land and the prosperity to be expected.

Only 150 miles west from Kansas begins the mightiest mountain system of the world. Aside from a limited amount of fertile valley land, among these mountains, most of it already under cultivation, the entire region is unsuited to agriculture. But its mineral resources, even its silver and gold, have scarcely been touched. That this vast mountain region will one day be the seat of vast mining and manufacturing industries cannot be doubted. The plains east of this region, of which Kansas is a conspicuous part, will supply these industries their agricultural products without a competitor on even terms. When these mountains teem with busy industries, other markets may interest us for comparison, but our surplus will find its consumers at our western doors.

## WHY THE LOW PRICES OF WHEAT?

The persistency of the low prices for wheat is a surprise to statisticians, economic writers, dealers, speculators, millers, farmers and consumers, on both sides of the Atlantic. With the exception of a spurt a few months ago, the prices in the great markets have discounted all expectations for at least four years. Efforts have been made to account for this condition, and for this purpose considerable labor is now being expended. A Liverpool (England) writer, H. C. Woodward, writing to Dornbusch's London List, says:

"The course of the wheat trade for the first twenty years of my practical experience therein (say from 1863 to 1883), showed fluctuations between 65s. per quarter and 36s. (\$1.98 per bushel and \$1.09 per bushel), as about average top and bottom of the markets, represented in Liverpool quotations by about 13s. per cental, and 7s. 3d. per cental—occasionally the price going above 13s. but never for good milling wheat below about 7s. 3d.—during that epoch.

"The advent of India as a fresh and strong competitor in the European markets about 1884-85, first knocked down prices to a new range, and inaugurated 30s. per quarter (\$0.91 per bushel) or 6s. per cental as a possible price for good wheat, never in our day previously dreamed of.

"The advent of Argentina as a wheat exporter and competitive seller in our



markets (practically beginning to ship largely only in the past three years and culminating in 1894 with shipments at about seven million quarters) was the main reason for the further depression, first to 25s. per quarter (\$0.76 per bushel) and then to 20s. (\$0.61 per bushel) and under.

"I lay stress on the competitive selling because there is no doubt that a large quantity of wheat may be held and controlled by one country (such as America) without inducing the same depression as will be found when one seller competes with another in the same market.

"It seems quite absurd to me that any person conversant with the history of the wheat trade can ignore the effect of a fresh supply of wheat to the extent of seven million quarters from a country that only five or six years previously shipped nothing worth talking of—and then put down the depression of prices to dealing in futures and bear selling.

"Another obvious cause of reduced values is the increased size and speed of cargo-steamers and the reduction of the cost of ocean freight and inland carriage in America. The reduction in cost of transit in this way alone is estimated at 20s. per quarter (\$0.61 per bushel) and upwards, and would naturally make wheat-growing feasible at much reduced prices inasmuch as the cost of getting it to market in Europe is proportionately reduced.

"The decline in the value of silver affecting Indian exchange, and the gold premium in Argentina, are also causes that cannot be ignored; and that tend to lower values here—in fact the bimetalists would have you believe these are the sole causes of the depression—but I repeat, not one cause but many causes, are responsible.

"Another cause is the protective action of France and other countries, whereby the main stream of supply is diverted to Great Britain—in fact it is not difficult to conceive that if the acreage in Argentina and other countries placed under wheat is to increase at its recent rate, the price may not be even further reduced in good seasons, by the overwhelming supply."

#### OCTOBER CROP REPORT.

The October returns to the Statistician of the Department of Agriculture makes the general condition of corn 95.5 per cent. against 96.6 for September. In most of the Southern States the conditions have fallen since last report. The average of condition in the large and surplus corn-growing States are as follows: Tennessee, 99; Kentucky, 99; Ohio, 87; Michigan, 89; Indiana, 92; Illinois, 99; Wisconsin, 87; Minnesota, 94; Missouri, 111; Kansas, 80; Nebraska, 50.

The returns of yield per acre of wheat indicate a production of 12.58 bushels, being 6-10 of a bushel less than last October's preliminary estimate. The indicated quality for the country is 85.7.

The preliminary estimate of the yield of oats is 29.6 bushels per acre, of rye 14.4, of barley 26.4. Condition of buckwheat is returned at 84.8, of Irish potatoes 87.4, tobacco 80.3.

#### Black Sand--What It Is.

Editor Kansas Farmer:—Your favor of the 7th inst., enclosing sample of black sand and letter of the 30th ult., from Mr. Walker, of Cunningham, Kas., received this morning. The black sand is composed principally of the magnetic oxide of iron, although probably it is partly the non-magnetic oxide. Occasional grains of ordinary sand are in it, and a few other materials, but as Mr. Walker speaks of washing the sand out, I presume it is the black grains only which interests him. Such black sands are common in many parts of the world. In our State they have been observed the most frequently in the tertiary deposits of the west. In our neighboring State, Missouri, they are very abundant over an area almost seventy-five miles square, with Iron Mountain and Pilot Knob as central points. In many parts of New England and very commonly in the mountainous districts to the west, they are found in great quantities. Their original home was in the crystalline rocks, the granites, porphyries, syenites, etc. As these rocks decayed under atmospheric agencies, the grains of quartz, iron oxides, etc., which were less easily affected, were washed down the hillsides into the rivers, lakes and oceans, and deposited here and there, wherever they happened to lodge. As the greater portion of the material of the tertiary of western Kansas was brought from the mountains, very naturally the black sands would be included. Our rains wash the lighter soils away and leave the black sands behind on the hillsides, or in the

streams with the other sands lingering behind the silt which has hurried towards the ocean, solely an account of their higher specific gravity.

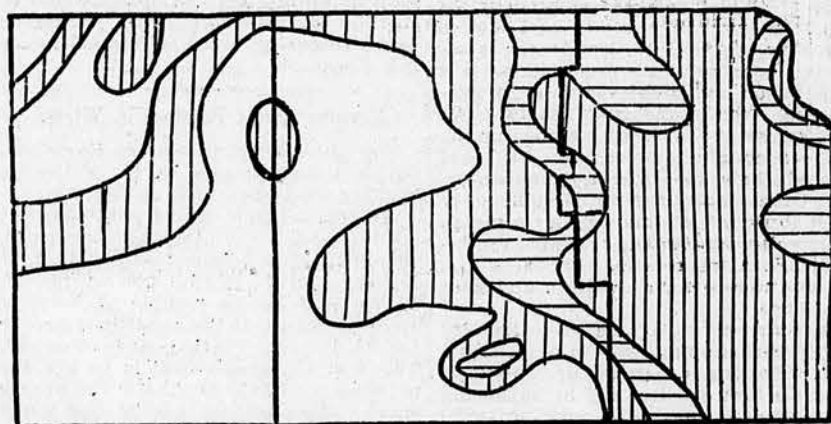
In many places in gold-mining districts, black sand is looked upon favorably by gold-hunters, and not infrequently with good cause. This is readily understood when we consider that the grains of gold, too, often were included within the solid rocks. As the rocks decayed the gold grains would be carried downward with the sands of different kinds, and in that way help to produce the gold-bearing sands. But as the gold is so much heavier than the quartz sand, we have learned by experience that the latter will be carried much farther by running waters than the gold can be transported. The specific gravity of ordinary sand grains is about 2.5 to 2.8, that of the black sand from 4.9 to 5.2, and of the gold dust from 15.6 to 19.5, varying with the amount and kind of impurities contained within the gold. One will readily see, therefore, that the different black sands may have gold associated with them, or they may not, depending on the distance they have been transported from their original home, provided they were originally associated with gold in the rocks from which they came. The probabilities strongly favor the absence of gold from the black sands of Kansas. ERASMUS HAWORTH, Department Physiology, Geology and Mineralogy, University of Kansas, Lawrence.

#### Kansas Weather Review for September.

Kansas weather review for the month of September, 1895, issued by T. B. Jennings, Observer Weather Bureau, Director:

##### GENERAL CONDITIONS.

The meteorological conditions were



ACTUAL RAINFALL FOR MONTH OF SEPTEMBER.

well marked this month, especially so in the eastern division. The first eight days were cool and pleasant, with light scattered showers over the State, and good rains in the extreme eastern counties, culminating on the 8th, and night of the 8-9th in a storm, which condensed more wind, water, hail, lightning and thunder into the short space of twelve to sixteen hours than most people experience in months. It centered in the Neosho valley, and some descriptions of distant views of the electrical display have been received from Clay county, on the northwest side, and from Reno county, on the west side of the storm area. The storm spent Sunday morning, the 8th, gathering itself together in the southeastern part of Morris and northwestern part of Lyon counties, from every direction, and about noon it began moving, taking a south-eastward course, down the Neosho valley. On the east side of its center the corn for miles was blown down from the northeast, and on the west side from the northwest, the lay of the corn showing the path to have been twenty-five miles wide; the area of excessive rainfall covering a path about sixty miles wide, while the area of destructive hail, though running in broad streaks or paths, was about fifteen miles wide, all hail storms on the east side of the center traveling from northeast to southwest, and on the west side from the northwest to southeast. In many of the hail streaks the leaves, fruit, and often the bark, were stripped from the trees, and the next morning the groves were as bare as in January. Four, eight and ten inches of water were measured in standard gauges, and on the morning of the 9th, a wagon-box (near the center of the storm path) fourteen inches deep, and standing isolated, was full of water, the wagon not standing quite level, as the water was only thirteen inches deep on one side while it was still dripping over on the other.

This storm traveled to the southeast corner of the State. It was succeeded by hot, dry weather until the 22d (21st in western part of the State), when a cold wave with rain swept across the State, the rain turning into snow in the northwestern counties, followed by a general frost on the morning of the 23d, which was severe over the western half of the State. The term, from the 9th to the 22d, was probably the hottest for that length in September ever experienced in the State.

##### TEMPERATURE.

The mean for the State was 72.7 degrees which is 4 degrees above the September normal; the highest monthly mean was 77.2 degrees, at Ness City; lowest monthly mean 63.2, at Achilles; maximum temperature 110 degrees, at Phillipsburg, on the 13th; minimum 22 degrees, at Garden City, on the 29th; greatest local monthly range, 82 degrees, at Phillipsburg; least local monthly range 57 degrees, at Emporia.

##### PRECIPITATION.

The average rainfall for the State was 1.71 inches, which is 0.51 below the September average; the greatest monthly rainfall was 10.12 inches, at Columbus; the least was no rain, at Coolidge, Morton county, and at the New England ranch, in Sheridan county.

In the western division it averaged 1.04 inches below the normal; in the middle division 1.35 below, and in the eastern 0.87 above; it was below normal over the entire State except in the counties drained by the Neosho and Verdigris rivers, where the excessive rainfall of the 8th occurred.

Thunderstorms occurred on September 2, 3, 4, 6, 8, 9, 16, 20, 22, 25, 28. Hail on 4, 6, 8, 9, 22. Fogs on 1, 2, 4, 5, 9, 16. Snow on 21, 22. Frosts on 7, 22, 23, 24, 26, 27, 28, 29, 30. Hot winds on 5, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19. Sand, or dust

#### REVEREND GIBBONS.

##### His Narrow Escape from Chronic Malaria.

That Pe-ru-na cures chronic malaria needs no farther proof than the thousands of testimonials of grateful patients. The Rev. Gibbons' testimonial given below, is a fair sample of what is daily received:

"Having been snatched from the grave, as it were, by the use of Pe-ru-na, I cannot refrain longer from writing to you. I am a minister of the Gospel and pastor of St. Paul church of this place. Last spring I was taken down with malaria fever after a severe attack of la grippe. Many of the friends and members of my church gave me up as hopeless. I had got down to a skeleton, and for weeks lay in bed, thinking to myself that I would nevermore be well; but, thank God, I began using your Pe-ru-na, and to-day I can truthfully say that there is no medicine like Pe-ru-na. I will answer any inquiring letters and inform the writer that Pe-ru-na is the medicine that saved my life. It is the best medicine in the world.

"REV. J. T. GIBBONS, Oakland, Tex."

The Pe-ru-na Drug Manufacturing Company, of Columbus, Ohio, will send a book on malaria free to any one writing for it. Ask your druggist for the 1895 Pe-ru-na Almanac.

Dunwoody; How Trees Grow, How to Plant a Forest, How to Treat the Wood Lot, and How to Cultivate the Wood Crop, by B. E. Fernow; Relationship between American and Eastern Asian Fruits, by L. H. Bailey; Facts Concerning Ramie, by C. R. Dodge; Best Roads for Farms and Farming Districts, by Roy Stone; State Highways in Massachusetts, by G. A. Perkins; Improvement of Public Roads in North Carolina, by J. A. Holmes; Education and Research in Agriculture in the United States, by A. C. True; Food and Diet, by W. O. Atwater.

In an appendix of sixty-eight pages are published tables of the wholesale prices of the principal agricultural products in leading cities of the United States from 1890 to 1894, inclusive; of the exports and imports of agricultural products during the same period; of freight rates; of the composition and nutrient properties of human foods, and likewise of feeding stuffs for animals; of the fertilizing constituents of feeding stuffs; of the constituents of commercial fertilizers; of 100 principal weeds and the best methods of eradication; of the methods of controlling injurious insects, with formulas for insecticides; of the weight, cost, best time to sow, etc., of the seeds of the principal grasses and forage plants; of the fungous diseases of plants and their treatment, etc. The book contains 147 illustrations.

Scientific Corn Huskers, 20 cents each, or three for 30 cents, postpaid. R. N. Thomas, Bingham, Iowa.

Despise not any man, and do not spurn anything; for there is no man who hath not his hour, nor is there anything that has not its place.—Rabbi Ben Azai.

#### Are You Hard of Hearing or Deaf?

Call or send stamp for full particulars how to restore your hearing, by one who was deaf for thirty years. John Garmore, Room 13, Hammond Bldg., Fourth and Vine, Cincinnati, O.

The beautiful catalogue of John Bauscher's Sunflower Poultry and Seed farm, at Freeport, Ill., is a book well worth preserving. The poultry illustrations are especially fine and should enable the amateur to identify any of the many breeds represented. The seed catalogue contains much valuable information, as well as a complete and profusely illustrated list of garden and flower seeds. Those who are fortunate enough to receive this catalogue will appreciate and keep it.

The advertisement of the Texas Cotton Seed Meal & Oil Co., of Kansas City, W. G. Peters, President, appears in this number of Kansas Farmer. Heretofore the Southern cattle feeder, who fed cotton seed altogether, had to ship his cattle at a certain period, no matter what the condition of the market. But since he has been mixing his cottonseed meal with corn he can hold the cattle as long as he desires. This feed gives a most excellent coat to cattle, which helps to sell them. Mr. Peters has had a personal experience in feeding cattle and would be pleased to meet cattle men at his office, at the Live Stock Exchange, and give any information he can regarding the feed for cattle. All large cattle-feeders near Kansas City, including the commission men, use cottonseed meal.

#### Year-Book of the Department of Agriculture.

In view of the approaching session of Congress, and of the fact that the Year-book of the Department of Agriculture will soon be ready for distribution among Senators and Representatives, to the extent of over 1,000 copies each, the accompanying table of contents may be of interest to dairymen, horticulturists, and farmers generally:

Report of the Secretary of Agriculture; Federal Meat Inspection, by D. E. Salmon; The Dairy Herd: Its Formation and Management, by H. E. Alvord; Some Practical Suggestions for the Suppression and Prevention of Bovine Tuberculosis, by Theobald Smith; the Pasteurization and Sterilization of Milk, by A. E. de Schweinitz; the Truck Lands of the Atlantic Seaboard, The Tobacco Soils of Connecticut and Pennsylvania and the Soil Conditions of the Arid Regions, by Milton Whitney; Mineral Phosphates as Fertilizers, by H. W. Wiley; Fertilization of the Soil as Affecting the Orange in Health and Disease, by H. J. Webber; Grasses as Sand and Soil Binders, by F. Lamson-Scribner; Water as a Factor in the Growth of Plants, by B. T. Galloway and A. F. Woods; Pure Seed Investigation, by G. H. Hicks; Grain Smuts: Their Causes and Prevention, by W. T. Swingle; Geographic Distribution of Animals and Plants in North America, by C. Hart Merriam; Hawks and Owls as Related to the Farmer, by A. K. Fisher; Crow Blackbirds and their Food, by F. E. L. Beal; Some Scale Insects of the Orchard, by L. O. Howard; The More Important Insects Injurious to Stored Grain, by F. H. Chittenden; What Meteorology can do for the Farmer, by M. W. Harrington; The Value of Forecasts, by H. H. C.



## Horticulture.

### ORCHARDING UNDER IRRIGATION.

(From Lute Wilcox's "Irrigation Farming.")

As in garden irrigation, it is advisable to so arrange or lay out the tract that those crops which require the least water, will receive the least, and vice versa. In other words, do not mix everything in planting, so that the trees will have to be irrigated every time the small fruits are watered. We regard this an important precaution. However commendable impartiality may be as a maxim of irrigation, it will be found unsafe when applied to the details of water distribution. Plant the cherry trees, for example, where they will get the least irrigation. Next to them the pears and apples, although the latter will need considerable water the first season after planting. It is safe to say that a well-established orchard would not, ordinarily, require more than three good irrigations during the year. Some would do with less, but this would be about the average.

As to the manner of running water, we would say that our experience leads us to prefer a head of water just sufficient to send a moderate stream gradually along the rows. This enables the moisture to penetrate the soil more thoroughly than a rapid current would do. If practicable, water should be run on both sides of the row. This is especially desirable in the case of forest or other trees on land that receives little or no cultivation. On most grounds water is usually run along several rows at the same time. Now and then soil is found that will admit of rapid irrigation, or, as it is sometimes called, sending water along with a rush. But this is the exception. Of course, where water is scarce and one is limited to a certain time in its use, the best that can be done is to use it as circumstances will permit. When the water has run its course turn it off. Do not let it soak and flood the ground.

In orchard irrigation it is a good rule never to apply water so long as the sub-surface soil—say at the depth of six or eight inches—will ball in the hand; and this is a test that should often be resorted to during the growing season. The yield may be largely increased by the judicious application of water. That the fruit may also be increased in size and made more attractive is equally certain. At the same time judgment is required for the best results. Indeed, positive harm may be done by untimely irrigation, not only to tree and plant, but to the land as well. Incessant watering without regard to the condition of the soil or to the needs of the plant will often force a growth of wood at the expense of the fruit product and the fruit flavor. It may likewise cause a growth to be made which the succeeding winter finds immature and unable to withstand its tests. This will almost certainly be the result with any tree or plant that has a tendency to make a strong and succulent growth. Whenever late frosts are feared turn on the irrigation water in the orchard, and unless the frost is very heavy no damage will be done to the fruit. Irrigate not later than the latter part of August or the first days of September, so as to give the wood a chance to ripen. When water can be had irrigate once more in November or December, for the winters in irrigating countries are generally very dry, but never use more water than is needed to keep the soil moderately moist during winter.

Planting.—Plow and subsoil repeatedly, so as to thoroughly pulverize to a depth of twelve to eighteen inches. When planting upon lawns or grass plots, remove the sod for a diameter of four or five feet, and keep this space well worked and free from weeds. Dig the hole deeper and larger than is necessary to admit all the roots in their natural position, keeping the surface and subsoil separate. Cut off the broken and bruised roots and shorten the tops to half a dozen good buds, except for fall planting, when it is better to defer top-pruning until the following spring. If not prepared to plant when the stock arrives, heel in by digging a trench deep enough to admit all the roots, and set the trees therein as thick as they can stand, carefully packing the earth about the roots and taking up when required. Never leave the roots exposed to the sun and air, and puddle before planting. Fill up the hole with surface soil, so that the tree, after the earth has settled, will stand about as it did when in the nursery, but dwarf pears should be planted deep enough to cover the quince stock, upon which they are budded, two or three inches. Work the soil thoroughly among the roots, and when well covered tamp firmly. Set the trees as firmly as a post, but leave the surface

filling light and loose. No staking will be required except with very tall trees. Never let manure come in contact with the roots. As soon as planted water thoroughly.

Apple trees can be planted twenty-eight or thirty feet each way, or twenty-four by thirty-six feet, and a pear, cherry, plum or peach planted between the apple trees in the thirty-six foot space. Raspberries, gooseberries and currants can be planted in the rows between the trees, as they require about the same irrigation. Strawberries can be planted in rows four feet apart between the tree rows. Some will say this makes a ragged looking orchard. It does if the trees and bushes are never trimmed, and where planted with no order or system. In transplanting trees it is well to have the ditch water follow in a furrow close to the tree row, so that no time will be lost in moistening the ground and starting the young tree on its new life. A newly-set orchard will require more water the first year than any succeeding year, and the writer has made it a point to irrigate every fortnight the first year until September, when all water is shut off.

Cultivation.—The tendency of many inexperienced orchardists is to irrigate too frequently and too much at times when water is plentiful, and to endeavor to make this take the place of cultivation. This is a practice very destructive to the growth of all kinds of fruit trees, especially in heavy soils. The tendency of the soil after each irrigation is to sun-bake, and thus prevent a free circulation of air through it. It is for this reason that cultivation almost immediately after the water is drawn off is requisite to successful orchard growth under irrigation. Often a thorough stirring of the soil is as good, if not better, than an irrigation. Seasons also differ. During some the rainfall is sufficient to carry trees well into the summer without irrigation. If summer and winter mulching is practiced, less water is required, because a good mulch arrests evaporation and preserves an even temperature around the tree. In fact, we have known orchards with a good mulch and thorough cultivation to pass through the season with but one watering. Occasionally the soil is sufficiently moist to permit of this without a mulch if the cultivation is good. But these instances are, of course, the exception, and will not do for a guide in any general sense.

The writer cultivates his orchard mostly with a double-shovel five times a year, allowing no grass or weeds to grow, as they greatly aid in harboring mice. We do not grow corn or small grain in the orchard, as these crops take the substance of the soil needed for the trees, which are certainly of sufficient importance to have the benefit of the entire ground. Melons can be grown without detriment. Put no crop in the orchard after the third year. Mulching to delay blooming is not a success. The California plan is to plow the orchard twice annually, the first time as early as February, and again in April. Plow away from the trees the first time and toward the trees the second time. They keep up the cultivation almost constantly throughout the summer, whether irrigation is given or not. Some men use a chisel-tooth cultivator, while others use a gang-plow. The duck-foot cultivator is a very common implement and gives good satisfaction, while some men go so far as to employ the one-horse weeder, in connection with other tools. Sandy soils do not require so much plowing as does a stiff soil, and for the latter the rolling cutter has been recommended. Old-fashioned farmers still use the drag harrow.

The author deprecates the use of whiplashes in an orchard, and uses the patent steel harness, that is devoid of these dangerous things, in orchard cultivation. It is well to observe the flat system of cultivation, and to harrow or scarify the land both ways after each irrigation. By this method the land is easily kept free from weeds, and evaporation by capillary attraction is prevented. New irrigating furrows should be marked out with a shovel plow or a ditcher just before each irrigation; throw the earth back again after irrigation so as to better retain the moisture that has been given. It is well to remember that irrigation can better be dispensed with than can cultivation.

Ayer's Hair Vigor, which has out-lived and superseded hundreds of similar preparations, is undoubtedly the most fashionable as well as economical hair-dressing in the market. By its use, the poorest head of hair soon becomes luxuriant and beautiful.

Opinions, theories and systems pass by turns over the grindstone of time, which at first gives them brilliancy and sharpness, but finally wears them out.—Rivarol.

### Pear Blight.

The Secretary of Agriculture gives the following suggestions relative to pear blight: "Pear blight is caused by a very minute microbe which enters the tree at the blossom cluster, or at the tip of the tender growing shoot. It may destroy only the blossom cluster, or a few inches of the twig, or it may run downward several feet, killing large limbs or even whole trees. The same microbe causes apple twig blight and quince blight. Most of the damage from this blight is done during the first month of growth, beginning at blossom time. After running downward for a few inches or a foot or more, the disease usually comes to a standstill. When it has stopped, a definite crack forms in the bark, separating the live and dead portions. When the diseased portion blends off into the live part, it shows that the disease is still progressing. Below the blighted portion the tree may be perfectly healthy, as the blight kills only as far as it reaches. Healthy, thrifty, rapidly growing trees suffer more when attacked than those not so vigorous. In certain cases the blight does not stop, but keeps on slowly growing in the bark till the close of the season. After this such cases continue progressing slowly, the new blight for each year coming from germs which lived over from the preceding season's cases. The remedy for the pear blight is to exterminate the microbes which cause the disease. This can be done by pruning out the old blight in the fall or winter, thus preventing the microbes from living over. In mild attacks, where there is but little blight, and wherever practicable, it is best to cut out the blight as soon as discovered. Complete destruction of the blight should be carried out in the fall, as soon as all late growth has ceased. In cutting out the blight, care should be taken to cut on the sound wood below the disease."

### Keeping Sweet Potatoes in Winter.

The editor of Southwestern Farm and Orchard, Las Cruces, N. M., writes on keeping sweet potatoes, as follows:

"In this latitude, sweet potatoes that are intended for winter and spring use, should be grown from cuttings in July rather than from the spring plants. There need be no trouble in keeping sweet potatoes, if the conditions proper for their preservation are observed. The first thing essential is to get the potatoes out of the ground in the proper shape. They should not be dug when the ground is wet or the weather cold, if it can possibly be avoided. The tuberous roots of the sweet potato are very sensitive to cold and wet and should not be exposed to either. When frost cuts the vines they should be at once cut from the hill, even if the digging cannot be done at once, for there will at once be a fungus growth on the dead vines that will affect the roots if the vines remain attached.

"Select a warm, sunny day for digging. The earth can be thrown away from each side of the rows with a plow, but we prefer to take the potatoes out by hand, as it is necessary to handle them with the utmost tenderness if they are to be expected to keep. In digging do not allow the potatoes to be thrown in piles, but let them lie scattered along the row where dug so that all will get well sunned. They can be well kept in banks outdoors if a shelter is built to exclude the rain from the banks. In hauling from the field the same care should be used in hauling them that is observed in digging. Gather them up in boxes or crates and never dump them into a cart body. Throw out all the bruised potatoes for immediate use, for if these are placed in the heaps they will start decay. Have ready under cover plenty of dry straw. Put a layer not less than a foot thick on the ground where the heaps are to be made, and have the heaps in a row where no water can run under them, and where you can build a rough shed over them. Carefully pile about

## ATTENTION.

Should be given at once to any symptom or signs of disease as soon as they manifest themselves. By so doing you may save much suffering and expense. DR. HATHAWAY & CO., the experienced and established specialists, have devoted years to the exclusive treatment of those delicate and private diseases of men and women.

Blood and skin diseases, red spots, pains in bones, sore throat and mouth, blotches and eruptions of skin and ulcers, painful swellings, etc., kidney and bladder disease, frequent micturition, scalding inflammation, gravel, etc., organic weakness, undeveloped organs, nervous debility, impaired memory, mental anxiety, absence of all will power, weak back, lost vitality, melancholy and all diseases, excesses, indiscretion or over-work, recent or old, speedily, thoroughly and permanently cured. How many suffer from the above diseases for many weary months without being able to get cured, and yet how easily curable under DR. HATHAWAY & CO.'S treatment. "Where shall I go to get cured?" many a sufferer asks, not knowing whom to trust. Go where thousands of others have gone and be restored to perfect health, the comforts of home and the enjoyments of society—to DR. HATHAWAY & CO. Many chronic diseases that have been neglected or have failed to yield to the treatment of less skillful hands, soon get well under DR. HATHAWAY & CO.'S superior treatment. When suffering from diseases patients should seek advice from an expert whose experience and practice have taught him to apply promptly the proper remedy and quickly remove the disease. As experts DR. HATHAWAY & CO. acknowledge no superiors. An uncommonly successful practice during many years, with the enormous experience derived from it, enables them to apply the proper treatment at once, without useless experiments, thus saving the patient much time, anxiety and expense.

Call on or address DR. HATHAWAY & CO., 68 Dearborn St., Chicago, Ill. Mail treatment given by sending for symptom blanks. No. 1 for men, No. 2 for women, No. 3 for skin diseases, No. 4 for catarrh.

### DIRECTIONS for using CREAM BALM:

Apply a particle of the Balm well up into the nostrils. After a moment draw strong breath through the nose. Use three times a day, after meals preferred, and before retiring.



## CATARRH

ELY'S CREAM BALM opens and cleanses the Nasal Passages, Allays Pain and Inflammation. Heals the Sores, Protects the Membrane from colds, Restores the Senses of Taste and Smell. The Balm is quickly absorbed and gives relief at once.

A particle is applied into each nostril and is agreeable. Price 50 cents at Drugists or by mail. ELY BROTHERS, 56 Warren Street, New York.

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## WOMAN'S PILLS!

ALL DRUG STORES. SAFE AND SURE. SEND 4c. FOR "WOMAN'S SAFE GUARD" WILCOX SPECIFIC CO., PHILA., PA.

**PILES** Positively cured by our remedies (full directions are carefully followed) or money refunded. Send 75 cts. for a trial. Agts. want'd Dr. W. T. Kirkpatrick, Lincoln, Ill.

Invited to send for my latest price list of small fruits. Half million strawberry plants, 300,000 Progress, Kansas and Queen of West raspberry plants. B. F. Smith, Box 6, Lawrence, Kas. Mention this paper.

A. H. GRIESA, Prop'r Kansas Home Nurseries, Lawrence, Kas., grows trees for commercial and family orchards—the Kansas Raspberry, Blackberries, standard and new Strawberries—also shade and evergreen trees adapted to the West.

## WILLIS NURSERIES.

Offers for fall of 1895 large stock, best assortment. Prices low. Stock and packing the best. We should be glad to employ a few reliable salesmen. Address A. WILLIS, Ottawa, Kansas. [When writing mention KANSAS FARMER.]

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Five hundred and sixty acres in nursery and 240 acres in bearing orchard. Extensive growers for the wholesale and retail trade. All kinds of nursery stock for sale. Write and obtain our prices before placing your order elsewhere. Unequaled railroad facilities. No transfer or exposure of stock. We take up, pack and ship from the same grounds. SPECIAL PRICES on large orders and carload lots. We solicit correspondence and invite inspection of our stock. RELIABLE AGENTS WANTED.



twenty-five bushels in a heap on the bed of straw and then cover the pile thickly with the dry straw. When all are thus covered, put a shed over the whole and let them lie, with only the straw cover, until they go through the inevitable sweat and dry off again, and as the weather gets colder, put a good cover of earth over the whole of each pile and pack it smooth. The shed keeps the earth cover dry, and dry earth keeps out a great deal more cold than wet soil. Potatoes that are chilled will not keep. While the keeping of the Irish potato depends on a low temperature, the sweet potato needs to be kept warm."

#### Barreling Apples.

Many of the most profitable operations in commercial life depend in the first instance upon very simple facts. Most persons would pass by without observing the barreling of apples as a case in point. If apples were placed loosely in barrels, they would soon rot, though passing over but a very short distance of travel; and yet, when properly barreled, they can be sent thousands of miles—even over the roughest ocean voyage, in perfect security. This is owing to a fact discovered years ago, without any one knowing particularly the reason, that an apple rotted from a bruise only when the skin was broken. An apple can be pressed so as to have indentations over its whole surface without any danger of rotting, providing the skin is not broken. In barreling apples, therefore, gentle pressure is exercised so that the fruit is fairly pressed into each other, and it is impossible for any one fruit to change its place in the barrel on its journey. Apples are sometimes taken out of the barrels with large indentations over their whole surface, and yet no sign of decay. In these modern times, we understand the reason. The atmosphere is full of microscopic germs which produce fermentation, and unless they can get an entrance into the fruit, rot cannot take place. A mere indentation without a rupture of the outer skin does not permit of the action of these microbes. This is a simple reason why the early observation enabled the barreling of apples to be so successful.—Meehan's Monthly.

#### A Nebraska Peach Orchard.

The summer meeting of the Nebraska Horticultural Society was held at Wyomere, on the 23d to 25th of July, the principal feature of which was a visit to the large commercial peach orchard of a Mr. Russell, which is some ten miles south of town, adjoining the north line of Kansas.

Some fourteen years ago Mr. Russell commenced planting orchards and put out a large apple orchard—some seven acres of which were seedlings—with the view of producing new varieties, and about fifty acres of peaches of some thirty-five or forty varieties.

After the peach trees were large enough to bear there were a few winters with a "cold snap," in each one when the mercury went low enough to kill the buds. He had the first peaches in 1887 and soon after found he was getting nearly all his fruit from a few varieties, which gave him so much confidence in them that he extended his plant, till now he has over 150 acres in peaches alone.

The principal varieties planted now are the Alexander, Early Rivers, Hill's Chill, Coolidge Favorite, and a local variety called the Wright Seedling. He also had a few Hales, and the Champion is fruiting this year for the first time; the Crosby he has not yet tested.

The crop this year was light, from the fact that when the trees were in bloom there was a cold dry wind that blasted a large quantity of bloom, yet his crop was about 15,000 baskets, which he sold at 50 cents per basket, of which five make a bushel.

As he has no competition, the fruit was sold for a high price at the orchard and adjoining towns, the seconds and culls bringing about as much as Southern growers get for their first-class fruit when shipped North.

The advantages claimed for growing peaches in this section are, that on these high dry prairies they go into the winter with well ripened wood and dormant buds, and if the cold is not severe enough to kill the buds a crop is assured, as they have never been killed by spring frosts.

Mr. Russell believes in thorough cultivation, all weeds being kept down and the surface ground kept loose with a disk harrow, and with this method and with these varieties he finds a peach orchard much more profitable than any apple orchard in this section. T.

## In the Dairy.

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

#### A "Dutch Cheese" Plant.

This is the sort of news that reaches us by way of San Francisco, where it appears in a daily newspaper as a dispatch from Sioux Falls, S. Dak., and if it keeps on we shall soon, no doubt, learn of plants being discovered that may taste like other cheeses, and eventually some that may pass for butter: "J. E. Mills conducts a creamery at Mellette. Early in the spring he discovered a plant growing in a little hole at one side of the creamery. He did not at first know what it was, and thought he would try an experiment. So every morning he would empty a pail of soured milk on the plant. It turned out to be a summer squash vine, and last week one squash got ripe. It was cut open and found full of a substance which resembled and tasted like "Dutch cheese." Mr. Mills will keep the seeds and plant them next year to see what they will produce."

#### Making Dutch Gouda Cheese.

This cheese, which is made in Holland, is described very appropriately by a correspondent of an exchange as one of the most popular of continental manufacture. As the milk is brought from the fields, it is put into pans and the rennet promptly added. Rather less rennet is used than is customary in the case of home-made cheeses. By the time the evening milk comes in, the morning's supply is ready for cutting up. For this purpose a painted wooden bowl is used and the whey drawn off. The first whey is put aside in a tub, and the curd thoroughly broken, kneaded and salted. The round vats are next resorted to. They are rinsed in the whey tub, and the curd is pressed into them. The cheese-maker then presses the curd, and after sufficient pressure to obtain cohesion the mass is turned out. It is subjected to further coaxing with the hand and then tied up with a cloth, when it is again transferred to the vat and put into a gally-painted cheese press until morning. After one night's pressure the cheeses are put into strong wooden boxes, and every day for eight days they are taken from the vat, rubbed outside, and put back again into the vat, which is rinsed in fresh whey. There was no apparent effort to control the temperature at ripening. Indeed, it must have risen much beyond 60 or 70 degrees, which is generally considered the most favorable temperature for the effective performance of this operation. The cheese may be marketed at the end of eight days, and they are frequently eaten a fortnight old, at which time the best of them are almost as soft as butter and much superior to anything known here as Dutch cheese.

#### Oleo Legislation in Illinois.

The Legislature of Illinois is in extra session, having been called together by Governor Altgeld, among other purposes, to legislate for more revenue. Taking advantage of this situation, Representative Needles has introduced his original anti-color bill, that was surreptitiously strangled in the Senate at the regular session, adding thereto, in order to bring it within the jurisdiction of the Legislature in special session, a revenue clause, imposing a special tax on all manufacturers and dealers in oleomargarine. Commenting on this the Chicago Produce says: "It is said that when Representative Needles introduced his dairy bill in the special session of the Legislature last week, with the revenue clause attached, a cheer went up from the members of the House, and that the measure was the most enthusiastically received of any bill introduced for a long time."

"The House was a friend to the Needles bill first, last and all the time. Members of the House at the last week of the regular session made every effort to force the bill through the Senate, and because of its failure to pass the last reading in the latter body, retaliated upon some important Senate bills, which Cook county was very desirous of getting through. The cowardly manner in which the Needles bill was killed in the Senate has made its friends very indignant in the House, and it would not be at all strange if they would take it upon themselves to see that the bill in the amended form gets through the special session. And in the amended form the bill is much more obnoxious to the butterine people, and will require more than \$40,000 to defeat."

"Nothing but boodle can prevent the

pure butter people getting protection for the consumers of their product, and it will take more money than the oleomargarine people will care to put up to keep an anti-color law from being passed sooner or later. The pure butter people can spend one thousand dollars in an honest campaign and make the oleo people spend forty thousand in boodling, with the prospect of getting caught at it sooner or later.

"The absurd claim of the oleomargarine people that their business is necessary for the success of the packing business at this point does not go down the throats of intelligent men. It is an old story of corporations from time immemorial. Another threat that the Chicago packers will be placed at a disadvantage compared with Kansas City and Omaha packers is also absurd, because both Missouri and Nebraska, in which latter this business is located, are under protection of anti-color laws, and it is but a matter of very short time when Kansas will also have the law. It is probable that such an enactment will be put through at the very next session of the Kansas Legislature."

"It has been asserted by prominent Chicago manufacturers of oleomargarine that they will spend a fortune before they will permit the anti-color law to go onto the statutes of the State. This means that they will spend money buying legislators. Let's see how many are for sale."

#### The Churn vs. the Babcock Test.

A most instructive object-lesson was brought out in connection with the sweepstakes dairy herd and individual cow test at the recent Bay State fair at Worcester. The superintendent of the dairy department is a strong advocate of the Babcock test, and for the instruction afforded, samples of buttermilk were taken from each churning and tested by the Babcock method. Much to the surprise of all interested, it was found that the percentage of butter fat in the buttermilk, from the ten cows entered in the individual test, varied from two-tenths to 5 per cent.

So great were the losses of fat that the awards were really decided by the churn rather than the true butter capacity of the cows. In the case of one cow, that ranked sixth in the churn test, the loss of butter fat (3.4 per cent.) was, with little doubt, sufficient to have given her either first or second place, had each cow been credited with the butter lost in the buttermilk.

Unfortunately, no weights of buttermilk were taken, but it seems reasonable to assume that the weights of buttermilk would not have differed materially between cows producing from one pound seven ounces to one pound ten ounces of butter in twenty-four hours, all of the cream having been separated by the same separator. It may be justly held that these losses of fat are abnormal and unnecessary, but the conditions at fairs are not favorable for the most skillful manipulation of cream, and while, no doubt, had greater care been used in ripening and churning, the losses would have been much less; yet with the best of care, the losses will be greater than would occur in actual practice in the creamery or private dairy.

The question which naturally arises is, shall the cow be accountable for the inefficiency of the manipulator and the churn? Certainly the cow was not at fault for the poor ripening and churning done at Worcester. The proof is rapidly being established that no test, except one based on the amount of butter fat actually contained in the milk, can do the cow full justice. This is simply another victory for the Babcock test.—C. S. Phelps, Storrs' Agricultural College, Connecticut.

It has been decided to hold the convention of the National Butter Makers' Association at Cedar Rapids, Iowa, some week in next February. Present plans contemplate the awarding of a grand trophy prize of pure silver, representing a butter-maker at work, the commercial and artistic value of which will be \$500; association cup of the value of \$100, and gold, silver and bronze medals. It is also intended to set up a practical working creamery during the convention and operate it with the best skilled butter-makers to show what a model creamery should be. If present plans are carried out there ought to be a large attendance.

The Iowa State Dairy convention will be held at Waterloo, Iowa, Tuesday, Wednesday and Thursday, November 12, 13 and 14.

Have patience awhile; slanders are not long-lived. Truth is the child of time; ere long she shall appear to vindicate thee.—Kant.



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## Capillary Attraction.

A correspondent of the Ohio Farmer offers a discussion of this subject, which may bring out some valuable experience from those who have observed the action of water in soils. This writer says:

"A tube, the bore of which is so small that it will only admit a hair is called a capillary tube. When such a tube of glass, open at both ends, is placed vertically in water the water is observed to rise in the tube and stand within the tube at a higher level than the water on the outside. The action between the capillary tube and the water has been called capillary action, and the name has been extended to many other phenomena which have been found to depend on properties of liquids and solids similar to those which cause water to rise in capillary tubes.

"If the lower side or corner of a piece of sponge or a lump of sugar is touched to the surface of water the water will rise and diffuse itself through them. This rise of the water and the rise of the oil in the lampwick to feed the flame are supposed to be capillary action, or attraction, as it is sometimes called.

"Dr. J. L. Comstock in his philosophy says: 'The cause of this rise seems to be nothing more than the ordinary attraction of the particles of matter for each other. If this were true, the temperature of the capillary tube and the liquid would make no difference, whereas capillary action diminishes as the temperature of the tube and the liquid increases, and at the boiling point of water its action ceases altogether.'

"The subject is interesting to farmers because it is believed by many that through this provision of nature they can, with proper exertion, secure sufficient moisture from the depths of the earth to sustain their crops through the severest droughts.

"From how great a depth does capillary action bring up water? There is certainly a limit beyond which capillary action ceases to act.

"The writer was down in a coal mine 500 feet deep, where water was so plentiful that ten steam boilers were required to make steam to drive a powerful engine and pump night and day to remove the water so that the mine could be worked. Water was too plentiful at the depth of 500 feet, but a great drought was prevailing at the surface. Water was plentiful much nearer the top of the ground. The wells were not deep, and there was water enough in them for ordinary use, but it did not come to the surface unless raised by a pump. It had got below capillary action.

"Beneath the city of Kalamazoo, Mich., and the valley in which it is situated, at a depth of 160 feet, there is an inexhaustible stratum of water, which, when tapped by the drill, rises nearly to the surface. It is no doubt forced up by the pressure of the water which is percolating down from the high hills that surround the valley. The city, containing 18,000 inhabitants, is abundantly supplied by wells dug to this great natural reservoir, and distributed by the necessary waterworks. Water is also found here by digging wells of the ordinary depth. At the time of my visit the meadows were brown, the pastures dried up, and all vegetation was suffering for water, except the celery and onions in the celery swamps. There was no green to be seen in the fields, and the grass in the public parks had to be sprinkled daily from the waterworks to keep it alive.

"There is said to be water enough under the great desert of Sahara. Wherever artesian wells have been put down, a plentiful supply has been found, and if capillary action would bring it to the surface there would be no desert there. Evidently capillary action will not raise water 160 feet, nor 60 feet, nor 6 feet.

"How high will it raise it? A writer recently declared that: 'A sufficient amount of moisture stored in the earth would supply the wants of crops even if no rains fell from the time of planting until harvest time.' To store up a sufficient amount of moisture he advocated plowing and subsiding to the depth of two feet. Such deep tillage would be very expensive, and, according to my experience, of no use whatever, below a certain depth.

"When the North Branch canal was dug, I observed that where an embankment of earth had been wheeled out and dumped, the lower side extending to the water's edge, the earth was wet a few inches above the surface of the water. The line of moisture was very uniform and looked as if the river might have been higher and fallen, which was not the case. If there had been no limit to capillary action there was nothing to hinder the moisture from the river from having ascended twenty feet or more.

"I have frequently help draw dirt

and place it on a race bank to prevent the water from running over. When the water touched the new dirt it would soak up a few inches above the surface of the race and there stop.

"A neighbor, when leaving his 'sugar works' at night, threw his woollen strainer across the side of the 'store trough,' which was full of sap. In the morning he found the store trough half emptied. Had somebody stolen it? Nobody would be likely to carry off two or three barrels of sap. Had cattle drank it? There were no tracks. On examination he found that the woollen strainer had done the mischief. The sap had ascended the strainer and gone over the side of the trough where there was a great puddle on the ground. The only reason why the store trough had not been entirely emptied was because capillary action has a limit which it cannot go beyond.

"Kerosene oil, being lighter and more volatile, will no doubt ascend higher than water by capillary action. It has been found by experiment that about twelve inches is the utmost height to which oil will ascend in a lamp wick.

"On my land I feel quite sure that capillary action does not extend below the depth of eight or nine inches. When the ground gets dry to that depth, no help comes from below, and the sole dependence for farm crops must be on the dew from heaven, condensation of moisture from the atmosphere, or irrigation."

## Cheese Notes.

The new Colorado dairy bill prohibits the making and selling of filled cheese under any guise whatever. This ought to serve as a great promoter of the cheese industry in that State.

The cheese factory operated by Frank Ouradnik, in Casco, Wis., was destroyed by fire, together with a large part of its contents, early the present month. A fire also destroyed the factory of Geo. A. Drexler, near Askeaton, Brown county, Wisconsin. The total loss in this case was \$1,200 with an insurance of \$900.

One of the largest shipments of cheese this season is about to be made by S. R. Udell & Co., of this city, says the Gazette, of Green Bay, Wis. It consists of 100,000 pounds of Cheddars, being 1,500 boxes, which has been sold direct to English dealers through the Chicago house of S. R. Udell & Co. This cheese comes almost entirely from Brown and Calumet counties, and is shipped direct to England. It goes by the Lackawanna line of steamers down the lakes to Buffalo, thence by rail to New York, and is there loaded onto the trans-Atlantic lines. The time consumed in transit will be between two and three weeks. The large cheese is sold entirely for export, as it keeps better and there is less waste.

The low price of cheese at the present time ought to largely increase its use as food, says the American Cultivator. We do not make half the use of cheese that we ought. It is the most nutritious and healthful substitute that can be wished for meat, and it is so used largely in Europe. Cheese is rich in the kind of nutrition that gives strength. The only objection to it as food is that if eaten in large quantities it is hard to digest. But cheese is never eaten except with bread or cake, and the fact that it is hard to digest helps to strengthen the organs of digestion by giving them a difficult task. The cheese is also an admirable supplement to the bread, which is mainly starch, and the two kinds digest better together than either would if eaten without the other.

It is sometimes supposed that scrub cattle are harder than thoroughbreds, but this is not the fact unless the particular strain of thoroughbreds has been unwisely inbred.

## Homes for the Homeless.

The opening of two Indian reservations in northeastern Utah to settlers opens up over three and one-half million acres of fine agricultural and stock-raising land for home-seekers.

The Uintah and Uncompahgre reservations are reached by the only direct route, the Union Pacific system, via Echo and Park City. E. L. LOMAX, G. P. & T. A. U. P. system, Omaha, Neb.

## "Among the Ozarks,"

the Land of Big Red Apples, is an attractive and interesting book, handsomely illustrated with views of south Missouri scenery, including the famous Olden fruit farm of 8,000 acres in Howell county. It pertains to fruit-raising in that great fruit belt of America, the southern slope of the Ozarks, and will prove of great value, not only to fruit-growers, but to every farmer and home-seeker looking for a farm and a home. Mailed free. Address, J. E. LOCKWOOD, Kansas City, Mo.

## Dodder in Alfalfa.

The fact that this parasite has appeared on alfalfa in Kansas was fully shown by correspondence from Prof. B. B. Smyth, in a recent number of the KANSAS FARMER. An article in *The Californian* sheds additional light on the subject. Speaking of remedies, that paper says:

"As the dodder is apt to spread rapidly when once established in an alfalfa field, some effective remedy alone can prevent this, and at the same time eradicate the pest. Probably the most effective remedy and one easily suggested, is the burning of the infested area. If this is done in late autumn the best results will doubtless follow, as at this time the seeds of the dodder have but recently reached maturity and are either still in the seed capsules or simply resting on the surface of the ground. In either case a quick, hot fire, burning close to the ground, will suffice; and if such, will probably do no injury to future crops of alfalfa from the same roots. The standing alfalfa mowed and allowed to dry for a day or two probably would furnish sufficient heat. Sulphate of iron—green vitriol—if sprinkled upon the dodder is said to kill it, without injury to the alfalfa. Better than any remedy, however, is a means of prevention. The seed of this vine is much smaller than that of alfalfa and has a blotted appearance. This is a character not at all presented by the seed of alfalfa, which is perfectly smooth, and may be used with safety as a decisive character in distinguishing between the two. A hand magnifier, such as ordinarily carried in the pocket, is necessary in perceiving these dots. Owing to the marked difference in size between the seeds of alfalfa and dodder, a sieve of proper mesh—say twenty meshes to the inch—will serve to separate the two."

## Old Mexico.

Modern Mexico is a beautifully illustrated monthly journal, published in the English language, and devoted to the interests of Mexico. Send 10 cents for sample copy. Address Modern Mexico Publishing Co., Topeka, Kas. Mention KANSAS FARMER.

Falsehood always endeavored to copy the mien and attitudes of truth.—Johnson.

To overcome evil with good is good, to resist evil with evil is evil.—Mahommed.

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A lady who suffered for years with uterine troubles, displacements, leucorrhoea and other irregularities, finally found a safe and simple home treatment that completely cured her without the aid of medical attendance. She will send it free with full instructions how to use it, to any suffering woman sending name and address to MRS. L. HUDNUT, South Bend, Ind.

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This valley is in Southern Arizona, and is noted for its fine semi-tropical fruits and superior climate. Horticulturists say that greater profits can be realized here from oranges and grapes than in Florida or California. Physicians assert that the warm, dry, bracing climate excels in healing qualities Italy's balmy air. The great blizzard of 1895 did not blight the tenderest leaf in this protected spot.

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When you write mention Kansas Farmer.

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"For Sale," "Wanted," "For Exchange," and small advertisements for short time, will be charged two cents per word for each insertion. Initials or a number counted as one word. Cash with the order. Special:—All orders received for this column from subscribers, for a limited time, will be accepted at one-half the above rates, cash with order. It will pay. Try it!

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ANNOUNCEMENT TO DAIRYMEN.—A dairy location, thirteen miles from Kansas City, on through line of railroad, is for rent, or will be put into stock of a dairy company, organized for the purpose of handling it. The place is equipped with cattle barn having mangers and water fixtures, for 125 head of cattle; silo, with capacity of 500 tons; steam engine, grinding mill, feed-centers, etc., and is only forty rods from depot. A sufficient amount of best bottom land for support of 200 head of cows goes with the place. Address Edwin Taylor, Edwardsville, Kas.

TO EXCHANGE.—Do you want to go into business or give your boys a chance? Have you a good city or suburban property, or good farm worth \$15,000? I have a good business location in the liveliest 3,000 town in Missouri; established ten years; kept busy all through the hard times; a rare chance. Address Robert Thomson, Lucas Building, St. Louis, Mo.

FOR SALE—A few Crowsdell bucks. Address Jas. Walton, Newton, Kas.

FOR SALE—White Plymouth Rock chickens. Hens, 50 cents; cockerels, \$1. Inquire at KANSAS FARMER office.

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WE MAKE AND FULLY WARRANT THE Arched Hedge Trimmer, a mowing device that will cut a mile of hedge in two hours as smooth as can be done with a hand shears in a week. Price only \$25. E. C. Gordon & Sons, Chasoka, Kas.

DOUGLAS COUNTY NURSERY—Offers for fall and spring trade a general supply of all kinds of nursery stock. Send for catalogue. Address Wm. Plasket & Son, Lawrence, Kas.

WANTED—To rent a farm in eastern Kansas stocked with thirty or forty milk cows, to tend farm and keep cows on shares. Preferable near to creamery. Isaac Betts, Hough, Russell Co., Kas.

TO FRUIT, MARKET GARDENERS AND FOWL-trymen.—For rent, eighty-acre fruit and truck farm, five miles from Topeka. For particulars apply to "E. W. S." care KANSAS FARMER, Topeka.

FOR SHORT-BORN BULLS—Calves and yearlings, extra fine, write D. P. Norton, Council Grove, Kas.

FOR EXCHANGE.—Finely located and choice rental and business properties in Kansas City or Topeka to trade for farms, stock ranches or wild lands. Send numbers and full description in first letter. I will make offers. John G. Howard, Topeka, Kas.

FOR RENT—Photo gallery, Syracuse, Kansas. County seat, no competition. Address Box 119, Syracuse, Kas.

10 EXTRA FALL GILTS AND FIFTY SPRING pigs, the pigs sired by Tecumseh J. Corwin 10744 S. and the great breeding and show boar Riley Medium 12306 S. E. T. Warner, Princeton, Franklin Co., Kas.

STEAM CIDER MILL—Two miles west of Kansas avenue, on Sixth street road, Topeka. Farmers, bring your apples Tuesdays, Thursdays and Saturdays of each week until December. I will make cider for you at 2 cents per gallon. H. W. McAfee.

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WRITE—To Alex. Richter, Hollywood, Kas., for information concerning sub-irrigation. Enclose 2-cent stamp for reply. Manufacturer of galvanized sub-irrigation pipe.

FOR A GOOD HAND-SEWED BUCK, CALFOR kid glove or mitten, address Mrs. Ed. Warner, Lexington, Clark Co., Kas. Reference: KANSAS FARMER.

FOR SALE—Hereford bulls sired by a son of Mr. Funkhouser's celebrated Hesiod. Apply to Peter Sim, Wakarusa, Kas.

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

THE FINEST HONEY—Is gathered from alfalfa and clover blossoms. You can buy it of the bee-keeper, cheap and in any quantity, by freight, and know it is genuine. Address Oliver Foster, Las Animas, Colo.

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

WANTED—Buyers for Large English Berkshires. One hundred pure-bred pigs, farrowed in March and April, are offered for sale at from \$10 to \$15 each. Farm two miles west of city. Riverside Stock Farm, North Topeka, Kas.

\$75 a month and expenses to competent men and \$75 women. Write for particulars at once. E. C. Morse & Co., 56 Fifth Ave., Chicago.

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



The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the KANSAS FARMER. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. Sometimes parties write us requesting a reply by mail, and then it ceases to be a public benefit. Such requests must be accompanied by a fee of one dollar. In order to receive a prompt reply, all letters for this department should be addressed direct to our Veterinary Editor, Dr. S. C. ORR, Manhattan, Kas.

**PIGS DYING.**—The treatment given by W. R. T. is not in the last issue of the Kansas Farmer, as you stated. I have not lost any more pigs, but there are two or three that have the thumps and some have little warts that get scabby. A. R. J. Roxbury, Kas.

**Answer.**—The mistake was ours. The advice to W. R. T. is in the issue of September 18. Keep the pigs in clean quarters and grease the warts every other day with lard.

**LICE ON PIGS.**—My little pigs are full of lice and I do not know what to do for them. C. S. Holton, Kas.

**Answer.**—Take one pound of common laundry soap and dissolve in half a gallon of water. Take from the fire, while boiling, and stir in one quart of kerosene and set aside to cool. Now make a strong suds of this and warm water, and spray over the pigs, or, what is better, catch them one at a time and wash them with it. Repeat this once a week till the pigs are entirely rid of the lice. All old bedding must be gathered up and burned and the pens scrubbed with boiling water and lye and then whitewashed.

Auction Sale of Thoroughbred Stock.

Of late years public sales of thoroughbred stock, especially hogs, have become quite popular, and undoubtedly would be more so if it were not for the traveling and other expenses connected with attending them, which in many cases amounts to as much as the cost of the stock purchased.

Mr. Willis Whinery, of Salem, Ohio, has originated and put in practice a plan that does away with the objections mentioned and still retains the desirable features of an auction sale. He issues a descriptive catalogue, accurately describing each animal; bidder sends in his bid by mail, bidding on any animal or more that he is in need of; if your bid is successful the stock will be shipped to your express office, and if as described, you settle with the express agent for it. You make no mistake bidding on this stock unless you bid so low as to fail to get it.

His offering consists of 300 head Improved Chester White swine and a large invoice of Holstein and Jersey cattle and several hundred head thoroughbred poultry.

The swine offered are of various ages, and it is perhaps the largest sale of thoroughbred hogs ever made by one individual or firm. This is perhaps the largest herd in existence of thoroughbred hogs and its fair record is unexcelled, having won largely at the World's Columbian and later achieved the title of "The World's Champion herd" by winnings at the best State fairs in the United States. Many World's Columbian and State fair winners and their descendants are offered in this sale.

The Jersey and Holstein offerings are of first quality and the poultry of the best leading varieties.

Mr. Whinery has held three sales on this plan, which resulted satisfactorily to himself and customers, and he announces this, his fourth sale, in this issue.

Bidding opens October 21 and closes November 11, 1895. Send for catalogue giving full particulars. Mention this paper when writing.

The Farmer takes pleasure in recommending Robert White & Co., whose advertisement will be found in another column, as men of wide experience and excellent salesmen. Stock consigned to them will receive prompt attention with a guarantee of securing all the market will bear.

St. Louis is considered a good broom-corn market, because of favorable freight rates and because there are large local broomcorn manufactories, besides this market is sought by outside buyers. M. D. Heltzell Commission Co. will gladly furnish information, as will be noticed by his advertisement in this issue.

Calumny always makes the calumniator worse, but the calumniated never.—Colton.

MARKET REPORTS.

Kansas City Live Stock.

KANSAS CITY, Oct. 14.—Cattle—Receipts since Saturday, 13,900; calves, 717; shipped Saturday, 2,923 cattle, 104 calves. The market was generally steady, though it was weak on some westerns. The following are representative sales:

**DRESSED BEEF AND SHIPPING STEERS.**  
No. Ave. Price. No. Ave. Price.  
23 Tex. 1,007 \$3.17 20 1,200 \$3.10

**TEXAS AND INDIAN STEERS.**  
4 1,136 \$3.00 16 1,006 \$3.03  
5 1,038 3.00 3 816 2.50  
1 790 2.50 3 Ind. 913 2.40  
2 810 2.23

**COLORADO STEERS.**  
60 1,489 \$4.50 90 1,403 \$4.25  
44 1,214 3.23

**COLORADO COWS.**  
1 1,130 \$3.00 65 895 \$2.75  
1 960 2.75 11 853 2.25

**COWS AND HEIFERS.**  
3 703 \$3.15 1 770 \$3.00  
15 1,014 2.53 2 940 2.50  
10 739 2.50 14 738 2.50  
2 1,115 2.40 10 898 2.40

1 1,010 2.35 1 930 2.3  
1 1,030 2.25 2 890 2.25  
1 940 2.20 2 965 2.15  
1 1,010 2.15 5 1,032 2.10  
1 1,080 2.00 5 952 2.03  
1 850 1.25 1 770 1.00

**STOCKERS AND FEEDERS.**  
2 1,155 \$3.85 20 1,060 \$3.52 1/2  
24 1,039 3.50 18 861 3.40  
1 730 3.31 11 794 3.23  
1 880 3.10 10 1,134 2.85

Hogs—Receipts since Saturday, 3,628; shipped Saturday, 829. The market was steady to strong. The following are representative sales:

48 397 \$4.07 1/2 45 270 \$4.00 76 202 \$4.00  
73 203 3.95 80 243 3.95 50 170 3.95  
14 337 3.95 63 247 3.92 1/2 69 175 3.92 1/2  
47 211 3.90 61 194 3.90 73 210 3.90  
87 232 3.90 69 256 3.90 62 222 3.90  
29 204 3.90 200 178 3.90 51 214 3.90  
41 204 3.91 50 214 3.90 58 228 3.90  
45 259 3.87 1/2 67 228 3.87 1/2 81 209 3.87 1/2  
58 255 3.87 1/2 65 228 3.87 1/2 72 181 3.85  
68 255 3.85 66 228 3.85 61 215 3.85  
46 191 3.85 68 228 3.85 59 203 3.85  
25 127 3.83 63 228 3.83 61 218 3.82 1/2  
16 151 3.80 8 242 3.80 60 163 3.80  
40 244 3.75 102 175 3.75 17 276 3.75

Sheep—Receipts since Saturday, 2,488; shipped Saturday, 2,578. The market was slow. The following are representative sales:

59 lambs 68 \$4.01 27 65 3.85  
14 118 2.83 53 114 2.70

Horses—Receipts since Saturday, 273; shipped Saturday, 139. There was very little done at the horse and mule market to-day. Prices were generally steady. A number of buyers are here, and with increasing receipts, a good strong market is expected. The trade in mules is picking up. Abe Kohn, of St. Louis, is on the market buying for the Spanish government, to be used in Cuba. He got two car loads and calls the market steady with last week. He is after 4 to 9-year-olds, 14 to 14 1/2 hands high and in good flesh.

Chicago Live Stock.

CHICAGO, Oct. 14.—Cattle—Receipts, 25,000; market steady to 15c lower; fair to best beefs, \$3.40@5.50; stockers and feeders, \$2.20@3.85; mixed cows and bulls, \$1.20@3.50; Texas, \$2.75@3.50; western, \$2.90@4.35.

Hogs—Receipts, 36,000; market averaged a shade higher, closing weak; light, \$3.65@4.25; rough packing, \$3.50@3.70; mixed and butchers, \$3.70@4.25; heavy packing and shipping, \$3.75@4.30; pigs, \$2.00@4.10.

Sheep—Receipts, 32,000; market 10c lower; native, \$1.25@3.50; western, \$1.75@3.25; Texas, \$1.40@2.70; lambs, \$3.00@4.50.

St. Louis Live Stock.

ST. LOUIS, Oct. 14.—Cattle—Receipts, 6,070; market 5 to 10c lower; native steers, \$3.50@5.25; Texas steers, \$2.50@3.40.

Hogs—Receipts, 3,200; market steady to 5c higher; heavy, \$3.90@4.20; mixed \$3.50@4.10; light, \$3.80@4.15.

Sheep—Receipts, 2,000; market lower.

Chicago Grain and Provisions.

Oct. 14. Opened High'st Low'st Closing

Wh't—Oct. 59 1/2 59 1/2 59 1/2 59 1/2  
Dec. 60 1/4 60 1/4 60 1/4 60 1/4  
May 61 1/4 61 1/4 61 1/4 61 1/4

Corn—Oct. 28 1/2 28 1/2 28 1/2 28 1/2  
Dec. 27 1/2 27 1/2 27 1/2 27 1/2  
May 29 1/2 29 1/2 29 1/2 29 1/2

Oats—Oct. 17 1/2 17 1/2 17 1/2 17 1/2  
Dec. 17 1/2 17 1/2 17 1/2 17 1/2  
May 20 1/4 20 1/4 20 1/4 20 1/4

Pork—Oct. 8 50 8 50 8 50 8 50  
Jan. 9 52 1/2 9 52 1/2 9 52 1/2 9 52 1/2  
May 9 53 1/2 9 53 1/2 9 53 1/2 9 53 1/2

Lard—Oct. 5 75 5 75 5 75 5 75  
Jan. 5 80 5 80 5 80 5 80  
May 5 85 5 85 5 85 5 85

Ribs—Oct. 5 10 5 10 5 10 5 10  
Jan. 4 8 1/2 4 8 1/2 4 8 1/2 4 8 1/2

Kansas City Grain.

KANSAS CITY, Oct. 14.—Wheat was almost 1/4c lower to-day. A number of the usual buyers were not on the market at all, and the trade was very slow. The receipts were the largest of the year, and a good many samples were carried over to be sold to-morrow.

Receipts of wheat to-day, 250 cars a year ago, 99 cars.

Sale of car lots by sample on track, Kansas City: No. 2 hard, 4 cars 59c, 7 cars 59 1/2c; No. 3 hard, 2 cars 57c, 3 cars 56 1/2c, 3 cars 56c, 2 cars 55c, 2 cars 54c, 2 cars 52c, 1 car 50c; No. 4 hard, 1 car 48c, 7 cars 47c, 2 cars 45c, 1 car 43c, 1 car 42c, 1 car 40c; rejected, 1 car 38c, 1 car 3c, 1 car 29c; soft, No. 2 red, 2 cars 63c, 1 car 62 1/2c; No. 3 red, 2 cars 62c, 1 car 61c, 1 car 60c; No. 4 red, 1 car 54c, 1 car 52c; rejected, 1 car 48 1/2c, 1 car 40c; no grade, nominally 25@35c; spring, No. 2, 3 cars 57c, 12 cars 56 1/2c, 49 cars 56 1/2c, 3 cars 56c; No. 3, 7 cars 54 1/2c, 14 cars 54c; rejected, 1 car 45c; white spring, No. 2, 2 cars 53c; No. 3, 1 car, 52c, 2 cars 50c.

Corn sold at irregular prices. New corn was about 1/4c lower as a rule. A sale of 31,000 bushels No. 2 mixed, 10 days' shipment, at 23 1/2c was reported. A good deal of corn was offering to arrive.

Receipts of corn to-day, 54 cars a year ago, 26 cars.

Sales by sample on track, Kansas City: No.

2 mixed, 2 cars 25c, 6 cars 24 1/2c, 2 cars 24c; No. 3 mixed corn, 3 cars 24 1/2c, 4 cars 24c, 5 cars 23 1/2c; No. 4 mixed, nominally 22@23c; no grade, nominally 20@22c; No. 2 white, 5 cars 25c, 4 cars 24 1/2c; No. 3 white, 3 cars 24 1/2c, 4 cars 24c, 3 cars 23 1/2c.

Oats were generally held at Saturday's prices, but the trade was very slow and concessions had to be made on white oats to sell them.

Sales by sample on track, Kansas City: No. 2 mixed, 2 cars 16c, 2 cars 15c; No. 3, 2 cars 14 1/2c, 3 cars 14c; No. 4, 3 cars 13c; no grade, nominally 11@12c; No. 2 white, 4 cars 17 1/2c; No. 3 white, 1 car 15c, 2 cars 16 1/2c, 5 cars 17c.

Hay—Receipts, 87 cars; market firm; timothy, choice, \$11.00; No. 1, \$10.00; No. 2, \$8.00@9.00; fancy prairie, \$6.50; choice, \$5.50@6.00; No. 1, \$4.50@5.00; No. 2, \$4.00@4.50; packing hay, \$3.00@3.50.

St. Louis Grain.

ST. LOUIS, Oct. 14.—Receipts, wheat, 91,000 bu.; last year, 20,200 bu.; corn, 9,800 bu.; last year, 19,500 bu.; oats, 160,600 bu.; last year, 44,000 bu. Closing prices: Wheat—Cash, 62 1/2c; October, 62 1/2c@63 1/2c; December, 62 1/2c@63 1/2c; May, 66 1/2c@67 1/2c. Corn—Cash, 26 1/2c bid; December, 24 1/2c; May, 26 1/2c. Oats—Cash, 17c; December, 18c; May, 20 1/2c@20 3/4c.

Kansas City Produce.

KANSAS CITY, Oct. 14.—Butter—Extra fancy separator, 21c; fair, 17@18c; dairy fancy, 14@15c; store packed, fresh, 10@12c; off grades, 7@8c.

Eggs—Strictly fresh candied stock, 14 1/2c per doz.

Poultry—Hens, 6c; springs, 6 1/2c@7c; roosters, 15c. Turkeys, 7c; springs over 8 lbs., 8 1/2c; under 8 lbs. not wanted. Ducks, 7c. Geese, 3 1/2c@4c; springs, 7c. Pigeons, \$1.00 per doz.

Fruits—Apples—Cooking, 15@25c per bu.; choice eating, 30@40c. Fancy, \$1.50@1.75 per bbl.; choice, \$1.25@1.50; common to good, 50@75c per bbl.; home grown stock sells a little higher in a small way. Grapes—Pennsylvania, New York and Ohio Concord, fancy, 20@23c; poor stock, 10@18c; wild, 10@15c per peck. Peaches—Home grown, 50@60c per peck; Michigan, \$2.00 per bu.; 40c per 1-5 bu. basket. Pears—Kiefer, 10c per peck. Cranberries—\$7.00@7.50 per bbl.

Chicago Horse Market.

The following are the quotations of last week's auction sales at Chicago:

Expressers and heavy drafters.....\$70@175  
1100 to 1400 lb. chunks.....55@110  
Streeters.....50@70  
Coachers and fast road horses.....90@275  
900 to 1100 lb. chunks.....25@55  
Ordinary drivers \$60 and upward.

These prices are for sound horses five to eight years old, well broken and in good flesh.

When you write mention Kansas Farmer.

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DROVERS COMMISSION COMPANY,

Kansas City, Mo., Stock Yards.

G. W. CLAWSON, Loans. MONEY LOANED  
A. T. MURPHY, CATTLE  
J. P. MURPHY, SALESMAN.  
SAM M. WEST, HOG SALESMAN.  
J. W. T. GRAY, Office.

Feeders Furnished  
Market Reports Free.

When you write mention Kansas Farmer.

Obtain best results by shipping your CATTLE, HOGS and SHEEP to

ROBT. C. WHITE & CO.

Live Stock Commission Merchants,

Rooms 106, 107 and 108 (formerly occupied by White & Rial), Kansas City Stock Yards.

Consignments and correspondence solicited. Market reports free upon application. Telephone 2428. When you write mention Kansas Farmer.

TRY US. We sell your Poultry, Veals, Fruits and all produce at highest prices. DAILY RETURNS. For stencils, prices and references, write F. I. SAGE & SONS, 128 Reade St., N. Y.

J. F. GRINDELL & CO.

Receivers and shippers of

Personal attention given to consignments.

Reference, Missouri Nat. Bank. Robinson's Cipher Code.

AGENTS, COTTONSEED MEAL.

1228 West Twelfth Street, Kansas City, Mo.

When you write mention Kansas Farmer.

M. D. HELTZELL COMMISSION CO.

907 N. Fourth St., St. Louis, Mo.

BROOMCORN!

Advances on consignments. Prompt returns. Correspondence solicited. Reference: Merchants-Laclede bank. Favorable freight rates. A large local demand for broomcorn, as well as outside manufacturers' order trade, makes St. Louis the leading market.

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## The Poultry Yard

### POINTS OF POULTRY.

The Picture Shows Where the Different Parts Are Located.

Expert breeders, of course, know the "points" in poultry, but among everyday farmers and average people who raise poultry a comparatively small number are well informed in this respect. The illustration shows a rooster with the different parts numbered,



and appended below the name of each opposite its number: 1, comb; 2, face; 3, wattle; 4, earlobe; 5, hackle; 6, breast; 7, back; 8, saddle; 9, saddle hackles or feathers; 10, sickles; 11, tail coverts; 12, true tail feathers; 13, wing-bow; 14, wing coverts forming the "bar;" 15, secondaries, lower end, forming the wing or lower butts; 16, primaries, or flight feathers, not seen when the wing is clipped up; 17, point of breast bone; 18, thighs; 19, hocks; 20, legs or shanks; 21, spur; 22, toes or claws.—N. E. Homestead.

#### Keep Only One Breed.

The farmer who would indiscriminately cross his stock, breeding to first one breed and then another, would not be called wise, and this applies to poultry as well as other stock. Select a breed and stick to it, for there is not so much in the breed as in the care. If the stock is mongrels to begin with breed to pure bred males all the time, and constant improvement will be made. If it is pure bred, do not breed to some other breed, for whatever benefit must be derived from the first cross, will be lost in the next, for the second generation will be only mongrels, and will lose the valuable points of their ancestors very often. Constant improvement along all lines should be the rule.—Rural World.

#### About Light and Dark Yolks.

The dark colored yolks are preferred by ladies who use eggs for cake and pastry, and the question is frequently asked why the yolks of eggs are of a pale color at times. The color does not indicate quality, but depends on the food. If yellow corn or clover hay is given hens, the yolks will be deeper in color than when wheat and bran are the principal grain foods. In summer, when hens can secure a greater variety, the color of the yolks is deeper than when the food is restricted to one or two kinds only.—Farm and Fireside.

#### Hens as Weed Destroyers.

If a hen and chicks are placed in a yard or confined on a small plot, every blade of grass, as well as every weed, will be destroyed, and in a few days the plot will be as clean as if burned over. When hens are confined in yards, the yards are clean and bare of vegetation. When the hens are on a range, they also destroy thousands of young weeds, which is not so noticeable, but which is nevertheless the case.

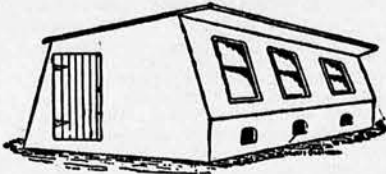
#### Vigor and Health in the Flock.

Health in the flock is largely due to selection. One of the best modes of selection is to observe the thickness of the bones of the leg. Stout bones indicate strength, and chicks that have strong and thick thighs will nearly always make vigorous and healthy fowls. Hardiness of the flock is more essential than anything else, as it is disease that usually destroys the expectations of the poultryman and causes him to lose when he should be making a profit.—Rural World.

### WINTER HEN HOUSE.

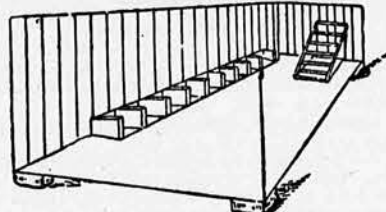
Particularly Suited to the Needs of the Farmer's Wife.

The simplicity of the house illustrated commends it to anyone keeping a few hens near his dwelling. It is a plain yet neatly constructed building,



that will meet every requirement of a more expensive structure—just suited to the needs of the farmer's wife. It can be built at a cost of \$20 to \$30, easily.

The size depends upon the number of fowls kept; for say 30 hens, make it 30



by 20 by 6 feet. This will be found ample, and if properly lined with tar paper inside it will be snug and warm and be just the place for your winter hens. In the second figure is shown the interior, with nests and roosts.—John W. Caughey, in Country Gentleman.

#### Shipment of Eggs in Bulk.

A consular report tells of large quantities of shelled eggs being sent to England from Russia and Italy for the use of pastry cooks, bakers, hotels and restaurants. The eggs are emptied from their shells into tin cans holding one thousand or more, and after being hermetically sealed are packed with straw into wooden cases, the taps, through which the contents are drawn, being added by those using them. Great care is necessary in selecting eggs, as a single bad one would spoil the whole lot. Lower price and saving of time, and greater ease and less expense and loss in handling are named as the advantages of this system. Thus far the Russian product has been uniformly good, whereas the Italian shipments have so frequently been spoiled that analysis of the Russian supply has been ordered to determine if preservatives are used.

## Heart Disease Cured

By Dr. Miles' Heart Cure.

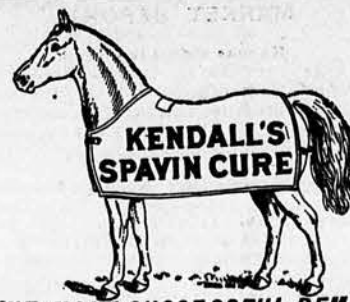
Fainting, Weak or Hungry Spells, Irregular or Intermittent Pulse, Fluttering or Palpitation, Choking Sensation, Shortness of Breath, Swelling of Feet and Ankles, are symptoms of a diseased or Weak Heart.



MRS. N. C. MILLER.

Of Fort Wayne, Ind., writes on Nov. 29, 1894: "I was afflicted for forty years with heart trouble and suffered untold agony. I had weak, hungry spells, and my heart would palpitate so hard, the pain would be so acute and torturing, that I became so weak and nervous I could not sleep. I was treated by several physicians without relief and gave up ever being well again. About two years ago I commenced using Dr. Miles' Remedies. One bottle of the Heart Cure stopped all heart troubles and the Restorative Nervine did the rest, and now I sleep soundly and attend to my household and social duties without any trouble.

Sold by druggists. Book sent free. Address Dr. Miles Medical Co., Elkhart, Ind.  
**Dr. Miles' Remedies Restore Health.**



### THE MOST SUCCESSFUL REMEDY

FOR MAN OR BEAST.  
Certain in its effects and never bilsters.  
Read proofs below

### KENDALL'S SPAVIN CURE

BLUEPOINT, L. I., N. Y., Jan. 15, 1894.  
Dr. B. J. KENDALL CO.—I bought a splendid bay horse some time ago with a spavin. I got him for \$30. I used Kendall's Spavin Cure. The spavin is gone now and I have been offered \$150 for the same horse. I only had him nine weeks, so I got \$120 for using \$2 worth of Kendall's Spavin Cure.

### KENDALL'S SPAVIN CURE

SHREVEPORT, La., Dec. 16, 1893.  
Dr. B. J. KENDALL CO.—I have used your Kendall's Spavin Cure with good success for Curb on two horses and it is the best liniment I have ever used.

Price \$1 per Bottle.  
For sale by all Druggists, or address  
DR. B. J. KENDALL COMPANY,  
ENOSBURGH FALLS, VT.

When you write mention Kansas Farmer.

## Rheumatism Cured

BY ABBOTT BROS.' RHEUMATIC CURE.

RHEUMATISM is caused by uric acid in the blood, and only by removing this poisonous acid can rheumatic and neuralgic troubles in all their torturing forms be cured. Uric acid finds its way into the blood because the kidneys are weakened and do not throw it off from the system. Restore the kidneys and you will restore the power that will force the uric acid from the body. This is just what ABBOTT BROTHERS' RHEUMATIC CURE does. It drives the deadly uric acid from the blood. It banishes pain by removing the cause. Its influence will be felt within five hours after it has been taken. It sustains the organs that sustain life and the forces that make pure blood. For the nervous troubles of youth and the debility that precedes old age it is the most efficacious remedy the world has ever known. The following is a brief extract from one of the thousands of testimonials we have on file:

Rev. William B. Leach, D.D., the widely-known pastor of St. Paul's M. E. church, Center Ave. and Fay St., Chicago, Ill., writes: "I have used Abbott Bros.' Rheumatic Cure and it has given perfect satisfaction. I cannot say too much for it. I know of many instances where it has effected most remarkable cures. It is just the thing for rheumatism and neuralgia and is the poor man's benefactor, as it saves doctor's bills. I meet with cases every day in my immense charge where it has completely cured. It affords me pleasure to recommend it to the afflicted."

Write for free treatise and testimonials. Price \$1.25 per bottle; six for \$6. Address all orders and communications to PROF. F. I. ABBOTT, 334 Dearborn St., Chicago, Ill.

When you write mention Kansas Farmer.

## THE Morgan Sanitarium,

14th and Central Ave., Kansas City, Kansas.



is a permanently well established INVALID'S HOME for the treatment of MALIGNANT, CHRONIC and SURGICAL DISEASES.

Our building is beautifully located, well lighted and ventilated, with ample room for the comfortable care of all patients. Our specialties are CANCERS, TUMORS, SKIN and BLOOD DISEASES. CANCERS and TUMORS successfully removed with the MORGAN CANCER ANTIDOTE. We are treating daily with universal success, Chronic Catarrh, Dyspepsia, DISEASES OF WOMEN, Rheumatism, Piles, Fistula, DISEASES OF THE LIVER and KIDNEYS, Hydrocele, Varicocele, Rupture (Hernia) CURED in 30 days without detention from business. Also Deafness, Hair-lip, Cross Eyes, Club Feet, etc. DR. JOHN MORGAN, of forty years' experience, physician in charge.

Patients will take GRANDVIEW car on Elevated road without change to our door. A book on Cancers mailed free.

Address THE MORGAN SANITARIUM, 14th and Central Ave., Kansas City, Kansas.

When you write mention Kansas Farmer.



## THE CORN MAKER

A new subsoil plow. Makes your crop sure and the yield greater.

THE WARNER LISTER CULTIVATOR—One, two or three row. You cannot afford to be without this. Saves one-third of your time and makes money for you. Portable Farm, Field, Garden and Yard Fence. Ask your dealer for these goods. If he does not carry them, write to us.

WESTERN MANUFACTURING COMPANY, 7th and Wyandotte Sts., KANSAS CITY, MO.

**LIGHTNING WELL MACHINERY Works.**  
LARGEST  
All kinds of tools. Fortune for the driller by using our Adamantine process; can take a core. Perfect Economic Artesian Pumping Rig to work by Steam, Air, etc. Let us help you. THE AMERICAN WELL WORKS, Aurora, Ill.; Chicago, Ill.; Dallas, Tex.

## WELL DRILLS

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

## ST. LOUIS MO., U. S. A. WELL MACHINE & TOOL CO.

CATALOGUE FREE. GREAT WESTERN MFG. CO., AGENTS, Leavenworth, Kas., and Kansas City, Mo. When writing advertisers mention FARMER.



### FARMERS' BOILERS!

TANK HEATERS, STEEL TANKS.

Send card for particulars. STAR MFG. CO., Middlebury, Ind.

## HATCH CHICKENS BY STEAM—With the MODEL

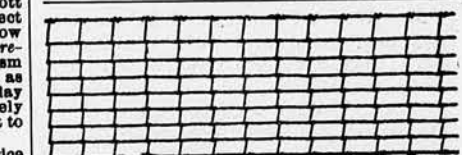
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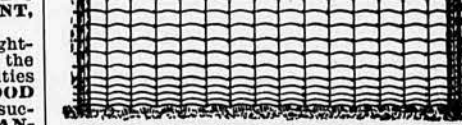
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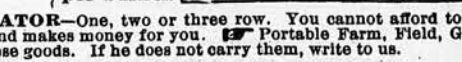
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(Continued from page 1.)

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## THE STRAY LIST.

## FOR WEEK ENDING OCTOBER 2, 1895.

Labette county—J. F. Thompson, clerk. MARE—Taken up by John Byrum, in Howard tp., August 15, 1895, one black mare, fourteen hands high, star in forehead; valued at \$10.

HOSE—By same, one iron-gray horse, blaze face; valued at \$7.

Bourbon county—G. H. Requa, clerk.

MARE—Taken up by C. E. Shaffer, in Freedom tp., one black mare, 4 years old, about fifteen and one-half hands high, star in forehead, and what seems to be a wire cut on right fore leg below knee; valued at \$25.

## FOR WEEK ENDING OCTOBER 9, 1895.

Coffey county—T. N. Bell, clerk.

HEIFER—Taken up by U. S. Grant, in Pleasant tp., September 23, 1895, one light red yearling heifer, small white spots on belly, crop off left ear, dehorned; no other marks or brands.

## FOR WEEK ENDING OCTOBER 16, 1895.

Norton county—D. W. Grant, clerk.

MARE—Taken up by Joseph Goodwin, in Noble tp. (P. O. Clayton), September 19, 1895, one iron-gray mare, medium size, branded O with line above and below, no other marks or brands perceptible; valued at \$15.

Cherokee county—P. M. Humphrey, clerk.

MARE—Taken up by —, in Garden tp. (P. O. Varet), one bay mare; valued at \$15.

Harvey county—T. P. Murphy, clerk.

MARE—Taken up by Henry F. Cioro, nw. 1/4 sec. 31, tp. 24, r. 2 w. (P. O. Sedgwick), one gray mare, 8 years old, about fifteen hands high, collar marks on shoulders, small rope around neck fastened with snap and ring, smooth shod in front.

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Now ready for distribution. One hundred tops out of my spring crop of 140 pigs, will be sold at PUBLIC SALE, SEPTEMBER 11, 1895. They were sired by my herd boars, Wren's Medium 12387 and Corwin's White Face 9224. The pigs are in fine health and making good growth on alfalfa and light feed of slop. FOR PRIVATE SALE, fall boars and sows bred. Correspondence and inspection invited. Address W. H. WREN, Marion, Marion Co., Kansas.

## GRAND PUBLIC SALE OF POLAND-CHINA HOGS!

AT FAIR GROUNDS—

OTTAWA, FRANKLIN CO., KAS., SATURDAY, OCTOBER 26, 1895.—1 P. M.

50 HEAD—Boars, Gilts and Brood Sows. All well up in Black U. S., Lord Corwin 4th, One Price, J. H. Sanders, King Butler and the noted Tecumseh—all the most fashionable breeding of the day. Terms:—Six months time on approved notes at 8 per cent. interest, or 3 per cent. off for cash. Send for catalogue. Col. S. A. Sawyer, Auc., Manhattan. DIETRICH & GENTRY, Richmond, Kas.

## KENNEDY'S SALE OF

## POLAND-CHINAS!

Wildwood Farm, Wednesday, October 30, 1895.

On the above date I will sell at public auction, 100 head of pure-bred Poland-China hogs, consisting of aged sows, sows with litter, yearling gilts, bred and unbred, yearling boars, and my entire crop of 1895 pigs. WILKES, FREE TRADE, BLACK U. S. and other best blood. Free transportation from depot and free entertainment. Sale begins at 10 a. m. Dinner at 12. Write for catalogue and particulars.

COL. J. W. SPARKS, Auc., L. N. KENNEDY, Nevada, Mo. Marshall, Mo.

## GRAND PUBLIC SALE

## OF

## BERKSHIRES!

Savannah, Missouri, Tuesday, October 22, 1895.

At my farm, one mile east and one-half mile south of Savannah, Mo., I will sell three yearling boars and fifty sons and daughters of King Lee 27500, the most sensational show boar at World's Fair. The pigs cannot afford to miss the sale. The sale will be placed at the low-est figure. Send for catalogue.

E. C. L. LARCH, M. D., Savannah, Mo.

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OCTOBER 29. OCTOBER 29.

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Free transportation to the farm can be obtained by intending purchasers on application to the proprietor of the Club Stables, 1437 Curtis St., Denver. Lunch will be served at 12:15 and the sale will take place at 1 p. m. sharp. Catalogues can be obtained on application to COL. S. A. SAWYER, Auctioneer. A. STORRS, P. O. Box 625, Denver, Col.

Several teams of heavy draft horses will also be offered for sale.

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