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TOPEKA, KANSAS, THURSDAY

SIXTEEN TO TWENTY PAGES—\$1.00 A YEAR.

BREEDERS' DIRECTORY.

Cards will be inserted in the Breeders' Directory as follows: Four line card one year, \$15.00; six lines, \$25.00; ten lines, \$30.00; each additional line \$3.00.

CATTLE.

ENGLISH RED POLLED CATTLE—PURE-BRED. Young stock for sale. Your orders solicited.

CENTRAL KANSAS STOCK FARM.—F. W. ROSS, Alden, Rice Co., Kas., breeds pure-bred Short horns, Poland-Chinas and Barred Plymouth Rocks.

NORWOOD SHORT-HORNS.—V. R. Ellis, Gardner, Kas. Rose of Sharon, Lady Elizabeths and Young Marys. Highest breeding and individual merit.

NEOSHO VALLEY HERD OF SHORT-HORNS.—Imported Lord Lieutenant 120019 at head of herd. Young bulls and heifers for sale.

SCOTCH SHORTHORN CATTLE—Cows, heifers and young bulls for sale. Herd headed by Imperial Knight 119669 and Duke of Walnut Grove 127010.

H. R. LITTLE, Hope, Dickinson county, Kas., breeder of Shorthorn cattle. Herd numbers 100 head.

FOR SALE: TWENTY-FIVE SHORTHORN BULLS OF SERVICEABLE AGE.

SWINE.

J. U. HOWE, Wichita, Kas., Maple Avenue Herd of J. pure-bred Duroc-Jersey hogs. Choice stock for sale.

KANSAS HERD OF POLAND-CHINA SWINE—Has eight yearling sows. They have had pigs and bred to U. S. Tecumseh (20368), he by old black U. S. U. S. boar, and one Tecumseh boar and thirty-five fall pigs by Model Sanders (20432) by Klever's Model.

Silver Spring Herd Poland-China Hogs. Headed by HADLEY'S MODEL T. Bred sows, gilts and boars of choicest breeding for sale.

KANSAS HERD OF POLAND-CHINA SWINE.—Has five choice yearling sows bred to my black U. S. boar, and one Tecumseh boar and thirty-five fall pigs by Model Sanders (20432) by Klever's Model.

V. B. HOWEY, TOPEKA, KAS. Breeder and shipper of thoroughbred Poland-China and Large English Berkshire swine and Silver-Laced Wyandotte chickens.

POULTRY.

BLACK LANGSHANS—PURE AND FINE. Eggs, \$1.50 for 13, or \$2 for 26. J. C. WITAM, Cherryvale, Kas.

CHOICE BREEDING COCKS AND COCKERELS. Fifteen White P. Rocks, 15 Silver Wyandottes, 20 Brown Leghorns, 10 Light Brahmas, 10 S. S. Hamburgs, 10 Black Langshans, 5 Black Javas, 12 Pekin ducks.

A. H. DUFF, Larned, Kans. FOR SALE—Bronze turkeys, Barred Plymouth Rocks, Black Langshans and Embden geese.

WHITE WYANDOTTES. Have no equal as an all-purpose fowl. I have high-scored birds and eggs from first prize-winners for sale.

EGGS FOR HATCHING—From high-scoring breeding yards of B. P. Rocks, W. Wyandottes and R. C. Brown Leghorns at low prices.

150 BARRED PLYMOUTH ROCKS and 150 SILVER-LACED WYANDOTTES FOR SALE. Buy now and save higher prices next spring.

GEO. W. COOPER, BREEDER OF THE LORDLY Black Langshan, 323 Lake street, Topeka, Kas. I won our last State poultry show, January 9-14, with 107 Langshan competition, first on cock, first on cockerel, first on pen, tied first for pullet, tied second for hen, tied first for pullet, third on hen, and had the highest-scoring pen of chickens in show room.

ROYAL BLUE BARRED PLYMOUTH ROCKS, White Plymouth Rocks, Partridge Cochins, Buff Cochins, White Cochins, Light Brahmas, Black Langshans, Silver Wyandottes, White Wyandottes, Brown Leghorns, White Leghorns, Silver Spangled Hamburgs, Black Javas, White Guineas, Pearl Guineas and Pekin Ducks. Pairs, trios and breeding pens. Prices low, considering quality. Circular free.

POULTRY.

D. A. WISE, BREEDER OF BLACK LANGSHANS AND PEKIN DUCKS—TOPEKA, KANSAS.

Eggs in season, \$1.50 per sitting. Residence and yards south of Highland Park.

Silver Wyandottes.

We are selling eggs from our prize-winners scored by Shellabarger & Savage, \$2 for 15; \$3.50 for 30. White P. Rock eggs, \$1 for 13.

CANFIELD'S WHITE PLYMOUTH ROCKS WON first pen, first cock, first cockerel and first hen at the Kansas State Poultry Show, 1899, besides the grand sweepstakes for best ten birds in the American class. Eggs, \$2 for 15, \$5 for 45.

Partridge Cochins and White Leghorns at Hutchinson show took sweepstakes in Asiatic and Mediterranean classes (silver cup and silver teapot); Shellabarger judge. Eggs, \$2 and \$1 per 15. Write for descriptive circular. Address, J. W. Cook or Carrie A. Cook, Hutchinson, Kas.

THIS SPACE WAS WON AS A PREMIUM By the Best Pen of Buff Cochins at the Kansas State Show, 1899.

Chas. Steinberger, North Topeka, Kas.

BARRED PLYMOUTH ROCKS. E. R. Lock's Barred Plymouth Rocks are still in it.

H. T. FORBES, L. C. FORBES. Breeder of...

THOROUGHbred BUFF COCHINS. Eggs and stock from prize-winners at Kansas State Poultry Show, January, 1899.

ROSE POULTRY FARM—J. M. & C. M. Rose, Eldorado, Kas., breeders of Light Brahmas.

CENTRAL KANSAS POULTRY YARDS. B. P. Rocks, S. C. B. Leghorns, S. S. Hamburgs and Silver Sebright Bantams.

PRIZE-WINNING LIGHT BRAHMA CHICKENS... EXCLUSIVELY... Our record for 1898-99: Won 5 out of 6 first premiums at State show in Topeka including sweepstakes.

YOU ARE MISSING... A GOOD THING. If you fail to order some of those Langshan, Buff Cochins or White Wyandotte Cockerels. Don't be too late.

EGGS FOR HATCHING. Am booking orders now for future delivery. Send stamp for circular giving matings and varieties, or 10 cents for catalogue and guide.

ROCKS WHITE and BLUE BARRED. Five Pens—Three Barred, Two White.

EGGS FOR HATCHING. Royal Blue Barred Plymouth Rocks, White Plymouth Rocks, Partridge Cochins, Buff Cochins, White Cochins, Light Brahmas, Black Langshans, Silver Wyandottes, White Wyandottes, Brown Leghorns, White Leghorns, Silver Spangled Hamburgs, Black Javas, White Guineas, Pearl Guineas and Pekin Ducks.

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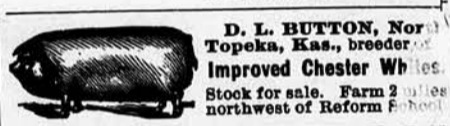
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D. L. BUTTON, North Topeka, Kas., breeder of Improved Chester Whites. Stock for sale. Farm 2 miles northwest of Reform School.

Standard Herd of Poland-Chinas. Has some fine sows, 1 year old this fall, sired by Tecumseh Chief (he by Chief Tecumseh 2d), and are bred to Look Over Me (he by Look Me Over); also, an extra lot of Spring Gilts, bred the same, and some good Spring Males of the same breeding.

H. W. CHENEY, North Topeka, Kas. POLAND-CHINAS. of the fashionable prize-winning Chief I Know strain. Cheney's Chief I Know at head of herd.

T. A. HUBBARD, Rome, Kansas, Breeder of POLAND-CHINAS and LARGE ENGLISH BERKSHIRES. Two hundred head. All ages. 25 boars and 45 sows ready for buyers.

SUNNYSIDE HERD POLAND-CHINAS. BRED FROM LARGE-BONED, BROAD-BACKED, LOW-DOWN, MATURED STOCK.

Wamego Herd Imp. Chester Whites and Poland-Chinas. Mated for best results. Also Barred Plymouth Rock chickens and eggs for sale.

VERDIGRIS VALLEY HERD—Large-Boned Poland-Chinas. Three hundred head, six good spring boars, good bone, large and growthy, very cheap.

M. C. VANSELL, Muscotah, Atchison, County, Kansas, Breeder of Pure-bred Poland-China Swine and Short-horn Cattle of the most desirable strains.

THE WILKES QUALITY HERD OF POLAND-CHINA SWINE. Thos. Symms, Prop., Hutchinson, Kas. Herd boars, Darkness Quality and Reno Wilkes.

F. L. and C. R. OARD, Proprietors, HEDGEWOOD HERD OF POLAND-CHINAS VASSAR, KANSAS. Popular Blood. Individual Merit.

KAW VALLEY HERD POLAND-CHINAS—One of the best sons of Chief I Know at the head. Pairs and trios not akin; of all the leading strains.

CRESCENT HERD POLAND-CHINAS. Boars and gilts for sale. S. W. HILL, Hutchinson, Kas.

HIGHLAND HERD. Five Poland-China boars for sale at prices lower than we have ever offered. Two by Highland Chief, he by C. T. 2d, one by Knox All Wilkes, two by Silver Chief 2d.

Mains' Herd of Poland-Chinas. Chief Tecumseh 2d, Klever's Model, U. S. Model, Moorish Nala and Chief I Know strains. A selected lot of bred sows and young stock for sale at very reasonable prices.

PLEASANT VALLEY HERD REGISTERED POLAND-CHINA SWINE. For sale, King Perfection 4th 1874 S. and number Ideal 14060 S. Also sows bred to above boars.

CAP-A-PIE HERD OF Poland-Chinas. Geo. W. Falk, Richmond, Mo. Is still doing business at the old stand, where, for the past fifteen years, he has been breeding and selling a class of hogs that have been winners at the leading State fairs.

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

MAPLE LAWN HEREFORDS. E. A. Eagle & Son, Props., Rosemont, Osage Co., Kas. For sale, five yearling pure-bred bulls.

Geo. Groenmiller & Son, Centropolis, Franklin Co., Kas., Breeders of Red Polled Cattle and Cotswold Sheep, Buff and Partridge Cochins, Light Brahmas, Brown S. C. Leghorns and Golden Wyandottes.

CLOVER CLIFF FARM. Registered Galloway Cattle. Also German Coach, Saddle and Trotting-bred horses.

BLACKSHERE BROS., Elmdale, Chase Co., Kas. SILVER CREEK HERD

Agricultural Matters.

THE OAT CROP.

C. C. GEORGESON.

The climate of Kansas is not especially adapted to the growing of oats. There is apt to be a shortage in the rainfall at the time this crop needs it most, and the weather usually gets too warm for the best development of the crop during the month of June. But the oats crop is nevertheless an important one, and cannot well be spared from our all too limited list of farm crops. It has a feeding value, especially for horses, much beyond that indicated by the usual prices per bushel, and it is needed in a system of rotation to give the soil a change from the persistent cropping with corn. It is, therefore, worth while to study this crop with a view to ascertain by what methods of treatment the naturally unfavorable conditions may be ameliorated, and the yield increased.

Experiments carried out at the Kansas Experiment Station for several years on the same lines, although by no means conclusive, indicate in what direction improvements can be made.

First, early seeding is an important point. Excepting in very backward springs, the seed oats ought to be put into the ground in March. Occasionally a very early seeding meets with reverses in the shape of a killing frost after the crop is up, and renders re-seeding necessary. This, however, does not happen often enough to make it wise to delay seeding after the middle of March, if the other conditions are favorable to beginning work then.

Second, the average results of several years' experiments indicate that there is an increase in yield by using good, heavy seed oats, such as may be obtained by running them through a fanning mill, and using only the heaviest and best seed.

Third, in regard to the preparations of the soil, quite contrary to the expectations, the average results of several years' experiments are in favor of spring plowing as compared with fall plowing, or not plowing at all. In the rotation adopted on the college farm, oats follow corn; and when the corn ground has been kept clean and in good tith, it would appear that the land might be prepared with a disk, or simply smoothing it with a harrow in the spring before the oats are put in, but the results have been nearly uniformly in favor of spring plowing.

Fourth, several methods of seeding have been under experiment for some years, as broadcasting, seeding with hoe drill, and seeding with a shoe drill with and without press wheels. Of these, the average results are in favor of the shoe drill with press wheels. Then follows shoe drill without press wheels, the hoe drill, and broadcasting, in the order named.

Fifth, the hot-water method of destroying smut in the seed oats has given uniform satisfaction. This method consists simply in dipping the seed oats for a few minutes in water that has been raised to a temperature of about 133 degrees F., and again cooling the seed and drying it sufficiently to run it through the drill. The smut spores adhere to the seed and start their growth in the sprouting germ of the oat. These spores are killed by this simple treatment. The method has been described in Bulletins 29 and 42 of this station, which can be had on application.

Sixth, several years of experimentation with different quantities of seed per acre indicate that we should sow not less than 2½ bushels per acre. Seedings up to 4 bushels per acre have sometimes given the largest yields, but the increase in yield does not always compensate for the extra seed used.

These results indicate that the yield of oats in Kansas may be considerably increased by the methods here mentioned. Variations in soil and location would, of course, have an important bearing on some of these methods, but on the whole, I believe, they can be adopted to advantage.

Curing Meat On the Farm.

Editor Kansas Farmer:—Replying to your correspondent's inquiry about the best way to keep pork, the kind of smokehouse, etc., will say: I kill my hogs early in the morning and let them hang till after dinner, then cut them up. As fast as I cut the hams and shoulders up I salt them well, and lay them out on boards to cool. I leave them there about forty-eight hours, then commence packing in a large tank or barrels. Put hams in first, skin side down, pack in tight. The shoulders go in next and the side meat on top. Weight down with large rocks, and then you are ready for the brine. Use about 80 pounds of salt, 4 ounces of saltpeter and 6 pounds of brown sugar to 1,000 pounds of meat. Take what water you think you will need to cover the meat, put in the salt and saltpeter, and bring to a boiling heat; skim, and then let it cool before putting over the meat. Let the meat remain in the brine about three weeks, then hang it in the smokehouse. Let it hang two or three days before building smoke under it. Use hickory wood for smoking. Smoke till the rind has a light chestnut color. My smokehouse is 8 by 10 feet on the ground by 8 feet high, boarded up and down, double thickness, with heavy building paper between, and battened over the cracks. I have a furnace 8 feet away from the building. It is 2 feet wide, 4 feet long, 2 feet high arched over. It is built of brick, with 4-inch earth tiling running from the furnace to the smokehouse and coming up through the floor about the middle of the building, using an elbow of the same material. I have my building paved with brick laid on sand, so it is safe from mice and rats. After I get through smoking, I lay a heavy stone over the pipe to keep mice from coming up. I use old gas or water pipes to hang the meat on, as they never get worm-eaten or rotten and let the meat down. The house is very dark. I never take my meat down till ready to use it. I always let it hang during the summer till used. It will keep good most any length of time you wish to leave it there.

Now, as to dry salt. To each green ham of 18 to 20 pounds, 1 dessertspoonful of saltpeter, one-fourth pound of brown sugar, applied well to the fleshy side of the ham, and about the hock; cover the fleshy side with fine salt, half an inch thick, and pack away in tubs—to remain four to five weeks, according to size. Before smoking, rub off any salt that remains on the meat and then cover with ground pepper, about the bone and hock. Hang up and drain twenty-four to thirty-six hours before smoking. Smoke the same as we did the brine meat. I never cover my meat. Now you have meat fit for a king. H. W. McAFEE.
Topeka, Kans.

Health for 10 cents. Cascarets make the bowels and kidneys act naturally, destroy microbes, cure headache, biliousness and constipation. All druggists.

Outting Corn.

Editor Kansas Farmer:—In the issue of the Kansas Farmer for February 16, Mr. Norton puts the cost of cutting corn and Kaffir corn by machine far above the cost of cutting same by hand. If I understand them correctly, these are his figures:

Cost of binder, per acre.....	\$.50
Cost of twine, per acre.....	.50
Shocking, per acre.....	.25
Board of two men and eight horses, per acre.....	.25

Total\$1.50

It seems to me that is a very large estimate and does not give the binder a fair show. Here is the average cost in this section of the country, based on the cutting of 150 5acres of corn and Kaffir, in all conditions:

Cost of binder, per acre.....	\$.50
Cost of twine, per acre.....	.18
Cost of shocking, per acre.....	.15
Board of one man and three horses.....	.10

Total\$.93
Or to give a little more leeway..... 1.00

This, too, was at a time when the conditions were most unfavorable to the binder, the price of twine far above the average, a surplus of farm hands, and some of the crops badly down by the October snow storm.

Hand-cut or sled-cut corn costs 6 cents per shock untied, which makes the cost of cutting per acre just about \$1, without counting the cost of board for the men and horse, and then your corn is loose and hard to handle if it is windy or very dry.

Now, I know that I can cut and pick up down corn where a sled cannot work at all, and can cut also with less waste of ears than a sled. There is no danger of the corn molding in the bundle or shock and it can be shocked as soon as cut just the same as it can when cut by hand. If a man has hands hired by the month or has a family of boys who can cut corn, then I think the corn could be cut by hand cheaper, but if he must hire his corn cut the binder is the cheapest.

Because the machine knocks off the ears once in a while is no reason for condemning it. Would Mr. Norton go back to the old way of cutting small grain by cradle or sickle simply because the binder shatters out some of the grain?

Berryton, Kans. W. H. WATERS.

The Edison of Horticulture.

A prominent fruit grower said recently: "I would rather do what Luther Burbank has done than be President of the United States." Luther Burbank was raised on a farm in Massachusetts. He inherited his talent for experimenting with plant life from his mother, who was of the famous Burpee family. In the spring of 1874 this Yankee youth planted a potato seed—about half as large as a pinhead—late in the summer he dug three and one-fourth bushels of beautiful white potatoes. This was the origin of the Burbank potato and the beginning of a career that has revolutionized the horticulture of the world. This new potato being such an improvement on anything that had been produced, its superior qualities soon became known wherever potatoes are grown. Finding the climate of New England too cold, Burbank moved to Santa Rosa, Cal., in the fall of 1875, where he has grounds covering 10 acres devoted to experiments, besides about 30 acres in the country devoted to farm experiments. Here he makes a new lot of crosses at blooming time, plants a new lot of seeds and fruits, a new lot of seedlings every year. He had nearly 3,000 seedling plums fruit last year. Of these but very few proved of sufficient value to warrant further tests. He requires several years' trial before allowing anything to be sent out or even named. He has crossed the Persian walnut upon the common black walnut. Among the berries, he has succeeded in crossing the raspberry and blackberry, and even the strawberry and raspberry. We are all familiar with the famous plum that bears his name. Then there are Wickson and a host of others that have delighted the millions, and one of the most beautiful and delicious fruits ever seen is his "Gold plum," for which he received \$3,000.

Among the new varieties of plums which are destined to thrill the public and delight the fruit growers, may be mentioned the Royal, one of the earliest "Japs;" Bartlett, having the almost exact flavor of the Bartlett pear. Burbank says: "This is so far superior to the Bartlett that no one will eat the pear when they can get the plum"—it bears the second year; the Garnet is a cross between the Wickson and the Satsuma, it is nearly 2 inches in diameter, of dark wine color, flesh garnet color, splendid for cooking.

The "Climax," of which Burbank speaks as follows: "The most wonderful plum ever grown and one that will

Two Wagons at One Price.

It is a matter of great convenience and a saving of labor for a farmer to have a low, handy wagon. They save more than half the labor of loading in hauling manure, hay, grain

corn fodder, wood, stones, etc. The man who already has a wagon may have one of these low handy wagons at the small additional cost for a set of wheels. These Electric Steel Wheels, with either direct or stagger spokes, with broad-faced tire, are made to fit any axle. You can convert your old wagon to a low, handy wagon in a few moments' time. You thus virtually have two wagons at one price. Write to the Electric Wheel Co., Box 46, Quincy, Ill., for their catalogue, which fully explains about these and their Electric Handy Wagons, Electric Feed Cookers, etc.



change the whole business of fruit shipping; productive as 'Burbank,' about four or five times as large, two weeks earlier, more richly colored, and so fragrant that a single fruit will perfume the whole house."

Among the prunes originated by him may be mentioned the "Splendor," a large, sweet prune, and the "Sugar," of which Burbank offers grafting wood at \$10 per foot.

Of quinces he has originated the Van Deman, a very large variety, which bears at two years from planting, and the Pineapple, which may be eaten raw like an apple, and will cook tender in five minutes. He has been cross-breeding and working to produce a soft, mellow quince for the past fifteen years; he says he has it in the "Pineapple."

Hybrid walnuts produced by him are the "Royal" and the "Paradox."

He will offer to the public in 1900 a winter apple of which the editor of the Rural New Yorker says: "It more nearly approaches all that I ever hope to get in an apple than any I have ever eaten."

A large, juicy plum with a peach flavor, and the earliest plum yet produced. These fruits have not yet been named.

The work of plant breeding is the most fascinating—the most promising of results that man can engage in. Burbank has no time to waste, he does not admit curiosity-seekers to his grounds, and he asks those who write for more information than a postal card can hold to enclose \$5.

His reputation is founded upon the eternal granite and it will grow brighter as the years sweep on.

He has done more to add to the sum of human happiness than all the Sampsons and the Deweys of the century. While they have shed blood, he has shed light; while they have butchered their fellow men, he has fed them.—Walter S. Boone, in Farm, Furnace and Factory.

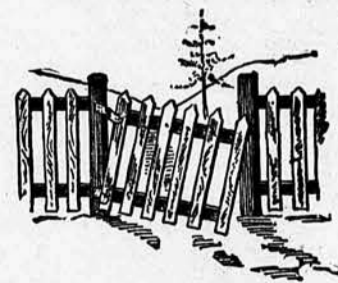
An Old Fence Rail.

Is all right in its place, but it is terribly out of place when it is used for propping up a barn door. Yet this is by no means an unusual sight as one goes traveling



about the country. It looks badly, of course, and is one of those things generally classified with slipshod methods. The real cause may not, however, have been due to any neglect or mismanagement but to a mistaken purchase.

If the hinges had been Stanley Corrugated Steel Hinges, there could have been no trouble. They are just about 50 per cent stronger than the ordinary hinge and are so made that they cannot bind on the pin, even if they should be-



come rusted. They are made in a number of sizes, in both the strap and T pattern. Adapted to all uses. Remember there can be no sagging doors or dragging gates where Stanley's are used. Every owner of buildings should write the manufacturers, The Stanley Works, for a copy of their booklet, "Biography of a Yankee Hinge." Address them at New Britain, Conn., and say that we asked you to write.

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

APRIL 27—G. W. Glick & Son, Powell Bros., and John McCoy, combination sale of Shorthorns, stock yards sale pavilion, Kansas City.

MARKET FOR AMERICAN HORSES IN FOREIGN COUNTRIES.

A Special Report on the Market for American Horses in Foreign Countries has just been printed by order of Congress. It was prepared in the Department of Agriculture, and in submitting it to the President for transmission to Congress, the Secretary states that the report is principally a compilation of reports of diplomatic and consular officers of the United States, whose individual impressions are given without comment. A summary of the information collected precedes the correspondents' letters in which the Secretary states that at the time of assuming office he was much impressed with the necessity of an output abroad for our surplus horse production. On account of the extraordinarily low prices for horses in this country which had prevailed for some time, horse breeders and horse raisers throughout the country were much depressed; that this apparent cause for discouragement was possibly a blessing in disguise, for the first impetus to the foreign demand was probably due to these extremely low prices; and that he was convinced that the most useful service that the Department could render the horse raisers was to gather from all available sources whatever information could be procured as to the character and extent of the demand existing abroad for horses of all kinds. Therefore he endeavored to interest our representatives abroad and American citizens going abroad in the gathering of information as to the extent of the demand in horse-importing countries, and as to the various kinds of horses wanted in those countries, and the distinguishing characteristics to which foreign buyers attach importance. As a result, a large number of communications were received at the Department, which form the basis of the present report.

The report shows that the export trade in American horses has rapidly increased within the past five years.

With the exception of Russia and Hungary, the European nations do not produce as many horses as they need, and of late years have drawn upon America, particularly the United States and Canada, to supply the deficiency.

Europe wants good horses of all breeds, but with some conditions which are not the same as those in America. Therefore, a good horse which would be well suited to the purposes of the buyer in America might be unsuited to the work of the European purchaser. There is a large demand in London for American tram, cab, and bus horses. There is also a demand for high-class carriage horses with good knee action—showy horses and well bred. These bring high prices.

The report describes the various kinds of horses needed to supply the foreign markets, and urges the breeders of the United States to make a systematic attempt to produce such horses as those markets demand. It shows also that besides the usual demand for horses for private and business purposes, there is in Europe a continual annual requirement for horses to remount the cavalry. While it does not seem that European nations are looking to this or any other country to supply them with army horses in time of peace, nevertheless there is no law or regulations which interfere with the sale of American horses for military use in any European country, and in time of war most of these countries would be compelled to seek horses where those of a desirable character were to be found.

The methods of purchasing horses for the army in France and Germany, together with the weight, height and age of the horses required are described, and tables are given showing the number and value of horses exported from the United States to the several foreign countries during each fiscal year from 1893 to 1897, inclusive.

The total number of horses exported in 1893 was 2,967, valued at \$718,607, and in 1897, 39,532, valued at \$4,769,269. Of the horses exported in 1893, 564 went to the United Kingdom, 1,600 to Canada, 33 to Germany, 457 to Mexico and 2 to France; in 1897, 19,350 to the United Kingdom, 3,902 to Canada, 4,897 to Germany, 4,213 to Belgium, 1,884 to Mexico, and 32 to France.

The report was printed by direction of Congress for free distribution, and an allotment placed at the disposal of the Department of Agriculture. Until the supply is exhausted copies may be had by

applying to the Secretary of Agriculture. The report may also be obtained from members of Congress.

Blackleg--Its Prevention.

From the Veterinary Department Kansas Experiment Station.

Blackleg exists in nearly every county in this State, and prevails in certain districts to an alarming extent. Previous to 1896 it does not appear that many cattle were lost from this disease; at least the average stockman did not regard an occasional death as significant of any infectious disease; consequently this subject received very little attention. During the past few years, however, due principally to literature upon this and many other infectious diseases affecting the domesticated animals, the stockman has become better informed, and has learned to associate certain known causes with losses sustained, and in this way is enabled to report with comparative accuracy upon the existence and prevalence of some of the most common diseases.

Within the last few months carefully prepared statistics have been obtained from some of the best informed cattle owners in every county in Kansas, which show that this disease not only exists, but prevails to an alarming extent in more than two-thirds of the counties. That the disease germ of blackleg has rapidly multiplied and spread over the greater portion of this State is shown by the testimony received, which gives the figures upon which the calculation is based. As our report is not yet complete, no attempt will be made to quote the exact percentage of cattle lost during the last three years; but so far as replies have reached us, the evidence is conclusive that this disease has caused at least 5 per cent loss, or equivalent to 80 per cent of all that have died between the ages of 4 and 12 months. These reports further show that more have died from blackleg during the past year than during any previous year. Now, when we consider that many thousand calves have been vaccinated against this disease, and most of them belonging to herds that have suffered from the ravages of this trouble, it is rational to assume that a greater percentage would have died had not preventive precautions been used. The evidence obtained from other States where blackleg is prevalent confirms the statistics gathered from various parts of this State. Not only in Kansas, but elsewhere, we find that there has been seemingly an increase in the death rate, equal in proportion to that sustained by the ranchmen of Kansas.

The applications for vaccine represent more than fifty counties and over twenty-five thousand head of young cattle. As the disease germ can only spread from one pasture to another by certain means of transportation, we find it located here and there, and often in restricted areas. The period of invasion, however, often extends through many days, and cattle that have had access to infected pastures may not show any signs of disease for several weeks, during which time they may change hands and carry the disease germs to other places heretofore uninfected. The disposition on the part of some people is to sell just as soon as they discover that something is wrong with a lot of cattle, so in this way several farms may become infected by one single bunch of calves. View this question from every standpoint, and we cannot fail to observe that every opportunity is offered for rapid distribution of this disease germ, and as this germ is very hardy, being able to resist the heat of summer and the severe freezes of winter, the conclusion is that blackleg has been gradually increasing. Our remedy lies in preventive measures, which will be considered hereafter.

Quarantine Rules for Kansas.

The Kansas live stock sanitary commission has promulgated the rules for the admission of cattle into Kansas from south of the 37th parallel of north latitude. Rules 7, 8 and 9 are the most important, and they are given below in full:

Rule 7. All cattle coming from that portion of Texas and Oklahoma lying north and west of the quarantine line are hereby prohibited from entering Kansas without the owner or person in charge first complying with the following regulations: Cattle to enter Kansas from the area hereinbefore described in this paragraph must show by affidavit of owner or person in charge, made before a county clerk or a notary public, that the cattle to enter Kansas are free from cattle ticks (*boophilus bovis*); have been exclusively kept since January 1 north and west of quarantine line designated in the governor's proclamation of February 25, and that the cattle have not come in contact with Southern cattle or a trail made by them since January 1. Also, give number, kinds and brands or marks of cattle.

But before any cattle from the above described territory shall be admitted into the State of Kansas they shall be subject to an actual inspection by an authorized agent or inspector appointed by the live stock sanitary commission of Kansas, and if upon inspection they are found free from Texas fever cattle ticks (*boophilus bovis*), as described in the affidavit herein required by the owner or of parties in charge of such cattle, the inspector shall issue a permit for all cattle so inspected. One copy of said permit must be attached to way bill accompanying such cattle, and the owners or parties in charge of said cattle shall also be furnished with a copy of said permit. No cattle shall be inspected until they are cut out and ready for shipment, and no permit shall issue for cattle inspected until in railway pens, ready for shipment; and each and every shipment shall be accompanied with a permit; and no railway company, or its agents, shall receive cattle for shipment until all the requirements of this rule have fully been complied with.

Rule 8. Where cattle are driven into Kansas from area described they shall comply with rule 7 as to affidavits, but no permit will be issued until said cattle have reached the Kansas State line.

Rule 9. All cattle coming from the Territories of Arizona and New Mexico must make affidavit as required in rule 7, and each and every shipment shall have such affidavit attached to way bill. And when cattle are billed to points in Kansas other than the Kansas City stock yards the railway agent at point of destination of such shipment shall take up said affidavit and return same to the office of the live stock sanitary commission, Topeka, Kans.

M. C. Campbell and F. H. Chamberlain, the new members of the sanitary commission, were in Kansas City yesterday in order to familiarize themselves with the situation here. The annual meeting of the commission at Topeka was deferred until to-day on account of the illness of Taylor Riddle, the other member.

Hereford Conditions.

Paper read by John Gosling, at the recent Hereford sale.

Col. Woods, from his wealth of statistical knowledge, researches, retroacting one hundred years, told us in this sale ring last fall that the average weight of cattle was then about 345 pounds avoirdupois. We jump forward fifty years, when a monster of any breed was the drawing card in point of merit. Then malformed brutes, masses of bone and fat, were appreciated, but, like the lump of clay in the hands of the sculptor, the first daub on canvas from the artist's brush, the woof and warp of the carpet weaver, about which in the early stages of either, might justly call the remark, "no meaning's there conveyed." Days roll on with the piece of clay, the picture, the carpet, and soon we see the astounding results. So for the last fifty years—a work through nature's demand on time cannot be accomplished as that of the artisan—a work that has cost countless dollars for experiments has been going on in this special line of industry. The careful breeder has rounded off the shapeless corners of the uncomely monster, by judicious mating, and all the known methods honestly acquired and applied, raising this original breed of beef cattle to the present high standard of merit, namely, perfection in quality, perfection in contour, perfection in character, always uniform in markings, ample weight for any breed proportionate with age, in fact, all the essentials of the best breed on earth. When it was a Hower with Herefords, Bates with Shorthorns, McCombie with Angus, years ago, results of their labors were cause of wonderment. Contrasted with the present time, the wonder is reversed, and is now why breeders will continue to patronize, feed and mature the veritable scrub, carrying and bearing such a "burden for the white man."

With competition gaining faster than such steers in a feed lot, it is positive stupidity. The improvement of the beef breeds is no longer a fad, but a mercantile proposition—something demanded for the protection of all cattle exported from the live stock markets of our country, and not exclusively Kansas City. In this age of progression let your actions be governed by the demand of the times. If raising registered cattle, buy the best. If raising grades, buy the best sire your bank account and judgment justifies. You cannot afford to use a grade in a small bunch. It is not nearly so excusable as if done by the ranch owner, and that on account of stupendous outlay. Even such an excuse has been flattened out within the last few months by stock brought from Texas ranches, sired by registered bulls, sold in this same pavilion. Two years ago I received a letter from a native of Iowa, then in London, England. He said: "I am amazed and

Faith in Hood's

The Great Cures by Hood's Sarsaparilla Are Indeed Marvelous.

"My husband suffered with stomach trouble so bad at times he could not work. He has taken Hood's Sarsaparilla and it is helping him wonderfully. He also had a scrofulous humor but Hood's Sarsaparilla cured this and he has had no trouble with it since. My little boy, too, has been taking Hood's Sarsaparilla and it has given him a good appetite. We have great faith in Hood's Sarsaparilla." MRS. J. H. EDWARDS, 50 Edinburg St., Rochester, New York. Be sure to get Hood's because

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier. Sold by all druggists. \$1; six for \$5.

Hood's Pills are the best after-dinner pills. aid digestion. 25c.

dazed at the remarkable specimens of beef steers, both in quality, weight and number, from the Argentine Republic." Since his return we have frequently discussed this grave subject which demands our careful attention. Beef raisers and beef feeders in this country have got to look out. Again, during the Missouri and Kansas Shorthorn Breeders' Convention here last month, M. Hanna, of Howard, Kans., said in his speech: "When in England and at Birkenhead, virtually Liverpool, last summer, I saw a cargo unloaded of grade Herefords and grade Shorthorn cattle from Argentine, that were full of quality, in fine condition, considering a thirty days' ocean voyage, and they would weigh, according to my judgment, an average of 1,500 pounds, and really better than anything I saw from the United States in the same ports."

Now, gentlemen, we must not fail to see what confronts us. This same Mr. Sotham at one time catered to the Argentine Republic by taking them Hereford cattle, and, for aught we know, some of these steers were offspring from ancestry he took out. By Mr. Hanna's statement, very creditable results have followed. And here this gentleman is in our midst to-day, with a bunch far more excellent than current goods of his earlier experience. So, to keep ahead of our opponents, patrons of the other beef breeds, to keep ahead of foreign competition from South America, with distance to markets in our favor, it is imperative that you must have the best, and this is one of the golden opportunities. Another presents itself tomorrow, and still another the following day.

Farm Wagon for Only \$19.95.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30-inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

The Bank of England notes are made from new white linen cuttings—never from anything that has been worn. So careful is the paper prepared that even the number of dips into the pulp made by each workman is registered on a dial by machinery.

"I have invited several army officers," said the hostess, "and I am anxious that the occasion shall be something unique and appropriate. I don't want anything commonplace, like a 5 o'clock tea, or a pink tea, or a violet tea." Well," suggested Miss Cayenne, after deliberation, "why not make it a beef tea?"—Washington Star.

Cured Splints, Spavins and Sore Throat.

Wadina, Iowa, October 22, 1897.

The Lawrence-Williams Co., Cleveland, Ohio.

I received one bottle of "Gombault's Caustic Balsam." With it I cured splints, spavins, and sore throats, and with good results. I have used it in many countries and have it in constant use, and will soon send another order. I recommend it very highly. THOMAS GIBBONS.

The Cowy Odor



which is so prominent in much of the dairy butter, and which is so offensive to many people, is the result of dirt; real fine dirt that can't be strained out.

The Little Giant Separator takes out all the dirt, produces a perfect flavor and greatly increases the product. It is the safest, easiest cleaned and requires less repairs than any small separator made. Send for catalogue No. 19.

BRANCHES: P. M. SHARPLES, Toledo, O. Omaha, Neb. West Chester, Pa. Dubuque, a St. Paul, Minn. San Francisco, Cal.

Those Big Hereford Sales.

If the reader interested in improved beef cattle will note some of the features concerning the results of the recent sale held at Kansas City it will doubtless convince him that it pays to select the best blood obtainable in the beginning, to study how best to commingle it, to give the herd more attention in its handling, and to exercise proper care of the calf from its birth to the end of its usefulness or its departure from the farm.

The question naturally arises, how can the general average, \$516.08, realized by Mr. Sotham's 46 head, be accounted for? There are no conditions at this time that tend to advance the price of good Herefords beyond those that were realized last year, unless it is that their merits are becoming better understood and more extensively known. Hence, to arrive at a solution a brief history of Sotham's methods and a glance at the herd is in order. It is one of the maxims of Sotham's that the foundation must of necessity be right to begin with, as he believes and works on the theory that there is something in "individual excellence by inheritance." In the selection of his bulls and cows a careful consideration is always exercised on the probable outcome of the result before the mating has been accomplished. Then, the subsequent care is not a secret one but as natural as the habits of the individual animal will permit. How well he succeeds one need not refer to the show ring record during the past ten years other than that of last fall at the Trans-Mississippi International Exposition held at Omaha, where the Weavergrace herd won. In the strongest Hereford aggregation ever marshalled in the history of the American Hereford, eight first and champion prizes with pure-bred cattle bred by exhibitor, which is a record not equaled by any other breeder of beef cattle.

Among other things accomplished by his premier herd bull, Corrector 48976, is the amount realized for 3 of his sons, viz, Sir Bredwell 63855, \$5,000; Sir Comewell 68776, \$1,600, and Excellent (Vol. 18), \$1,575. These prices exceed any ever realized at public sale for the get of one sire in this country, aggregating \$8,175 for 3 individual animals.

In noting some pointers concerning Mr. F. A. Nave's Hereford experience and success, it may be encouraging to the young breeders or those that contemplate embarking in the business of breeding white-faces, to state that Mr. Nave started into the business of breeding high-class Herefords less than three years ago. In making his selections he adhered to uniformity of character as near as possible. Late in 1896 the opportunity presented to secure his premier herd bull, Dale, for \$1,100. Many of his cows and heifers cost him \$800 to \$1,000. If the animal, both in breeding and individuality, conformed to his idea, a few dollars did not stand in the way of its becoming a member of his herd. His success last year, as a new breeder, was a phenomenal one at the New York, Indiana, Illinois State fairs and at the Trans-Mississippi Exposition at Omaha. In details, he pursues a course similar to Mr. Sotham, especially in one thing, and that is, "the best is none too good." While there were no phenomenal prices realized last week, the 3-year-old bull, Gold Dollar 73652, brought \$870, and the 49 head, most under 2 years old, made an average of \$383.87.

It was on October 19, 1896, at the public sale held at Independence, Mo., when Grant Hornaday bought 15 head, mostly bred 2-year-old Gudgeon & Simpson heifers, as the foundation of his registered herd. They cost him an average of \$135. The following spring he secured the bull, Sir Comewell 68776, at Mr. Sotham's annual public sale for \$840. This was the highest price paid for a yearling bull of any breed in 1897. Thus the reader will see that Mr. Hornaday started about right; at least one concludes so when it is taken into consideration that the bull, Sir Comewell 68776, brought an even \$1,600, and the 38 lots that went through the sale last week made an average of \$351.84. The calves by Sir Comewell 68776 that were sold singly and at foot with dam were a very strong illustration of what can be done by having both sire and dam right in the beginning—not a second class lot among all the youngsters.

More of these animals were bought by Kansans than by breeders from any other State except Missouri. Following are the Kansas purchasers:

Table listing various Hereford animals and their prices, including names like W. S. Powell, Moline, 1 bull, \$200, and others.

Total24 head, \$7,815

Dr. Bull's Cough Syrup always cures coughs and colds. It is poor economy to neglect a cold when a bottle of this reliable remedy will relieve and cure it at once. Price only 25c.

Gossip About Stook.

C. M. Irwin, proprietor of the Elm Beach Farm Herd of Poland-China swine, at Wichita, Kans., is sending out to his customers the daintiest and most aesthetic calendar ever issued by any breeder, so far as we have seen at this office. Mr. Irwin breeds a good class of swine and deserves a generous patronage.

Manwaring Brothers, of Lawrence, Kans., rejoice in the fact that their prize-winning sow, 2d Seven Oaks Pearl, farrowed a fine litter on February 16. The pigs are doing well and promise to take many premiums at autumn fairs. This firm belongs in the front rank of successful swine breeders in Kansas, and extends an invitation to all fine stock fanciers to either call and examine the herd or write for list and prices.

There will be an important combination Shorthorn sale at Kansas City on April 27, consisting of 68 head of representative and desirable animals from the herd of G. W. Glick & Son, Atchison, Kans., John McCoy, Sabetha, Kans., and Powell Bros., of Lee Summit, Mo. On account of the high-class stock offered the breeders of Missouri, Kansas and Nebraska, in their own interest, should see to it that this is not made a sacrifice sale. Send for catalogue to either of the parties to the sale.

Geo. Groenmiller & Son, of Centropolis, Kans., sold a fine 10-months-old Red Polled bull to D. B. Close, of Russell, Kans., and last week he was shipped to his new owner via U. P. R. Groenmiller & Son report orders coming to them as rapidly as they can supply the animals needed. They have a very few seven-eighths Red Polled bulls yet for sale, which would be fine stock for any farmer who is not breeding for registry. The principal difference between a seven-eighths and a thoroughbred is usually in the price and the right of registry.

Sunny Side Herd, owned by M. L. Somers, M. D., of Altoona, Kans., was founded in 1894 by the purchase of select individuals from several of the pioneer herds of Kansas, and later was added to from the breeding of S. E. Shellenberger & Co., of Camden, Ohio. Doctor Somers writes that his aim has always been to breed the low-down, broad-backed, early-maturing hog, with large bone but not coarse or lanky. He owns 250 acres of fine land on the Verdigris River, and now has about 80 acres of alfalfa, which he considers the ideal hog pasture. He writes of his herd as follows: "We feed, as well as breed, so we never have culis or inferior animals for sale as breeding stock, but put such in the feed lot and never send out inferior stock, as we value a reputation for the best and only the best."

The sale of Sunny Slope Herefords, to be held at Kansas City, on Tuesday, April 18, includes 50 Hereford heifers bred to Wild Tom 5192, Imp. Keopon, Archibald V 54433, Kodax of Rockland 40741, Java 64045, and Imp. Sentinel. The offering also includes 50 choice picked bulls old enough for service. This offering is the first from the Greater Sunny Slope Herd, which was consolidated with that of the Sunrise Herd, owned by C. A. Stannard, of Hope, Kans., who purchased Sunny Slope farm and herd last December, and combined it with his herd, which he brought over to Emporia from Hope, Kans. This famous offering ought surely to attract the interested attention of the Hereford fraternity generally. Breeders everywhere who desire to add other choice and desirable strains of blood will certainly take advantage of this sale to still better fortify and improve their stock. The outstanding success of the three days' Hereford sales at Kansas City, held the first of the month, were of far-reaching importance to the breed and demonstrating the fact that richly bred and representative animals are in demand at fair prices. The catalogue of this sale reveals the fact that this offering is thoroughly up-to-date. Catalogues are now ready for distribution and may be had by addressing Sunny Slope, Emporia, Kans.

Publishers' Paragraphs.

THE POULTRY MITE.—Poultry raisers generally realize the annoyance encountered in poultry raising with the mite. In this week's Farmer will be noticed a small advertisement by Albert Smith, of Cadams, Neb., a poultry breeder who has, after several years hard study and experiment, discovered a plan for the extinction of this pest. Interested readers may find it to their advantage to secure his copyrighted plan.

The Eureka Fence Company, of Richmond, Ind., are advertising their patent fence machine, for which they claim great superiority over every other machine of like nature. Notice their advertisement in another column of this issue, and if you do not know of any one of the machines in operation anywhere in your neighborhood, write to the Eureka Fence Co., requesting them and they will send you a machine on trial, so that you can see how it works. A letter to them will bring full particulars with reference to the same.

Oliver Foster, of Las Animas, Colo., proprietor of the Arkansas Valley Apiaries, has given many years of his life to the study of bees and their product. Kansas Farmer has been acquainted with him for many years, always finding him to be reliable in business transactions. The honey produced at his Arkansas Valley ranch in Colorado has its foundation in the sweet alfalfa blossoms, which are considered the very finest honey-yielding food which bees can get. It is pure and clear, and on Kansas Farmer tables proves to be what Mr. Foster claims for it, viz, the finest honey produced.

Bob Ingersoll says railway companies are devoting much attention to facilities for feeding their patrons. Formerly when Nancy "went out a ridin'" on the kivered kyars" she carried in her pocket a piece of fried chicken and lots of that good old "light" bread like mother used to make. The question of time is so important that some railway lines provide cafe cars and dining cars which are "hitched onto" the train at convenient points and in which passengers are served with meals while the train is running. For obvious reasons this kind of service is not satisfactory to a large majority of the traveling public. Other railway lines have dining stations at convenient points suited to the time schedule of the trains; trains stop at these stations for a period of twenty or twenty-five minutes. This plan of feeding passengers is in use on the Missouri, Kansas & Texas Rail-

way System. In the past few years the "Katy" has assumed control of the dining stations on its line—placed them in charge of Mr. F. B. Miller, one of the best-known managers in the country. No expense has been spared to make them the foremost of their kind. Most delicious meals are served at the modest cost of 50 cents. Lunches are also served "a la carte" at the lunch counters which are operated in connection. On a recent trip through Texas, Bob Ingersoll was so pleased with the "Katy" dining stations, he announced in the dining hall at Smithville that in all his travels he had never been served such a delightful meal outside of his own domicile.

A group of railroad men at the Laclede Hotel were discussing the vast improvements that have been made in train service in recent years. Joe Herrington, the oldest conductor, in point of service, on the M., K. & T., said that while running a train between Sedalia and Parsons, some twenty years ago, a passenger inquired as to why the train had stopped being out on a prairie some miles from the settlement. Joe told him he allowed the engineer was running cows off the track. The train proceeded for some miles and again stopped. The passenger once more inquired the cause. Joe told him he guessed the engineer had caught up with those cows again.

In this day of trusts and combines, and when every man's hand seems to be against the farmer, there is some degree of satisfaction in knowing that there are yet a few people who stand out independently and prefer to take chances with the man who tills the soil. Among these may be named the Advance Fence Co., of Peoria, Ill., whose advertisement appears regularly in these columns. Their manufacture woven wire fence of the various standard heights, and sell it direct from the factory to the farmer. In fact, they positively refuse to conduct their business in any other way, and the individual consumer can buy Advance fence just as cheaply as the dealer. The fence is of excellent quality and the methods of dealing are fair and equitable. If you are seeking farm fence of good quality in any quantity you should open correspondence with these people. Write them for illustrated catalogue, which they mail free. Tell them that you saw the "ad." in our paper, please.

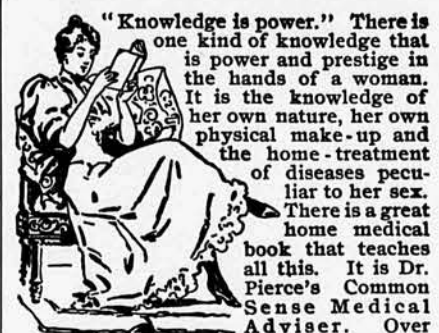
HOW SHALL I BUY A BUGGY?—We have no doubt that this question has presented itself with full force to many of our readers, the more particularly because of the many business propositions that come to them along this and other lines. The country people have so long been accustomed to buying from local dealers and agents that they have hardly stopped to consider that they might adopt some other plan. The majority of all the mowers, reapers, binders, etc., have been bought from the agent who came to the farm to solicit trade. Of course, our readers are aware that somebody had to pay the agent's salary and expenses, but they may not have stopped to reason out just who did it. In truth, you pay those bills yourself, and the machinery you buy is just that much higher in price as a consequence. If you have bought a buggy, spring-wagon, harness, etc., from a local dealer, you have paid the manufacturer's profit on the goods plus all added expenses, plus the profit of the dealer. These added expenses and profits have in many cases brought the price of the article much beyond what, in your judgment, you thought you should pay. We ask why pay it at all? and propound as a remedy the principle of buying direct from the manufacturer. The Edward W. Walker Carriage Company, of Goshen, Ind., manufacture a full line of buggies, carriages, spring-wagons, etc., and sell them direct to the consumer. This cuts all the intermediate profits above referred to and gives you a better article at a greatly reduced price. We know that this plan is working with entire success and see no reason why it may not be adopted by our readers. Write these people for illustrated catalogue, prices, etc.

BROWN'S Bronchial Troches (Made only by John I. Brown & Son, Boston.) give instant relief in Hoarseness

MR. IRA D. SANKEY always uses Style 431 Mason & Hamlin Organ.



THE SANKEY MODEL Having no top, presents no obstruction between the player and his audience, while its wonderful range, the great power and effects produced by its 14 stops, make it a most valuable instrument, and to-day it is sold by dealers (or delivered by us, freight prepaid) for \$180. Our ORGAN CATALOGUE gives full particulars about "THE SANKEY" and a score of other models, from \$27 up. Mason & Hamlin Co. BOSTON, NEW YORK, AND CHICAGO. Intending purchasers should send for our Piano Catalogue describing our New Scale Pianos.



"Knowledge is power." There is one kind of knowledge that is power and prestige in the hands of a woman. It is the knowledge of her own nature, her own physical make-up and the home-treatment of diseases peculiar to her sex. There is a great home medical book that teaches all this. It is Dr. Pierce's Common Sense Medical Adviser. Over 1,200,000 American homes contain copies of this work. It used to cost \$1.50; now it is free. For a paper covered copy send 21 one-cent stamps, to cover mailing only, to the World's Dispensary Medical Association, Buffalo, N. Y.; French cloth binding, 31 stamps.

This great book tells all about a medicine that is an unfailing cure for all weakness and disease of the delicate organs distinctly feminine. That medicine is Dr. Pierce's Favorite Prescription. During the past thirty years many thousands of women have used it with marvelous results. It imparts health, vigor, virility, strength and elasticity to the organs that bear the burdens of maternity. It fits for wifehood and motherhood. Taken during the period of gestation, it makes the coming of baby easy and almost painless. It completely banishes the pain and misery that are the result of a woman's neglecting her womanly health. An honest medicine dealer will give you what you ask for, and not try to persuade you to take some inferior substitute for the little added profit he may make thereon.

Mrs. Jas. Schaffner, of Freemansburg, Northampton Co., Pa., writes: "It is with pleasure that I write to let you know the great good I have received from your medicines and the local self-treatment at home. I was troubled with female weakness, had pains in my back all the time, sometimes so severe that I could not lie in bed at night. I tried different doctors but they could not help me. Then my husband got Dr. Pierce's Common Sense Medical Adviser, and induced me to try Dr. Pierce's medicines. After taking six bottles of the 'Favorite Prescription' I feel like a new woman."

Dr. Pierce's Pleasant Pellets cure constipation. Constipation is the cause of many diseases. Cure the cause and you cure the disease. One "Pellet" is a gentle laxative, and two a mild cathartic. Druggists sell them, and nothing is "just as good."

B. & B. America's a Winner

at anything she undertakes. Produces the best medium-priced Dress Goods there are. We made a special deal in these—60,000 yards American All Wool Dress Goods and Suitings—selling on the same price basis they were bought on. Forty-five-cent and 50-cent All Wool Suitings, 39 inches wide—neat mixtures—25c yard. Thirty-five-cent All Wool Mixed Suitings, 36 inches wide, 20c yard. Thirty-two-inch All Wool Mixed 25-cent Suitings, 12 1-2 and 15c. For Skirts, Girls' Suits and Children's Dresses, and for nice everyday wear, this offering of Wool Dress Goods for the money never had an equal—all who send for samples will find this out to their profit. We're prepared to do the Dress Goods—and Silk and Wash Goods—business right. New Novelty Dress Goods 50c, 75c, \$1—variety that's a wonder—that will be convincing. Line of new pretty Madras—fine for Shirt Waists—20c, that we think's a world-beater—get samples and see if you don't think so. Other new Madras 10c to 35c.

BOGGS & BUHL, DEPARTMENT G. G., ALLEGHENY, PA.

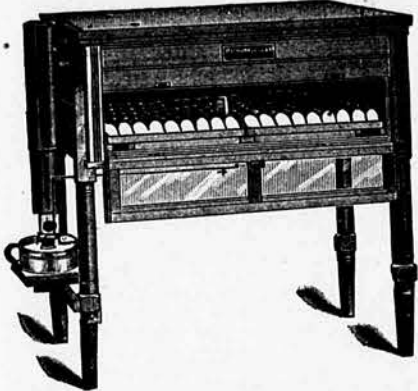
TRY THIS PUZZLE

Here is a Puzzle picture of a man who is looking around for his wife. He cannot see her yet she is there in full view, standing near him. Can you find the missing woman? If so, make a mark on the picture with pen or pencil, showing just where she is concealed, clip this out, return to us with only 10 cents to pay for sample of our charming magazines and we will as a special prize send you free the beautiful Simulation Diamond Ring illustrated here; it is size of a 1 Kt. Diamond, in pretty rolled gold plate ring and will delight you or send your money back. Send strip of paper showing size around finger. Send 10 cents to HERTZ & GRAY, Box 407, New York, N.Y.

We can save you money, if you want most any paper or magazine, in connection with Kansas Farmer. Write for special club list. When writing our advertisers please mention Kansas Farmer.

A California Product.

Poultry raising is an industry of such vast importance that it has attracted the attention of thousands of people, and thousands have engaged in its pursuit.



were sent out in a single shipment to Australia, being without doubt the largest number of machines ever sent out by any firm to a foreign port.

The lumber used in their construction is the celebrated California redwood, while the interior parts are of the best copper, galvanized steel, asbestos and other high-grade materials.

Men, take notice, our catalogue explains how to learn barber trade in eight weeks, mailed free.

The chamois is usually identified with Switzerland, but the animal is less common there than in any other country which it inhabits.

"Jones & Smith, the tailors, were arrested to-day." "What for?" "They had a sign in their window, 'Jones & Smith, Importing Tailors,' and Casey, the new policeman, arrested them for violating the alien contract labor law."

"I am glad to say," remarked Mr. Meekton, "that I never spoke a hasty word to you." "No, Leonidas," answered his wife, rather gently, "I am willing to give you credit for not hurrying about anything."

In Calcutta it is extremely difficult to interest the foreign population in a sermon at any time of the day. The Koh-i-Nur remarks on the curious spectacle of seeing 60 per cent of the congregation at the Calcutta Cathedral at even-song march out just before the sermon.

Thanks to the coolness of enlightened statesmen, the quarrel between France and Great Britain has already abated instead of becoming aggravated, and it is to be hoped that the two nations will arrive at an understanding to the greatest benefit of the civilized world.—Paris Rappel.

In the meantime there had come among them another, the purpose of whose thought was to eliminate the Esoteric from the Obvious. "In hard times," mused this person, "the people talk of nothing but the money question!" "Well, it is then they have no money to speak

of!" retorted the Unconscious Imbecile, thus revealing his identity.—Detroit Journal.

Time to Rest.

At the recent annual dinner of the Hartford (Conn.) Yale Alumni Association, President Dwight gave this explanation why he resigned: "I lay down my office not because I am old—70 is not old—but it is the end of the summer term and vacation time has come.

Whenever the Empress Eugenie of France has occasion to write anything about her lamented husband she always uses the diamond pen which signed the treaty of Paris. All those who participated in this historical occasion wanted the pen as a memento.

7000 BICYCLES. Overlook, must be closed out. '98 Models \$9 to \$16. Shopworn and secondhand wheels, as good as new \$3 to \$10. New '99 Models, \$11 to \$30. Great Factory Clearing Sale. We ship to anyone on approval, without a cent in advance. EARN A BICYCLE by helping us advertise our superb line of '99 models.

LIVE STOCK AUCTIONEERS.

GEORGE W. BARNES, Auctioneer, Valencia, Kas. Lowest terms. Extensive experience both as breeder and salesman. All correspondence given prompt attention.

J. N. HARSHBERGER,

LIVE STOCK AUCTIONEER, LAWRENCE, KAS. Years of experience. Sales made anywhere in the United States. Terms the lowest. Write before claiming date.

S. A. SAWYER, FINE STOCK AUCTIONEER—S. Manhattan, Riley Co., Kas. Have thirteen different sets of stud books and herd books of cattle and hogs. Complete catalogues. Retained by the City Stock Yards, Denver, Col., to make all their large combination sales of horses and cattle.

SOMETHING YOU WANT

to keep your stock and poultry in a GOOD, THRIFTY CONDITION. Give them ECONOMY CONDITION POWDERS! Best made for the money. Wards off Disease. Gives an appetite. Package by mail 30c. Five packages by express \$1. Order now. Say which kind. ECONOMY CO., Eldon, Mo.

THE POULTRYMEN'S WORST FOE.

OUR SURE-SHOT PLAN knocks them every time. No expensive liquid lice killer used. Cheap, simple, effective. Sent to any address for 50c.

We breed the large B. P. Rocks. Won five firsts and one second on six entries at Superior, Neb., February 9, 10 and 11, 1899. We have three fine pens mated for best results. Eggs, \$1.50 for 13; \$2.50 for 26. Satisfaction guaranteed. Send money order on Superior, Neb. ALBERT SMITH, Cadams, Nuckolls Co., Neb.

You want the BEST and SIMPLEST Fence Machine. WE HAVE THEM AND WILL PROVE IT BY A TRIAL. \$10 and \$15 DELIVERED. FARM and YARD GATES, Wire and Ratchets, and Fence Supplies at low cost. FREE CIRCULARS. Hureka Fence Co. Box J, RICHMOND, IND.

THE STRAY LIST.

FOR WEEK ENDING MARCH 9, 1899. Barber County—J. E. Holmes, Clerk.

HEIFER—Taken up by S. A. Ferguson, in Elm Mills tp. (P. O. Medicine Lodge), February 28, 1899, one nearly red heifer, bar on brisket; valued at \$25.

FOR WEEK ENDING MARCH 16, 1899. Riley County—C. M. Breese, Clerk.

STEER—Taken up by S. A. Blomquist, in Jackson tp. (P. O. Randolph), December 17, 1898, one yearling black steer, no marks or brands; valued at \$12.

Chase County—M. C. Newton, Clerk. CALF—Taken up by Oscar Duehn, in Cottonwood tp. (P. O. Clements), December 24, 1898, one red and white Hereford heifer calf; valued at \$12.

Gray County—C. A. Tabb, Clerk. MARE—Taken up by Jonathan Lees, sw. 1/4, sec. 22, tp. 24, range 29, January 4, 1899, one bay mare with white strip in face, right hind foot white; valued at \$40.

PEACE VERSUS PAIN

We have peace, and those who are sorely afflicted with NEURALGIA will have peace from pain and a perfect cure by using ST. JACOBS OIL.

Nation's Poland-Chinas.

Fifty boars and gilts for this season's trade. My herd boars consist of Darkness Quality 14361, Princeton Chief 14543, Col. Eldestrecher 37247 and Standard Wilkes. My sows are splendid individuals and of the right breeding. Personal inspection and correspondence invited. LAWRENCE NATION, Hutchinson, Kas.

BLACK LEG

PASTEUR VACCINE. SUCCESSFUL REMEDY.

Write for Proofs Covering Four Years' Use in U. S. A. on 650,000 Head.

PASTEUR VACCINE CO., 52 Fifth Ave., CHICAGO.

Nelson & Doyle

Room 220, Stock Yards Exchange Building, KANSAS CITY, MO.,

Have for sale at all times, singly or in car lots... Registered Herefords and Short-horns. Cross-bred Hereford Short-horns and grades of other breeds. Bulls and females of all ages.

Stock on Sale at Stock Yards Sale Barn, Also at Farm Adjoining City.

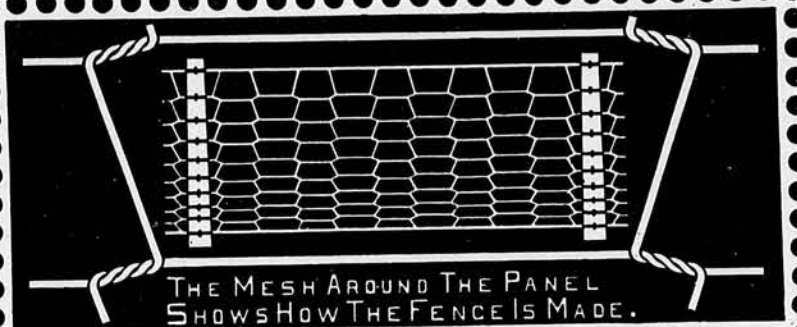
N. B.—We have secured the services of John Gosling, well and favorably known as a practical and expert judge of beef cattle, who will in the future assist us in this branch of our business.

THE KANSAS CITY STOCK YARDS

Are the Finest Equipped, Most Modern in Construction and afford the Best Facilities for the handling of Live Stock of any in the World. The Kansas City Market, owing to its Central Location, its Immense Railroad System and its Financial Resources, offers greater advantages than any other. It is the Largest Stocker and Feeder Market in the World, while buyers for the great packing houses and export trade make Kansas City a market second to no other for every class of live stock.

Table with 4 columns: Receipts for 1898, Sold in Kansas City 1898, Cattle and Calves, Hogs, Sheep. Values: 1,846,233, 1,757,163, 3,672,909, 3,596,828, 980,303, 815,580.

C. F. MORSE, E. E. RICHARDSON, H. P. CHILD, EUGENE RUST. Vice Pres. and Gen. Mgr. Recy. and Treas. Asst. Gen. Mgr. Traffic Manager.



Because it's Better.

That is the reason why farmers prefer the Keystone Fence—Better material, better adjustment, better workmanship. When you buy a roll of

KEYSTONE FENCE

you know that it is straight. The wires are all the same length. It is easy to put up either on rough or level land. It adjusts itself to uneven surfaces. It stays tight because it has perfect provision for expansion and contraction. No small wires used. No loose ends to unravel. Our prices are no higher than others but we DO sell a better fence. No other kind of fencing material can compete with woven wire fencing and there is no other woven wire fence as good as the KEYSTONE. On the market since 1889. Highly endorsed by those who have it in use. If your dealer does not keep it we will see that you are supplied. Write for large illustrated catalogue.

KEYSTONE WOVEN WIRE FENCE COMPANY, No. 220 RUSH ST., PEORIA, ILL.



GREAT PRIZE PICTURE PUZZLE!

Somebody has broken one of the grocer's bottles, he is accusing a woman but she is innocent, the real culprit is a hidden man who has a basket. He is in the picture. Can you see him? If so, put a pencil or pen mark around him, clip this out, return to us with 10 cents to pay for sample copies of our illustrated journal and we will send as a prize, the handsome triple stone rolled Gold plated finger ring, mounted with a Simulation Diamond and 2 Super Rubies or Emeralds. These are simulations of real stones and will delight you. The ring is a dazzling wonder and people are surprised at getting such a nice prize for a few cents, yet we do just as we say, and will send it promptly for only 10 cents all over. Send strip of paper showing size around finger. Address: SAWYER PUB. CO., 217 Sawyer Bldg., Waterville, Maine.

CANDY CATHARTIC Cascarets REGULATE THE LIVER

The Home Circle.

Written for Kansas Farmer.

MEMORY'S MYSTIC CASTLE.

As I wandered through the meadows
('Twas a glorious autumn day),
I espied a mystic castle
Clad in mosses seared and gray.
Timidly I knocked; then listened—
White-robed Fancy turned the key
And adown a golden stairway
Came the goddess, Memory.

Up the winding stair they led me,
Through a massive oaken door,
Fancy paused, then gently questioned:
Had I seen those gems before?
Brokenly, I tried to answer,
"Tis my pearls! I loved them so!"
There, within a golden casket,
Lay the "joys of long ago."

One by one I named them over;
Some were shattered, some were gone.
Memory softly kissed my forehead,
Soothed my aching heart with song.
"Ah, to all, dear child," she whispered,
"Life brings pleasure mixed with pain,
Still across the shining river
You shall wear your gems again."
MARIAN GILKERSON.
Valencia, Kans., March 1, 1899.

Written for Kansas Farmer.

A CONTEST WITH A MEADOW LARK

The year 1870, we came to Kansas to take up a homestead claim. After traveling fifteen hundred miles, the cars landed us at Waterville, which was then the terminus of the Central Branch of the Union Pacific Railroad, and where we were told the land for many miles around was all taken up for homesteads. So at Waterville the men left their wives and families, themselves going farther west in search of places for settlement. When they succeeded in finding a location they returned by way of Junction City, where the government land office was then located. Arriving at Waterville the men told us they had each taken up 160 acres of land. When asked how they did such a thing, they took from their vest pockets each a little piece of paper, which they told us they got at Junction City land office. It seemed wonderful the power invested in these little pieces of paper that each one of them was able to take up 160 acres of land. From Waterville we traveled west to our destination in wagons, over the broad prairies where nothing was seen from morning till night but grass. Although the land was all taken up for homesteads, the given time allowed by law had not expired when those having claims must come and settle down upon them and improve them. It is a mystery how each one knew his or her own claim—nothing to distinguish between many hundred claims, no trees, houses, wells, stakes, or any visible boundary lines except the corner stones, and they covered with prairie grass, not even a duplicate of the little piece of paper on them. At last we reach our claim, where we hear a joyous, cheering sound. It was the song of the Kansas meadow lark. It seemed to change the color of our thoughts, which were getting rather blue. It seemed to say: "Wake up, look up, the earth is the Lord's, the world and all that dwell therein." We knew it before, but after hearing much discontent of some on our journey, some such expressions as: "What made us think of coming to this God-forsaken country?" we wanted waking up to it again. The earth is the Lord's, but men, God's undermakers, must break up the acres, then, as the years pass, with hearts and hands willing for dragging and drilling, they'll substitute cereals for grass. "Stay with us, meadow lark! In this new life we need you as a monitor."

The first improvement made on our claim was a stake driven into the ground to secure the team from straying in search of tame grass. Our meadow lark takes possession at once. "Meadow lark, if that stake pleases you so much, what will you think of our hogpens, corncribs, and all other possibilities of the future, to say nothing of our shanty with the stovepipe reaching two feet through the roof?" That pipe reminds us that we need fuel, and where shall we find it? On Fancy Creek. Fancy going there to gather driftwood! Where can we find water? North of the parallel, in Fancy Creek? What a valuable creek! Can a parallel be found for such a creek as this? This Fancy Creek of ours is something more than fancy; it is a real, necessary creek. "Meadow lark, you there yet? You may well cast your eye up to that chimney. Of all the prairie fires you have seen, you never saw smoke come through a pipe before." This bird, half wild, half tame, surpasses all others for friendly greeting. He comes so near to us, we admire his plumage at the same time, we enjoy his song, unlike his cousin, the English skylark. That bird sings on the wing. He sings and wings, wings and sings, until he is up above out of sight; then, by his singing, we know

he is still winging upward in his flight. But there we will leave him and come back to our sociable meadow lark, now sitting on the wood pile. He is interested in everything we do; in fact, he seems to test everything we do. Can it be he means to contest this claim? If so, what are our chances in a contest with him? Suppose he takes the case to court and sets up a claim of prior possession. No good lawyer could dispute the plea. For was he not here when we came, a squatter on the stout prairie grass, and did he not let us know it? No need to test that point further. The testimony is in his favor. But the homestead law obliges each one to improve his own claim and we have surely done that. A settler may employ help if he needs it, and our meadow lark may claim he took us for tramps looking for work. He is good as set us to work as soon as we came. He never gave us time to feel vexed at our houseless home. He encouraged us in his happy, cheerful way, but that is the secret of good boss-ship, to draw us on to the work instead of trying to drive us to it. He was always inspecting everything we did, even to the hitching-post. When he found it was strong enough to tie a horse to, he gave his energetic call for us to come out and see he was satisfied with it, as he always did with everything. There is nothing we have done but what he has fixed his stamp upon it. Again we are out-witted. When we came to the frontier we expected to have contests with Indians and buffalo. We brought with us shotguns and muskets to defend ourselves with, but for birds we had no fear, so we took no precaution to protect ourselves against them. There is yet one more point of law to be decided before this case is settled. It is this: "Meadow lark, show us the little piece of paper you got from the land office to take up this claim with. Search your vest pocket. Is it not in the right side, nor left? Ah, meadow lark; you are left. Well, well, you are not alone. Older folks than you have been left by an oversight, or through want of foresight have at last lost their case by the turning up or not turning up of a little piece of paper. You, however, hold a quitclaim to this place and in some things you are an expert business little fellow. You are never behind presenting your bill when your note falls due in the spring; and for this you must give us credit, we are always prepared to meet it. What are you hinting at, meadow lark? You want us to understand you belong to the higher, or in other words you belong to the upper, circles of society. That you have hereditary claims. We do not dispute it. We admit you are a born aristocrat, but what of that; in these degenerate days we mean, the railroads cutting up our land claims and their telegraph wires cutting through your air claim? At present they only run in parallel lines east and west, but there is a talk of their coming north and south. Mind you, it is only talk at the present time, but should they come through, our claims would be cut up into sections and the telegraph wires are just on your plane of flight, and you, with your inquisitive propensity, will be testing these wires, never heeding the thousands of birds who have gone to their destruction by them. On these wires you would share the fate of an ordinary bird, more sudden than by the sportsman's guns, from which your song and size would spare you. Come down, meadow lark, come back to business. We need many more improvements on this place. Come and oversee the work, test everything we do, but contest nothing. Sit on the top branch of the highest tree growing on this place, fancy yourself monarch of all you survey, take the first peck of the first fruit, but don't, don't take yourself away. For all the songsters ever seen or heard we would not change our gem, our Kansas prairie bird, the meadow lark.

Palmer, Kans. GEORGIA BLY.

No fewer than 2,401 patents have been taken out on processes for making sugar and salt.

Phyllis—Are you sure you love me? Corydon—I ought to be. I think I have been in love often enough to recognize the symptoms.

When Joseph H. Choate, as a young man, was once arguing before a magistrate, the latter cut in with: "What you say is fit only for an ignoramus." Mr. Choate replied: "I am addressing your honor."

Cure Scrofula promptly and permanently by a thorough course of Hood's Sarsaparilla. All forms of this painful disease yield to the blood purifying power of this great medicine.

Hood's Pills are the best family cathartic and liver tonic. Gentle, reliable, sure,

Cirolets.

Dear Home Circle:—I often wonder what has become of the old friends of this "Home Circle." The letters you used to write were so interesting and helpful to many more than me and mine, and I am sure you could help cheer others now by writing from events of your every-day life and encourage many who, perhaps, have few papers and pleasures. Those are very interesting letters from our young Kansas friend away in the Fatherland. I think they must have been very homesick at times. What a long winter we have had, it seems unusually so, and I lost all my house-plants, although I thought them secure. Nearly everyone in our vicinity sustained a similar loss. We received some of the most beautiful pressed everlasting flowers and some seed from a friend in Australia. They were over two months on the way. Don't you elvy me? I hope to have good success with the seed this year, for last year all that I planted were washed away by the heavy rains. Are there any readers of the Circle troubled with sleeplessness? If so, try drinking, or rather sipping, a cup of boiling water just before retiring and fill the lungs as full as you can of pure air, holding it as long as possible, several times, and I think you will sleep well. Are there any readers of the "Home Circle" who have had any experience raising chickens with incubators and brooders? If so, won't you tell others all about it, the failures and successes, also the kinds used? There are many women who are making a success of poultry raising; are there none who read our good paper? I have been very much interested in poultry for twelve years, but have not had any experience with other than the natural way of raising.

JOHN'S WIFE.

Virgil, Greenwood Co., Kans.

Editor Kansas Farmer:—I have been wondering lately whether or not it would make more of the young folks interested in the Kansas Farmer if there could be a column of answers to queries, and something along the line of the late Ruth Ashmore's "Side Talks to Girls," in the Ladies' Home Journal. Not trashy and silly answers, but good, solid, sensible advice along moral, if not actually religious, lines. In more than one home I know the Kansas Farmer is the only pure and clean periodical taken. Not many of the newspapers are all through fit for young people's eyes, and in quite a number of cases no magazine, etc., ever enters.

ENGLISHWOMAN.

Paxico, Kans.

Editor Kansas Farmer:—I wish reliable information and trust you will give it me, and would it not be a good thing for the Kansas Farmer to have a legal column for its subscribers? There are too many unscrupulous lawyers. The question in view, however, is this in my case: Can I not have the money to invest as I think best and is not the interest of the same to be mine in accordance with the following will:

"I, —, of the village of —, county, and State of New York, being of sound mind and memory, do hereby publish and declare this to be my last will and testament in manner following, to-wit: I give and bequeath to my son —, of —, State of —, out of the sum of twenty-five hundred dollars loaned him four years ago, to be due in spring of 1897, the sum of fifteen hundred dollars (\$1,500). I hereby give and bequeath all the remainder of my estate, both real and personal, to the use of my daughter, —, of the town of —, in county of —, and State of Kansas, during her lifetime, and at her death the whole remainder goes to her children. I hereby appoint — my executor of my last will and testament. Dated at —, N. Y., this ninth day of March, 1897. A. B. C."

(Then the witnesses' signatures follow.)

Now, by the laws of this State, is there any question but that I am to have the interest to use as I see best without giving account of same to county? Please let me know. From one whom, I think, is misinformed. MARY S. Oberlin, Kans.

Kansas Farmer and very many of its readers would be pleased to have its friends write their experiences and ask questions, as indicated in the three letters herewith given. We all, in imagination, enjoy the pretty flowers from Australia, and thank "John's Wife" for the remedy which will produce "care charming sleep." "For so He giveth His beloved sleep," we are told in sacred scriptures and the gift is from celestial source.

Do not some of "Home Circle" readers desire to ask questions and receive answers from "Englishwoman?" Try it,

BUY GOODS IN CHICAGO



Have you tried the Catalogue system of buying EVERYTHING you use at Wholesale Prices? We can save you 15 to 40 per cent. on your purchases. We are now erecting and will own and occupy the highest building in America, employ 2,000 clerks filling country orders exclusively, and will refund purchase price if goods don't suit you.

Our General Catalogue—1,000 pages, 16,000 illustrations, 60,000 quotations—costs us 72 cents to print and mail. We will send it to you upon receipt of 15 cents, to show your good faith.

MONTGOMERY WARD & CO.
MICHIGAN AVE. AND MADISON ST.
CHICAGO.

and we will send your questions to her for answer.

It would scarcely be advisable to devote a column every week for legal information, but if any of "Home Circle" friends desire to ask any legal questions this department will be pleased to find some lawyer who will endeavor to furnish an answer. To the question asked concerning the will, there can be little doubt that Mary S. is entitled to use the interest due her each year without accounting to the court for it except to give the executor a receipt when money is paid, and Mary should compel the executor to account to her for all the property left her under the will. Mary could not sell any of the real estate but she could farm it, or rent it and the proceeds would be her own property wholly, and not to be accounted for to anyone except herself. All personal property can be used by Mary in same manner as similar articles would be used by anyone else owning them, and if any of it is left in existence when Mary dies her children would inherit it under the will. The real estate will pass, by the terms of the will, to Mary's children, after Mary shall have perfected her "title clear to mansions in the skies."

VISIT WASHINGTON.

Good Chance to See the Sights at the National Capital.

Every patriotic American at some time or other is anxious to visit Washington and enjoy the sights to be seen at the National Capital. Some persons may consider it a duty to make the trip and be able to say they have stood beneath the dome of the Nation's Capital and visited the various departments of a government which is to-day foremost in progress and enlightenment.

The public edifices at Washington command the admiration of the world. The Capitol, Executive Mansion, Department of State, Navy and War Departments, United States Treasury and Patent Office, and Department of Agriculture, team with instructive interest. The Botanical Garden, Smithsonian Institute and Museum, United States Navy Yard, Marine Barracks, United States Arsenal and numerous attractive squares afford ample scope for sight-seeing. Men prominent in the affairs of the nation are daily met on the beautiful streets of Washington, or in the various departments of the Federal Government. Nowhere in the world is there opportunity for seeing so many men of mark whose names are familiar to newspaper readers as at the National Capital.

The privilege of passing ten days at Washington is offered all travelers to Philadelphia and New York over the Pennsylvania Lines at the same fares at which tickets are sold over the direct line of the Pennsylvania System from Harrisburg through Lancaster to Philadelphia and New York. The detour via Washington forms a delightful diversion on a trip to the East, and as it does not cost any more, an excellent opportunity is afforded for taking in the sights at the National Capital. Ticket agents of the Pennsylvania Lines will furnish full information on the subject in response to inquiries, or they may be addressed to F. Van Dusen, Chief Assistant General Passenger Agent, Pittsburg, Pa., from whom a prompt reply will be received.

Free Samples of

WRIGHT'S CONDENSED SMOKE.

Send us 10 cents in stamps (to pay postage) and the names of ten or twenty of your neighbors that cure their own meats and we will send you a sample of WRIGHT'S CONDENSED SMOKE, the great meat preservative, the great time, money and labor saver. Address, E. H. Wright & Co., 915 Mulberry street, Kansas City, Mo. In writing, mention KANSAS FARMER.



The Young Folks.

PLANT TREES.

What do we plant when we plant the tree?
We plant the ship which will cross the sea;
We plant the masts to carry the sails,
We plant the plank to withstand the gales,
The keel the keelson, and beam and knee;
We plant the ship when we plant the tree.

What do we plant when we plant the tree?
We plant the houses for you and me;
We plant the rafters, the shingles, the floors,
We plant the studding, the laths, the doors,
The beams, the siding, all parts that be;
We plant the house when we plant the tree.

What do we plant when we plant the tree?
A thousand things that we daily see;
We plant the spire that out-towers the crag,
We plant the staff for our country's flag,
We plant the shade, from the hot sun free;
We plant all these when we plant the tree.

—Henry Abbey.

SOUTHERN ANIMAL TALES.

Emma M. Backus, of North Carolina, has contributed to the Journal of American Folk Lore several fables and legends told her by the old darbies of that section. Some of these are variations on world-old fables; others are new and original. From them these selections have been made:

Brer Deer and Brer Terrapin was a-courting of Mr. Coon's daughter. Brer Deer was a peart chap, and have the airs of the quality, no put-on bigoty ways; Brer Deer am right a sure enough gentleman, that he is. Well, old Brer Terrapin am a poor, slow, old man; all the creeters wonder how the gal can smile on hisself

on the ground. When he meet Brer Rabbit, he grumble 'cause he can't run like Brer Rabbit, an' when he meet Brer Buzzard he grumble 'cause he can't fly in the clouds like Brer Buzzard, and so grumble, grumble, constant.

So one day, when Brer Terrapin grumble to Miss Crow he can't fly in the clouds, Miss Crow she say, she did, "Brer Terrapin, you get on my back, and I give you a ride in the clouds." So Brer Terrapin, he mighty set up in he mind, and he get on Miss Crow's back, and they sail on fine, and they sails this yer way, and they sails that yer way. Brer Terrapin, he look down on all he friends, and he feel that proudful he don't take no noticement when they take off their hats to hisself.

But presently Miss Crow she get tired, and so she say, old Miss Crow said, "This yer just as high as I can go, Brer Terrapin, but here come Brer Buzzard; he can fly heap higher than what I can, Brer Buzzard can, and you just get on his back, and he sail you heap higher."

So Brer Terrapin, he get on Brer Buzzard back, and they sail up higher and higher, till Brer Terrapin can't make out he friends when they take off their hats to hisself, and he say that the bestest day of his life, Brer Terrapin do, and they sails over the woods, and they sails over the waters.

Then Brer Buzzard, he get broke down a-toting Brer Terrapin, and he 'low: "This here just as high as I can go, Brer Terrapin, but there come Miss Hawk; she can go a heap higher than what I can," and Miss Hawk she say she be delighted to take Brer Terrapin to ride—that just what Miss Hawk done tell Brer Terrapin.

So Brer Terrapin, he get on Miss Hawk's back, and they go higher and higher, and Brer Terrapin he 'joy it fine, and he say to hisself, "I'se getting up in he clouds now, sure 'nough."

But directly here come King Eagle, and he say, "Oh, Brer Terrapin, you don't all this yer sailing. Oho, Sis Hawk, if you gwine sail Brer Terrapin, why don't you take him up where he can get a sight?" But Miss Hawk, she 'bliged to ow that just as high as she can go.

Then King Eagle say, "Well, just get on my back, and get a sure 'nough ride." So Brer Terrapin, he get on King Eagle's back, and they go up and up, till old Brer Terrapin he get skeered, and he beg King Eagle to get down; but King Eagle, he just laugh and sail higher and higher, till old Brer Terrapin say to hisself he wish he never study 'bout flying in the clouds, and he say, Brer Terrapin did: Oh, please, King Eagle, take me down; that skeered, I'se 'bout to drop," and he tult hisself 'cause he was such a grumbling fool, and he say to hisself, if he ever et on he own foots once more, he never rumble 'cause he can't fly in the clouds, ut King Eagle, he just make like he wine up higher and higher, and poor old Brer Terrapin, he dat skeered, he an't hold on much more, and he 'bout use he hold.

Just den he think how he got a spool of thread in he pocket, what Miss Terrapin lone send him to fetch home from the fore that day, and he tie the end to King Eagle's leg, unbeknownst to him, Brer Terrapin did, and then he drop de spool, and he take hold of the thread, and hold it fast in he hands, and he slip down to the ground, and you never hear old Brer Terrapin grumble 'cause he can't run or fly, 'cause the old man he done fly that yer day to satisfy hisself, that he did, sure's yer born, he did fly that yer day.

When the animals was young, Brer Bar, he never sleep in the winter, no more'n the rest. The way it was in them days, old man Bar was flying roun' more same than the tother creeters, and he was the meanest one in the lot, and 'cause he the biggest he get in he mind that he king of the country, and the way he put on the animals was scand'lous, that it was.

Well, they was all crossways wid the old man a long time, but they bound to step up when he tell 'em, cause you kin see in these times old Brer Bar ain't a powerful man, but he's just onery side what he was in the old times. 'Pears like all the animals is getting mighty low down these yer times, 'cept old Sis Coon, and sure you born she get more heady ebery year.

Well, they talk it over 'twixt themselves many and many a day, how they gwine take down Mr. Bar. They know he mighty man to sleep in the dark, and one day Brer Rabbit 'low that they stop the old man up when he sleep in a dark tree; he take a mighty long nap, and they get a little comfort.

So they all watch out, and when the old man sleep that night in a hollow tree they all turn in and tote rocks and brush, and stop up the hole.

And sure 'nough, when morning come, Brer Bar don't know it, and he just sleep

on; when he woke up he see it all dark, and he say day ain't break yet, and he turn over and go sleep, and there the old man sleep just that way till the leaves turn out the trees, and I 'spect the old man been sleeping there to this day; but, the animals, they all hold the old man dead for sure, and they just feel a meddlesomeness to move them rocks; and when they let the light in, old Brer Bar he just crack he eye and stretch hisself, and come out, and when he see the spring done come he say, the old man did, that he done had a mighty comfortable winter, and from that time every year, when the cold come, old Brer Bar go to sleep.

Beecher's Wise Hints to Boys and Girls.

The advice once given to his son by Henry Ward Beecher is trenchant and valuable, and may be applied to young women as well as young men. Listen to the words of the great preacher and let them be engraved on the tablets of your memory:

"You must not go into debt. Avoid debt as you would the devil. Make it a fundamental rule: No debt—cash or nothing.

"Make few promises. Religiously observe the smallest promise. A man who means to keep his promises can not afford to make many.

"Be scrupulously careful in all statements. Aim at accuracy and perfect frankness, no guesswork—either nothing or absolute truth.

"When working for others, sink yourself out of sight; seek their interest. Make yourself necessary to those who employ you, by industry, fidelity, and scrupulous integrity. Selfishness is fatal.

"Hold yourself responsible for a higher standard than anybody expects of you. Keep your own standard high. Never excuse yourself to yourself. Never pity yourself. Be a hard master to yourself, be lenient to everybody else.

"Concentrate your force on your own business; do not turn off. Be constant, steadfast, persevering.

A Boy's Essay on Hornets.

A hornet is the smartest bug that flies anywhere. He comes when he pleases, and goes when he gets ready. One way a hornet shows his smartness is by attending to his own business, and making everybody who interferes with him wish they had done the same thing.

When a hornet stings a feller he knows it, and never stops talking about it as long as his friends will listen to him. One day a hornet stung my pa (my pa is a preacher) on the nose, and he did not do any pastoral visiting for a month without talking about the hornet.

Another way a hornet shows his smartness is by not procrastinating. If he has any business with you he will attend to it at once, and then leave you to think it over to yourself. He don't do like the mosquito, who comes fooling around for half an hour singing, "Cousin, cousin," and when he has bled you all he can, dash away yelling, "No kin." A hornet never bleeds you; but if he sticks you, you will go off on a swell.

I don't know anything more about hornets, only that Josh Billings says: "A hornet is an inflammable (Josh was a poor speller) buzzer, sudden in his impressions, and rather hasty in his conclusions, or end."

Some Funny Sayings.

Susie—Papa, what makes a man always give a woman a diamond engagement ring? Her Father—The woman.

Governess—Now, Linsley, you mustn't have any more pudding; it'll make you ill. Linsley—Never mind; it's worth it!

Yeast—Do you believe married people always quarrel? Crimsonbeak—No; sometimes they fight.—Yonkers Statesman.

"Hit do seem ter me," said Uncle Eben, "dat some folks gits to be sech accom-

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plished apologizers dat dey lays dahse'fs out makin' excuses when dey order be learnin' manners."

The Sunday school class of which little Eddie is a member wanted to elect him chairman of the class organization. He indignantly declined the proffered honor, explaining afterward that the janitor was hired to look after the chairs.

Bobby—"Is oxygen what oxen breathe all day?"


Papa—"Of course, and what everything else breathes."

Bobby—"And is nitrogen what every-one breathes at night?"—Boston Traveler.

"I wonder what made that Indian chief give up and run. It's something unusual with him." "I suppose," answered the man who never acknowledges that he doesn't know, "he has been so used to sneering at the 'palefaces' that he got rattled when they sent a detachment of colored troops after him."

"Please, sir," said one of the small twins, as they entered the grocery, "we want a cent's worth of beans." "What do you want them for?" asked the grocer. "'Cause our mamma's gone out, and she told us not to swallow any beans while she was gone, and we can't find any in the house," was the reply.

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come down to the water, and they see Brer Terrapin out there in the water, an' Brer Coon, he place Brer Deer, and tell him hold on till he get hisself there, 'cause he bound to see the end of the race. So he get on the horse and whip up, and directly Brer Deer and Brer Terrapin start out, and when Brer Deer come to the first milestone he stick his head out the water, and he say, "Oho, here I is!" and Brer Deer, he just set to faster, 'cause he know Brer Terrapin mighty short-winded, but when he git to the two-mile post, sure 'nough there Brer Terrapin stick he head out and say, "Oho, here I is!" and Brer Deer, he that astonished he nigh 'bout break down, but he set to and do he best, and when he come to the three-mile post, 'fore God if ain't Brer Terrapin's head come out the water, and he just holler out, "Oho, here I is!"

But Brer Deer he push on, and every mile that there bodacious old Brer Terrapin. Well, when Brer Deer come a-puffink and a-blowing up to the last-most post, and Brer Coon set there on the horse, and just 'fore Brer Deer come up, if there ain't sure 'nough old Brer Terrapin, just where he done been waiting all the time, and just 'fore Brer Deer fotch round the bend, he just stick up he head and say, "Oho, Brer Deer, here I is 'fore yourself!"

But Brer Terrapin never tell the gals 'bout his management, and how he get there that soon.

Have they done tell you 'bout ole Mr. Grumble Terrapin? Well, one day old Brer Terrapin was mighty bad, and making up a poor mouth, and a-grumbling and a-fussing, 'cause he have to creep

WHAT OF THE TRUSTS?

The most popular entity in America today is the trust—popular with the capitalist as the thing he wants to get into; popular with the manufacturer as relieving him of competition; popular with the writer for financial journals as affording examples of the power of combination for the good of the combiners, as furnishing opportunities for investment in which the investor is represented as relieved from care and bother and sure of dividends; popular with the writer for the general public as worthy of denunciation; popular with small operators in the same lines as worthy of execration, as ruthless destroyers of opportunities. Among all conflicting opinions of the trusts, the views held by a growing class of people, the Socialists, is one of equanimity.

But whatever may be said or thought of the great industrial combinations called trusts, nothing is truer than that they are rapidly increasing in numbers, in magnitude, and in power. A third of a century ago the consolidation of railroads was looked upon with alarm. The short, disconnected lines of forty years ago were considered manageable through competition one with another. It is doubtful if the volume of transportation traffic of today could be handled with the system that then prevailed. There has been an unremitting contest for lower transportation rates, and the charges now current would have bankrupted any railroad of the days when so great anxiety was felt about consolidations.

Are we to have a thirty years' war against the trusts, a war in which the trusts' opponents lose every battle, the trusts grow bigger and stronger and more preponderant in public affairs while the service they render becomes cheaper and better to the utter destruction of all small competitors? The prospect looks favorable for such results.

The day of large operations and cheap service is here. The day of larger operations and cheaper service seems to be approaching.

Cheaper service may not and probably does not mean lower wages. It may be accompanied by higher averages of compensation for labor. But consolidation into trusts classifies service, places the creative mental work upon smaller numbers and reduces to routine the services of the many. Routine makes possible great proficiency without much care, whether in clerical or in manual labor. With routine in the service of a trust comes presumption of certainty of the stipulated remuneration, making a position with a trust the typical "sure thing" which seems so desirable to those who hesitate to take the responsibility of being their own employers.

Thus by promising sure returns without care to the capitalist and sure returns without care to the laborer, two great classes readily drop the higher manhood of independent effort and responsibility for their own well-being and allow the trust to assume the management of their affairs, to name those who shall do the thinking connected with the industry and absorb liberal shares of the profits.

But aside from the easy drift into trusts on account of the ease promised by two more or less indolent classes, a tremendous impetus in the same direction results from the exhilaration felt by those who attain to the direction of great investments and great numbers of people through the agency of these industrial monsters.

In recounting the trust situation and in citing the forces which are promoting the prevalence of trusts, it must not be understood that the Kansas Farmer is advocating this form of industrial consolidation. But whatever may be our preferences; however much we may regret to see struggling and worthy enterprises destroyed by trust competition; however great may be our sympathy for those who are being reduced from independent proprietors to applicants for clerical positions, with their treadmill routine, the candid examiner of social forces and tendencies cannot fail to admit that the trust's ability to economize labor, to reduce cost of producing those things that make for human comfort, argues powerfully for its future preponderance.

One trust recently formed by the consolidation of numerous independent concerns announces that the economies it will introduce in production will enable it to save 20 per cent on former cost, adding this saving to former profits. Can any sentiment prevail against the increased millions of profit here suggested? Can it be doubted that trusts and consolidations of trusts with trusts are to control production in the future? Agriculture has as yet been little invaded by this form of aggregation. Possibly it will es-

cape for yet another generation. If so, it offers the most desirable of all fields for independent industrial manhood.

RECENT REMARKABLE SALES.

The appreciation of improved stock evinced at recent public sales is not confined to any one breed of cattle. Closely following the great sale of Herefords the first three days of March at Kansas City, by Messrs. Sotham, Nave, and Hornaday, was the notable Shorthorn sale at West Liberty, Iowa, on March 7, by Nichols & Gibson, which was attended by breeders from nearly every cattle-raising State. Forty-six head sold at an average of \$254. The roan calf, Iowa Champion, sold at \$700 to Geo. Harding & Son, Waukesha, Wis. C. B. Dustin bought his dam, Gypsy Maid, at \$900. Iowa Scotchman sold for \$605 to I. Francis, Prophetstown, Ill.

The two-days' dispersion sale of Aberdeen-Angus cattle, owned by J. Evans, Jr., & Son, of Emerson, Iowa, was held at Omaha, March 9 and 10, and resulted in 97 cattle bringing the neat sum of \$39,615, making an average of \$408.40, the highest average made since the early boom days of the breed. The most interest centered in the great bull, Gay Lad. He was started at \$1,000 by Miss Mattie McCrary, Highland, Kans. The competition finally narrowed down between Wallace Estill, who was bidding for Thomas Mattinson, Jr., South Charleston, O., and W. A. McHenry. The bidders were cheered as each one raised the price \$50 and \$100 at a clip. Wallace Estill was triumphant, and the great bull passed to the ownership of the Ohio breeder for \$3,050. Lad of Emerson 29548, a 17-months-old son of Gay Lad, reached the price of \$1,005, and other sons and daughters of his, all under 1 year old, sold for from \$200 to \$300, proving the great worth of Gay Lad as a breeder. Chas. Escher & Son, of Botna, Iowa, were strong competitors for the best females of the Blackbird tribe, and secured five head of them at an average of \$419. Miss Mattie McCrary, Highland, Kans., secured one of the premier females of the sale for \$725, Blackbird of Turlington 8th 16744, an 8-year-old cow.

The most sensational sale of beef cattle was the Hereford sale by Mr. Sotham, who sold one bull, Sir Bredwell, for \$5,000, another, Sir Comewell, \$1,600, and a third, Excellent, \$1,575, the three aggregating \$8,175, the highest prices ever realized in this country for three animals, which gives a special impetus to the Hereford breed. However, the advance in prices for Shorthorn and Aberdeen-Angus cattle is most marked and they are a close second in prices to the popular white-faces, all of which shows the growing esteem for all of these great breeds of beef cattle.

While the recent sales indicate that there is a veritable boom at hand for beef cattle, yet the most intelligent breeders do not so regard it, declaring that these long prices are only legitimate values for high-class stock and that the general advance of prices is owing to the fact of the shortage of beef cattle in America and the rapidly growing export trade in live cattle and meat products.

It is a gratifying and significant fact that Kansas breeders are the most alert and enterprising buyers of all the breeds, and are making more purchases than the breeders from most of the other States.

It is encouraging to note that so many representative sales are made in the territory represented by the Kansas Farmer.

KANSAS CATTLE LOSSES LIGHT.

The annual meeting of the Kansas State Cattlemen's Association, to have been held at Abilene March 22 and 23, will be postponed, and convene later at the call of the president, Joseph White, of that city. Mr. White says that this decision was made because of the hard winter so long continued, which has kept and is keeping the cattlemen busy looking after their ranches. Later on, or perhaps next fall, they will be more at leisure for a gathering. There is a movement on foot to unite the three live stock associations of the State into one for a joint meeting, within a few months. The cattlemen feel that they are dividing their strength by maintaining the separate organizations, and that they can accomplish more by combined effort.

"Our association," says Mr. White, "is prospering and is adding many members. It includes progressive cattlemen in all parts of the State, and they are taking a lively interest in the organization."

"I have been over nearly all the cattle territory of Kansas, Oklahoma, and the Indian Territory in the past two weeks, and am surprised to find how small is the loss of range cattle by the severe winter. The losses have been grossly exaggerated. Taking the entire territory named, and judging both from personal

observation and from reports received, it has been not more than 5 per cent, if it has reached that. Western Kansas has made a wonderful advance in the growth of Kafir corn and kindred crops, and the stockmen have been in a position to give their cattle better care than ever before. They were prepared for the weather that came, and they have lost but little stock.

"In the Indian Territory there was plenty of corn, and the stock had no reason to suffer. While there were cold days, they lasted but a short time in succession and the cattle went through well. In Oklahoma the same conditions were present. Cattle out on the range, given plenty of oil cake, were not severely affected, and they actually put on flesh in the kind of weather that they had there most of the winter. The railroads report larger cattle shipments than ever along the Oklahoma lines, showing that there has been little hindrance in fattening stock. There was green wheat nearly all winter in Oklahoma and the farmers pastured it steadily and with good results.

"It is probable that many of the reports of losses from the far Northwest are true, but Kansas and the Southwest have made a fine record this winter and the people have demonstrated that they have learned the lesson of providing well for their stock and taking no chances on weather. Cattle are better fed, better watered and better sheltered than ever before in the history of the West. The outlook for the cattle business of Kansas and the Southwest never was fairer and the ranchmen and feeders who carry on their operations along legitimate lines are certain to prosper."

Acres of Active Machinery.

Two great expositions are billed for the present year. The Philadelphia Exposition will be confined largely to exhibits of manufactures of this and foreign countries. The Philadelphia Exposition is purely commercial.

The Greater America Exposition at Omaha this year will present many novel exhibits from the islands of the sea recently acquired by the United States. Native tribes and their primitive habitations will be transplanted. Many curious exhibits are being collected, the first collection of the kind to be shown in the United States. The Omaha show will run largely to live exhibits, which term comprehends moving exhibits calculated to attract popular interest in their operation. For all such exhibits space in the Exposition buildings will be free. This feature is to be carried to greater lengths than ever before. The great structures erected by the Omaha Exposition last year have been purchased and will be filled with live exhibits, showing the process of manufacture in many lines of industry. Although the Greater America Exposition Company has been organized but a month or two the Bureau of Exhibits is flooded with applications for space. It is said to be only a matter of selection. Mr. I. N. Simpson, who has just been appointed superintendent of the Bureau of Exhibits, is now in the East negotiating with some of the great manufacturing and industrial concerns which have applied for space in which to operate their exhibits. Inasmuch as the buildings are ready to receive exhibits these negotiations can proceed without interruption.

The increasing prosperity which prevails throughout the mid-West is regarded as sufficient guaranty that the eight or ten millions of people within a radius of 500 miles of Omaha will attend this great colonial exhibit in large numbers. The railroads throughout that territory have expressed a willingness to distribute advertising matter broadcast. The new Exposition Company is amply supplied with capital and there is every assurance that the ultimate success this year will equal if not exceed the wonderful record made by the Exposition of 1898. There will be many spectacular attractions and State exhibits. The gates will open July 1 and close November 1.

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February receipts of live stock at Chicago, compared with the same month last year, show decreases in every class except calves.

It is stated that most of the sugar planters of Cuba favor annexation to the United States, although they expect that the realization of their desires is a good way in the future.

The volume of exports of wheat and flour continues enormous. There was a slight lowering of these exports in February, but they have again reached nearly a million bushels a day.

Prospects point to better reception for American meat products in Germany. The proposed inspection at packing-houses by officials of the German Government seems likely to give a confidence in the wholesomeness of our meats that could not be established by any certificate, official or otherwise, from this country.

A great deal is said about the encouraging increase in the exports of products of American manufactories. This is something akin to the encouraging words spoken to the child when it begins to toddle. But for downright cause of congratulation, commend us to the healthy giant called American Agriculture and its exports. During January, 1899, we exported products of our factories valued at \$25,806,870. But we exported products of American farms valued at \$32,180,000. Of all our exports, the farms contributed 72.18 per cent.

The visible supply of wheat in the United States fluctuates between rather narrow limits and is now rather less than 30,000,000 bushels. This is lower than it has been at this season for several years. The estimated reserves in farmers' hands are very large, however, and are placed at 198,000,000 bushels out of a crop estimated at 675,000,000 bushels. These estimates and comparatively favorable reports as to acreage and condition of the crop for the next harvest, coupled with fairly liberal supplies coming forward from other exporting countries, have had a depressing effect upon the market.

Hard for the Renter.

Editor Kansas Farmer:—The wheat on ground that was plowed last fall is an entire failure, or so nearly so as to not be worth counting here. This is hard on all farmers, and particularly hard on renters.

There was an unusually large acreage of wheat put in last fall. The percentage that is put in by renters is steadily on the increase, and the rate of rent charged is getting higher, but my own observation leads me to think that the practice of requiring cash rent is on the decrease. But for those who must pay a cash rental in addition to the expense of putting in the wheat, this year will give an experience to be remembered, even if it comes too late for them to profit by it. There will be plenty of them who were just getting on their feet who will lose all they have and be obliged to begin at the bottom again, while the landlord, who must have his rent in order to keep up, pockets his money and looks for another victim.

A. M. HEDGES.
Junction City, March 11, 1899.

PLANT BREEDING.

(Continued from March 2.)

THE LAW OF THE FIXEDNESS OF PLANT FORMS.

In the progressive evolution of the great tree of life, some branches have become leaders and have continued their development in a definite direction until they have impressed their forms upon the whole physiognomy of nature. This is especially noteworthy in the vegetable kingdom. Naturalists have used these branches as aids in classification from the time of the dawn of natural science. Thus we have plants classified into two great groups, the flowering or phanerogamous and the flowerless or cryptogamous plants. If we follow up the phanerogamous branch, we come to a point where it divides into two great classes, the monocotyledons, or plants having one seed leaf, and the dicotyledons, or plants possessing two seed leaves. From class we may pass on to a division into cohorts, and from cohorts to orders and from orders to genera and from genera to species. As we study these plant forms, we discover that the differences grow less and less as we ascend the tree until, when we get to the species, we frequently find it very difficult to define the smaller subdivisions. Here the branches seem to dissolve into an inextricable tangle of twigs and spurs known as varieties and individuals. It is among the larger, older branches below the species that we must look for fixedness of plant forms. When we study these plant forms we learn that they have a habit of growth which we cannot alter. We cannot by plant breeding or any other art transform an apple tree into a peach tree, or a strawberry plant into a corn plant. Let me cite you to Professor Bailey's first rule of plant breeding: "Avoid striving after features which are antagonistic or foreign to the species or genus with which you are working. Every group of plants has become endowed with certain characters or lines of development, and the cultivator will secure quicker and surer results if he works along the same lines rather than to attempt to thwart them."

So profound an impression does this phenomenon of the fixedness of plant forms make upon the beginner in the study of nature, that he is likely to think that a definite, unchangeable number of plant forms was originally made by the Creator. Many of the early botanists held this view. Since the law of evolution had not been discerned by them, it is perfectly natural that they should have so regarded the vegetable kingdom. Early in this century, Thomas Andrew Knight, in discussing the subject of hybridization, said: "I have never yet seen a hybrid plant, capable of affording offspring, which had been proved, by anything like satisfactory evidence, to have sprung from two originally distinct species; and I must therefore continue to believe that no species capable of propagating offspring, either of plant or animal, now exists, which did not come as such immediately from the hand of the Creator." (Horticultural Papers, p. 253.) It is said that the great Linnaeus held the same view, and when he found a plant that did not fit into his classification, he discarded it as a monstrosity. Even in this day, when the doctrine of evolution seems to have become accepted by all classes of thinkers, we find many cultivators of plants who regard species and varieties as having their limits definitely fixed by some supernatural power. This is an erroneous view; but we must know, however, that there is a certain fixedness of plant forms, especially among the larger groups, which we cannot hope to change. In these groups old age has ossified the branches until it is impossible for us to bend them.

FLEXIBILITY OF PLANT FORMS.

The law of the flexibility of plant forms concerns us vitally as plant breeders. Returning to the figure of the tree, it is evident that we need not hope to accomplish anything in changing the shape of the large limbs. It is also very manifest that we may direct the growth of the twigs to a considerable extent. We may well ask ourselves how far we can bend the twigs aside without breaking them. I am anxiously asking scientific literature if it will be possible for me to compel the corn plant to increase its yield of protein 2 or 3 per cent. I shall interrogate the Kansas wheat plant to find out, if possible, why it does not yield 18 to 20 per cent of gluten as its cousins in Russia have been doing for generations. I hope to be able to question the soy bean as to the reasons for its low yield in Kansas.

The flexibility of each species or variety of plant can only be determined by experiment. The breeders of sugar beets raised the average sugar content of the plants in cultivation from 13.6 to 17.7 per cent in the decade from 1880 to 1890. In dealing with cultivated plants, one is encouraged by the fact that culture

through many generations has made them much more flexible than the wild species.

PLANT VARIANTS.

Variants of plants are those conditions, environments, or attributes of a physical, chemical or biological nature which cause plants to vary. The source of variation may be within the plant, when it is said to be subjective or internal; or it may be in environment, when it is said to be objective or external. The plant breeder makes use of both external and internal variants—of the latter chiefly as a guide to the proper administration of the former. We will confine the major part of our discussion to the external variants, because these may be largely controlled by man. The external variants may be classified as natural and artificial; all of them, however, may become artificial by man taking control, and, on the contrary, all may be natural when nature is in full control. The principal natural variants are food supply and climate, while the principal artificial variants are selection, crossing, and hybridization. Nature makes use of all of these so-called artificial variants, but she seldom produces the striking results that man has accomplished by their use. Variation due to food supply may be caused artificially by isolation of the plants, through tillage of the soil, fertilization of the soil, pruning, thinning, and by methods of budding and grafting for the purpose of dwarfing. Circumstances, giving an advantage in food supply, may be due to a favorable position, a divergence of character or an abundance of nourishment stored up in the seed as a fixed capital with which to begin life.

FOOD SUPPLY—SOIL.

The influence of the soil is due to its chemical and physical nature. The chemical nature of the soil has a great influence upon the variability of the plants. The necessary elements of all agricultural plants have been determined by Wolff, Zoeller, Bibra, Rittenhausen, Arendt, Lawes & Gilbert, Bretschneider, Wiegmann & Polstorff, Johnson, and others to be the following: Carbon, hydrogen, oxygen, nitrogen, phosphorus, sulphur, iron, potassium, calcium and magnesium. All these elements are taken from the soil except the carbon. By means of water culture, such experimenters as Sachs, W. Knop, Nobbe, Salm-Horstmar, Stohmann, Siebert, Birner & Lucanus, Leydhecker, Rautenberg & Kuehn, Hampe, Jodan, Hellriegel, and a multitude of others have shown that the absence of a single one of these ten elements in the food of the plant will interfere very seriously with the vital processes. The variable quantities in which the food elements of plants occur in different soils cause a variation of the respective elements in the body of the plant. Warming says: "Though plants have a selective power, they take more of a substance into their bodies, the greater the quantity of the substance in the soil; hence some substances may occur in such large quantities as to be poisonous."

Professor C. D. Woods, by a series of experiments conducted for a number of years at Storrs Experiment Station, in Connecticut, demonstrated that the percentage of protein in corn, oats and a number of grasses can be increased considerably, on Connecticut soils, by the application of nitrogenous fertilizers. The average increase of protein for corn in 22 experiments was from 10.9 to 12.1 per cent; for corn stover in the same number of experiments, from 6.2 to 7.6 per cent; for oats in five experiments, from 15.1 to 16.3 per cent; for oat straw in 5 experiments, from 5.3 to 6 per cent; for orchard grass, from 8.9 to 12.6 per cent; and for other grasses in about the same proportion as for orchard grass. Lawes & Gilbert, in a paper entitled "On the Composition of the Ash of Wheat Grain and Wheat Straw," on page 74, have the following to say concerning the variation of nitrogen in the wheat grain: "The percentage of nitrogen is also in the main fairly uniform with the different manures; but it is low with mineral manure alone and great nitrogen exhaustion, and high with ammonium salts alone and relatively excessive nitrogen supply." Professor R. Heinrich found by experiment that soil fertilized by a nitrogen produced more nitrogen in every part of the plant. Bulletin 15, of the Vermont Experiment Station showed "that the addition of nitrogen alone as a fertilizer increased the percentage of nitrogen or albuminoids in the corn crop; addition of potash or of potash and nitrogen did not change the percentage of nitrogen in the crop; addition of phosphoric acid alone or in combination lowered the percentage of nitrogen, but each time it so increased the weight of the crop as to take more nitrogen from the soil than when nitrogen compounds were used alone." At Virginia Experiment Station it was found that Fultz wheat fertilized with stable manure ripened ten days later than that treated with acid phosphate alone. Nitrogen ap-

plied alone retarded the ripening eight days. (Virginia Experiment Station Bulletin No. 1.) Bulletin No. 12 from the same station gives the following information concerning the use of fertilizers on tobacco: "The tobacco on the unfertilized plot ripened from ten days to two weeks later than that grown on the manured plots, showing that fertilizers hasten the maturity of tobacco to that extent."

Some plants have been profoundly modified in appearance by the chemical nature of the soil, as the salt plants growing on salt marshes. Plants growing in salty soil have fleshy leaves and translucent tissue. Salt is injurious to most plants. Dr. A. Stood found that one gram of salt per liter of water makes the water unfit for irrigation purposes.

There is a class of plants that might be called saltpeter plants, because they thrive best on a soil containing an excess of nitrates. Such are the Cruciferae, chenopodiaceae, solanaceae, etc. Although they seem to thrive best in a soil containing an abundance of nitrates, it is well known that, in case of the potato, a very small quantity of nitrogenous material is actually used by the plants. The presence of saltpeter in the soil seems to stimulate their growth in some way.

Another class of plants might with propriety be called lime plants. A limestone soil is particularly favorable to the growth of plants of the grass family, like our common cereals. From Kerner's investigations it was found that a great difference exists between plants of the same genus inhabiting respectively limestone or shale mountains in the Alps. Unger observed that *Saxifraga Azoon* and *Saxifraga oppositifolia*, which usually grow upon limestone soil and in such situations secrete a crust of lime over the leaves, when cultivated in soil poor in lime, secrete a very thin coating of lime.

Darwin observed that alum directly influences the color of the flowers of hydrangea. Warming, on page 65 of his "Ecological Plant Geography," says: "Every species has a peculiarity by which the food materials are taken up in different quantity from that required by other species. This is important for a communal life. It is important that the materials are not used up at the same time or at the same stage of growth by all the inhabitants of the soil. This makes it possible for many species to live upon the same soil without a struggle for nourishment." Thomas Andrew Knight observed: "No experienced gardener can be ignorant that every species of fruit acquires its greatest state of perfection in some peculiar soils and situations, and under some peculiar mode of culture. The selection of a proper soil and situation must therefore be the first object of the improver's pursuit." (Horticultural Papers, p. 172.)

The abundance and availability of the food supply in the soil probably has the greatest influence upon the variation of plants. According to the experiments of Sachs, the roots of plants become shorter the more concentrated the nourishing solution in which they are grown. Water-culture experiments have proved that either too great a concentration or too much dilution of a nourishing solution will prove fatal to the plant. Agricultural plants thrive best in soil in which the soil water contains from one- to two-tenths of 1 per cent of the various nutrient solid matters dissolved in the proper proportions. If the solution is diluted to one-hundredth of 1 per cent the plants fail to develop. In sand, the roots of plants are long and not much divided; in strong soil, they are short and much divided. Liebig has said that roots seek nourishment as though they had eyes. Duhamel caused two trenches to be made so as to intersect each other at right angles, and a tree planted at the intersection sent almost all of its roots into the channels of the old trenches where the rich surface soil had been buried.

Increase in food supply is secured in practical agriculture chiefly by isolation of the plants. The Connecticut State Experiment Station Report for 1889 has the following to say regarding the isola-

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tion of corn plants: "It is a striking fact that the percentage of albuminoids (protein) in the dry matter from the individual maize plants regularly increased as the stand of the plants was thinner." Again, I quote from the same report, page 223: "It has been shown by our experiments of the past two years that the percentage of albuminoids in the crop may be strikingly increased or decreased by changing the distance of planting." Shirreff, in speaking of the quality of wheat as affected by thick and thin seeding, said: "When the crop is too thick, the grain is small, plump and fine; when the crop is too thin, the seeds are large, rough and coarse."

At this stage of my discussion, it might be well to ask what practical information I have discovered in my investigations of the subject of plant breeding. Since the testimony of scientific investigators makes it perfectly clear that the composition of a plant may be influenced by the chemicals in the soil upon which it grows, it seems to me that farmers ought to use fertilizers for the purpose of increasing the protein in their seed corn. The essential element that gives protein its great value as a food-stuff is the nitrogen that it contains. According to the above mentioned results obtained in Connecticut by Professor Woods, nitrogenous fertilizers increased the percentage of protein in the corn crop very considerably. Other experiments in the same State show that thin planting accomplished the same result.

GEO. L. CLOTHIER.

Cornell University, March 8, 1899.

(To be continued.)

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Horticulture.

KANSAS EXPERIENCE IN ORCHARDING.

(From "The Kansas Apple.")

Fred Wellhouse & Son: Have been in Kansas since 1859, and grow no fruit but apples, having 117 acres in Leavenworth County, planted in 1876; 160 acres in Miami County, planted in 1878; 160 acres in Leavenworth County, planted in 1879; 800 acres in Osage County, planted in 1889, 1890, and 1891; 300 acres in Leavenworth County, planted in 1894; 140 acres in Leavenworth County, planted in 1896—total of about 100,000 trees, set out from two to twenty-two years. We prefer for commercial orchard, Jonathan, Missouri Pippin, Ben Davis, Winesap, and York Imperial, and for family orchard would add to these, Red June, Chenango, Maiden's Blush, Huntsman, and Rome Beauty. We tried sixteen acres of Cooper's Early White, but have discarded them as unprofitable, shy bearers. We consider upland the best if soil is of good quality. We have them on all slopes; can see no particular difference where soil is equal. We prefer rich, black soil (vegetable mold), clay subsoil. We plant in furrows, the rows thirty-two feet apart, the trees sixteen feet apart in the rows, running north and south.

The best trees to plant are two years old, the lowest limb or limbs not over two feet from the ground. We grow most of our trees from our own root grafts. Cultivator: We cultivate for the first five years, by throwing the soil first to and then from the trees, with a single or a double turning plow, and grow only corn. At five years from planting we sow the ground to clover, and this with other growths, such as weeds, is left on the ground as a mulch and fertilizer. We have never used any wind-breaks at any of our orchards. Think they would be an advantage in some localities. We use traps for rabbits, knife and wire for borers. We prune very little, such as removing broken limbs. We have never fertilized any of our orchards. We do not believe it pays to pasture orchards, and do not allow it.

The insects that trouble us most are: Canker-worm, tent-caterpillar, fringed-wing bud moth, handmaid-moth or yellow-necked caterpillar, round-headed borer and the tussock-moth caterpillar on our trees; and codling-moth, gouger and tree cricket on and in our fruit. We spray annually, using a horse-power machine, illustrated in former reports of the State Horticultural Society, for the leaf-eating insects named, using London purple and clear water, sometimes adding lime. We spray before the blossom opens, for bud moth, canker-worm and tent-caterpillar, and after the petals have fallen for codling-moth, tussock-moth, and fall web-worm. We have been successful except as to bud moths and fall web-worm. We believe that we have greatly reduced the codling-moth by spraying, and we know we have destroyed the canker-worm. Have never successfully combated borers, excepting with knife and wire. Fall web-worms are burned in the tree with a gasoline torch, or the small limbs with webs are removed and burned. We have as yet found no particular method for fighting the bud moth successfully.

We gather our apples by hand in common two-bushel seamless sacks, used in the same manner as for sowing grain. A strap of heavy leather is attached, making it easy for the shoulder. A hook and ring are also put on to facilitate the removal of the sack when emptying. We prefer common straight ladders, with sides from 16 to 20 inches apart at the bottom and 6 inches at the top, rounds 14 inches apart. We use bushel boxes for hauling from the orchard to packing-house. We sort into three grades: No. 1, No. 2, and culls. No. 1's are all sound and firm apples, of about from 2 1/4 to 2 1/2 inches in diameter, the size of the smallest depending on the variety. We put in the number 2 grade those that have any defects barring them from the first grade, yet they make a good second-class for immediate use; we also pack in this grade any sound apples that run uniformly small.

Of all packages tried, we prefer and use the three-bushel barrel, 17 1/2 inch head and 28 1/2 inch stave. When one head is removed the barrel is turned over and a rap with the hand removes all trash. If we are packing a fine grade of fruit, we put a piece of white paper, cut a little less than the diameter of the barrel, in before facing. Barrels are double-faced or plated. We are careful to have the barrels rocked or shaken often while being filled. The name of variety and our trade-mark is put on the barrel with a stencil or rubber stamp. No. 1's and 2's are hauled to shipping station in barrels;

culls in bulk in ordinary farm wagon. We have never sold our crop in the orchard; always preferred to have it picked and packed under our own supervision. Our apples have been sold in car lots. Firsts and seconds have gone to wholesale dealers. Culls we have evaporated, sold to men who evaporate, to cider-mills, and to dealers who handle bulk apples.

For drying, we use the New York hop kiln, Rival No. 2 parers, and upright bleachers, all of which have been reasonably satisfactory. We believe them the best we can get, considering the class of evaporated fruit in demand. White stock is best handled in fifty-pound boxes; chops, peelings and cores in sacks. We always found a ready market for dried fruit. Some years it paid well.

We have wintered only in cold-storage plants, always in barrels, and it has been profitable. Ben Davis and Winesap have kept best, with Missouri Pippin a close second. Jonathan keeps well under proper conditions. If kept as late as March, it is generally necessary to re-pack, but not always. Our greatest loss has been on Jonathan, which in some instances, when kept late in the season, has reached 10 per cent.

We have never irrigated or watered any part of our orchards.

Prices have ranged as follows with us: For No. 1, from \$1.50 to \$4; and No. 2, 90 cents to \$2 per barrel. Culls have brought from 25 cents to 60 cents per 100 pounds; evaporated apples from 4 to 13 cents per pound; all these free on board.

A. E. Houghton, Weltbote, Washington County: I have lived in Kansas twenty-nine years; have 100 apple trees, fifteen years old, twelve inches in diameter. For commercial and family orchards, I prefer Ben Davis, Winesap, Rawle's Janet, Huntman's Favorite, Grime's Golden Pippin, Rambo, and Jonathan. Have tried and discarded Dominie, Roman Stem, and Bellflower; the latter on account of shy bearing. Think bottom land, black, rich loam, and north aspect, the best. I prefer three-year-old, short, stout-bodied trees—the shorter the better—with limbs as low as they will grow. I cultivate my orchard to corn, potatoes or vines as long as it is possible to do the work. I use a plow, cultivator, and one-horse double-shovel plow. I cease cropping when they begin to bear, and plant to clover. I consider wind-breaks essential; would not grow an orchard without one, and would use Osage orange, ash, Russian mulberry, or box-elder, planted in several rows on south and west.

I wrap my trees with cornstalks to protect from rabbits, and wash them with strong soapuds, for borers, in May and June. I prune a great deal to let the sun, light and air in. I think it beneficial and that it pays. I never thin; but think it would be beneficial when the apples are large enough to tell the good ones from the bad. I think it advisable to use fertilizers on poor land. I never pasture my orchard under any circumstances whatever; do not think it advisable. My trees are bothered with borers. Some worm troubles my apples. I do not spray.

I pick into a sack over the shoulder, as for sowing wheat. I sort into two classes as I pick, to avoid handling again, putting the sound, hand-picked in one pile and the windfalls in another; cover them with hay and let them stay out as long as I dare, then put them in the cellar; but the cellar is too warm; think an out-door cellar or cave would be better; would like to put them in cold storage, which is far the best. I sell my apples in the orchard, or any way I can get the most for them; generally take them to town and sell them. I sell my second and third grades at home; feed the culls to the hogs. My best markets are Washington and Greenleaf. I have never tried distant markets. Never dry any. I store some apples in boxes, barrels, and bulk; am not very successful. I find that Winesap and Rawle's Janet keep best. I do not irrigate. Prices have been from 50 to 75 cents per bushel. There is not much sale for dried apples. We do most of our own work.

How to Get Extra Early Potatoes.

Editor Kansas Farmer:—The horticultural department has been experimenting for two years on the methods of hastening the growth and maturity of early potatoes. On February 23, 1897, tubers of White Ohio, Beauty of Hebron, Early Harvest and Carman No. 1 were set in shallow boxes with the blossom ends up. These were filled around with sand, leaving the upper fourth exposed, and the boxes placed in a room of rather subdued light and a temperature of 50° to 60°. Vigorous sprouts soon began to push from the exposed eyes.

On March 22, the potatoes were planted in furrows, the tubers being removed carefully from the sand and planted, in

the same position in which they stood in the box, and 14 inches apart in the row. They were not cut, but were kept entire. Similar parallel rows of each sort were planted of whole tubers selected from potatoes taken from the storage room and unexposed to light till planted.

As they grew the sprouted potatoes took the lead from the start in vigor and strength of top; and both lots of whole seed kept ahead of cut seed of the same varieties. June 1, the sand-sprouted lots showed excellent young table potatoes while none of the others were yet large enough for use. A week's difference was apparent in the two lots. On June 16, the sand-sprouted potatoes were still ahead in size, though not as much as at the first examination. At the final digging, July 24, the sand-sprouted lots showed better tubers and 10 per cent larger yields than the others.

In the spring of 1898 a similar experiment was carried on, using four other varieties, viz, Triumph, New Queen, Thoroughbred, and Early Six Weeks. Two methods of treatment were also employed. The lots were divided, one half of each lot being placed in sand under the conditions employed the year before and kept moistened; the other half of each lot being put in open boxes and placed in a light dry room with temperature averaging about 50°. March 26, all lots were planted. The tubers that were placed in sand had strong, vigorous sprouts, and were nearly all rooted. Those in the open boxes were beginning to sprout, but of course had thrown out no roots. The sand-sprouted lots took the lead in growth, and furnished table potatoes several days in advance of the lots sprouted in the open boxes, although the latter were ahead of the lots planted at the same time from the storage room.

Whole tubers sprouted in rather moist sand, and planted about the 25th of March, gave the best results, and produce table potatoes seven to ten days earlier than the same variety planted at the same time but not so sprouted.

Such a difference in time is of great importance to the grower, whether the crop is for the home garden or market. The gain of a week's time will well repay the efforts required to produce the extra early crop.

W. H. HALL, Kansas Experiment Station.

Shrubs for Home Grounds.

Plant a few small shrubs near the house, so that the foundations of the house will be screened and the house seem to rise out of its surroundings. The choice of shrubs depends somewhat on the soil and location. There are a great many shrubs that are very appropriate for planting on the grounds, but only a few will be named here.

Common Lilac (Syringa vulgaris).—This is one of the commonest and most highly praised of garden shrubs, and one that has given rise, either by natural variation or by crossing with other species, to a great number of superior forms. The colors range from white to various forms of lilac.

Syringa Persica.—This is a distinct small-growing species, with slender straight branches, and lilac or white flowers produced in small clusters. The form bearing white flowers is named Syringa persica alba; and there is one with neatly divided foliage, Syringa persica lanolinata.

Philadelphus.—This is a genus of shrubs which are remarkable for the abundance of white and usually sweet-scented flowers they produce. They will thrive on almost any good soil, and require no special treatment. Philadelphus coronarius, Philadelphus tomentosa, Philadelphus gordonianus, are all large-growing bushes, and give a succession of bloom.

Honeysuckles or Lonicera.—Are all of the readiest culture, and succeed well even in poor soils. There are a large number of species, some vining, and some of a sturdy bushy habit. Lonicera fragrantissima blooms very early, and is very fragrant. It retains its leaves nearly all winter. Lonicera tartarica produces white and pink flowers in the spring, and later during the summer yellow and red berries are formed, which are as attractive as the blooms.

Berberis vulgaris.—Also produces attractive flowers in the spring and scarlet fruit in the fall.

Spiraea.—Are excellent shrubs, and make very good low screens, and also

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give a very beautiful display of flowers. Spiraea thunbergii, Spiraea Van Houttei, and Spiraea reversiana give a succession of blooms.

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W. H. MOORE, Kansas Experiment Station.

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My stock of old and the cream of the new Strawberries for 1899 is first-class. I also Raspberries, Blackberries, Gooseberries and Pear Trees. Send for price list. B. F. SMITH, Box 6, Lawrence, Kans.

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In the Dairy.

Conducted by D. H. OTIS, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

BABCOCK TESTS VS. OHURN TESTS.

In reply to recent inquiries on this subject, Prof. W. A. Henry, of Wisconsin Experiment Station, Madison, Wis., writes as follows, under date of December 27, 1898:

"Replying to your inquiries, will say: First, without being able to prove my statement, but basing my judgment on the results of the most carefully and fairly conducted dairy tests, I believe that most of the records showing 30 pounds or more of butter in seven days are unreliable. I do not affirm that the parties did not get 30 pounds of something which they called butter for the seven days, but I am firmly convinced that a large part of these so-called records were not honest, merchantable butter. I believe that private tests with dairy cows, and those where the milk and butter are not analyzed, are no more reliable than private trotting tests would be with horses, for human nature is the same in the owners of both these animals. Second, I believe that the Babcock test, together with the scales combined, give us a far more correct method of estimating the butter capacity of a cow than the churn itself. This is true, because with these two instruments we can determine the total quantity of fat yielded by a cow in a given time, and when a cow has produced this fat she has done her part and is entitled to full credit. The churn is not a measure of a cow's butter productive capacity, because fat may be lost both in separation and churning, and the cow cannot be held accountable for either of these losses. Again, unless the butter is analyzed it may not be a merchantable product, for which fault again the cow is not to blame, nor on the other hand should she have credit for water, casein, extra salt, or all of these, which the worker through his desire for a large production may leave in excess in the butter. Of course, the Babcock test can be wrongly used, or it can be misrepresented, but with the scales it forms the simplest and most direct combination for measuring a cow's butter value. A man who will cheat with the churn will also cheat with the Babcock test, but the skimming device and the churn may both cheat the cow when the man or the committee are honest. This the Babcock test will not do. By means of properly conducted official tests, and the use of the Babcock test, the representatives of our various breeds of dairy cattle are in a position to establish records which are reliable, and in time will become immensely valuable, as data accumulates and the effects of breeding and selection are realized. W. A. HENRY, Dean and Director."

This letter should be in the hands of every dairyman and every breeder of dairy cattle. Before the invention of the Babcock test the churn was the only practical means for testing cows within the reach of dairymen. It is probable that the earliest tests did not give full credit to the cows. As strife for extraordinary records grew, there seemed to be no end to the number of pounds that might be reached. One record passed 46 pounds in seven consecutive days; the cow and the whole process of making was in the hands of an intelligent committee. The World's Fair threw a great light over such records. Cows that had been credited with 30 pounds and upwards, under most favorable conditions at that fair failed to make 20 pounds of butter of 80 per cent fat in the ordinary period of seven consecutive days. It was a great surprise. The public lost all confidence in the great records that had been reported. If these tests had no other effect, they were not altogether vain.

With a view of finding out how some of those great records might have been made, I took a quantity of rich cream, properly ripened, and churned it at a low temperature until it reached the point described by the word "broke." If it had been chilled it would have been about as dry as snow. An enthusiastic record-maker might have reasoned in this way: "It is not cream, it is not buttermilk, therefore it must be butter." I estimated its weight 46 pounds, and it contained 33 per cent fat. I added ice water and again started the churn. When it appeared as granules about the size of wheat, I drained off the buttermilk and let it stand draining several hours. No one not a practical butter-maker would have had suspicion that it contained an excess of moisture. It weighed 18 1/2 pounds. By chilling it still more it might have been salted without loss of weight. A thoroughly conscientious

man, unfamiliar with butter-making, might have readily endorsed this weight as the correct one of a merchantable product. I warmed it up, salted it, and found it produced 11 pounds of merchantable butter. It would make all the difference in the world whether a cow had a record of 18 1/2 pounds or of 11 pounds, or double these figures, 37 pounds in seven consecutive days, made one way, or 22 pounds made another way. I do not pretend to know other ways, doubtless more fraudulent, by which great records may have been made. But I know butter by the churn is an indefinite quantity. In the light of the present we can put comparatively little value on records made by it.

The following letter recently received by our firm shows that there are some persons who are willing to instruct others in the mysteries of making large records by the churn:

"Toronto, January 9, 1899.

"Messrs. A. & G. Rice—Dear Sirs:—We have fitted up the dairy of Mr. —, of Toronto, with our new process of butter-making. It is giving very satisfactory results. We can guarantee 25 per cent better returns, a simpler process, more certain in results, better butter, a purer butter, less casein and water, and better keeping.

"We work from 25 per cent to 30 per cent above the Babcock test. These advantages are important to you. We invite investigation and can refer you to —, who has kindly consented to your making any test you like, with either his cream or your own, and we suggest that you bring one week's cream of any cow you prefer, and that you have made previous tests of, and see what our process will turn out, or any other test you may wish. We use no chemicals or foreign material. We sell nothing, but work on royalty. Shall be pleased to give you any further information. Yours truly,"

At the same time we must not be too severe in our judgment of earlier churn records. Most of the cows are now dead and we have no other means of getting at their worth. Many of them were great cows. Just what records to discount and to what per cent can never be known. But the farce of making records of 30 pounds and upwards is ended. The Babcock test is of wonderful accuracy, yet simple in its operation. No valid objection can be raised against it. What shall we say, then, of those who would continue the old game of reporting churn tests? Be the records great or small, they are no longer worthy of attention, and it seems to me an insult to their readers for our papers to publish them. It is difficult to overvalue official records made with the Babcock test. Prof. Henry points out the reasons why in a single sentence: "By means of properly conducted official tests," he writes, "and the use of the Babcock test, the representatives of our various breeds of dairy cattle are in position to establish records which are reliable and in time will become immensely valuable, as the data accumulates and the effects of breeding and selection are realized." GEORGE RICE, Curries, Ontario.

Accurate Records as a Basis for Weeding Out Unprofitable Cows.

Having selected our dairy cows and supplied them with favorable surroundings, the next step will be to weed out those that fail to come up to our standard, and that standard should be raised from time to time. To do this, it is necessary to keep accurate records of each cow's performance. On this point many of our farmers are extremely negligent. If a merchant should conduct his business on the same loose principles that many of our farmers do he would expect nothing else but failure. In these days of fierce competition we need to know what each individual cow is doing. It is not enough to know what the herd averages; we must be able to pick out the poor cows that are bringing the average of the herd down. A man may think he knows his cows individually without bothering with a milk scale and a Babcock test, but the experience of those who have tried both ways goes to show that he does not. It often turns out that the cow he thinks is doing the best is in reality the poorest.

But I have not the time to bother with recording each cow's yield, says one. Here, too, experience comes to our aid and tells us it takes about twelve seconds to weigh and record a cow's yield, and the extra pains that a milkmaid will take when keeping a record will more than pay for the time.

If you are selling your milk to a creamery you can doubtless get your cows tested, say, once a month, without going to the expense of buying a tester; but if you cannot, a good Babcock test will cost only about \$5, and you will find it one of the most profitable implements on the

farm, especially if you are making butter or selling your milk to a creamery on the basis of the per cent of butter fat.

The keeping of accurate records is at the very foundation of profitable dairying. Without it we can do but little toward improving and raising the standard of our dairy herds. We need to know the amount of feed each cow consumes, and then, with a knowledge of her milk yield and per cent of butter fat, increase or decrease the amount of feed in accordance with the element of profit. The sooner we realize the importance of the scale and the milk test, and measure the ability of our cows by them, the sooner we can cull out the poor ones and place the rest of the herd upon a more profitable basis.

Having thus tested the dairy herd and removed the poor and unprofitable cows, the remainder not only show up better at the pail but the standard of the herd as breeding stock has been raised, and this is a matter of no small moment. Most people recognize the necessity of a good sire, but there are many who pay little attention to the dam as a breeding animal. This is wrong. To make our dairy cows more profitable, we must look well to her breeding, and that on the side of her dam as well as her sire. The great law of heredity has much to do with determining the character of animals, but nowhere can it be studied with greater profit or controlled to better advantage than with the dairy cow. D. H. O.

A Dairy School for Kansas.

On March 4, the Kansas legislature passed a bill making appropriations for the State Agricultural College in which \$25,000 was allowed for a dairy building, \$6,000 for equipment of building, and \$3,000 for a herd of cows and a place to put them. This is a much-needed addition to the equipment of the Agricultural College and will be greatly appreciated by the dairy interests of the State.

Beginning January 2, 1900, and lasting for twelve weeks, there will be three courses offered in dairying, a course in creamery butter-making, a course in cheese-making and a course in private dairying. The latter course might also be called a creamery patrons' course. Special attention will be given to the production of milk. For the first time in the history of the State Kansas young men will have an opportunity to perfect themselves in any branch of dairying they desire. Applications are already coming in for next year and it is to be hoped that a large number of young men will avail themselves of the opportunities at the Kansas Agricultural College. D. H. O.

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We wish to gain this year 200,000 new customers, and hence offer 1 Pkg. 13 Day Radish, 10c 1 Pkg. Early Ripe Cabbage, 10c 1 " Earliest Red Beet, 10c 1 " Long Light'n'g Cucumber, 10c 1 " Salzer's Best Lettuce, 10c 1 " California Egg Tomato, 20c 1 " Early Dinner Onion, 10c 3 " Brilliant Flower Seeds, 15c Worth \$1.00, for 14 cents, \$1.00 Above 10 pkgs. worth \$1.00, we will mail you free, together with our great Plant and Seed Catalogue upon receipt of this notice & 14c postage. We invite your trade and know when you once try Salzer's seeds you will never get along without them. Onion Seed 68c, and up a lb. Potatoes at \$1.20 a Bu. Catalog alone 5c. No. 70 JOHN A. SALZER SEED CO., LA CROSSE, WIS.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's postoffice, should be signed with his full name, and should be addressed to the Veterinary Department, K. S. A. C., Manhattan, Kans. All such inquiries will receive prompt attention from Paul Fischer, B. Agr., M. V. D., Professor, and A. J. Burkholder, D. V. S., M. D., Assistant, Kansas State Agricultural College.

ACTINOMYCOSIS.—[This was printed last week but contained an error.—Editor.] I have a cow which has what I suppose to be lump-jaw. She had a small lump on under side of jaw last fall. In early winter it became a running sore and had a very offensive smell. Lately I gave her 10 grains of iodide of potash in water each day for ten days. It seemed to dry up some, but it is not doing as well as it should. She has a young calf.
Mound City, Kans. C. B.

Answer.—Your cow is affected with lump-jaw. Your treatment has been along the right line; but the size of dose administered would be a small dose for a human being. Will advise you to give a french, once a day, 10 grams of iodide of potash dissolved in one pint of water. This quantity is equal to 150 grains, just fifteen times more than you have been giving. Continue these daily doses for ten days to two weeks, depending upon the improvement observed. By this mail we send you Bulletin No. 16, which fully explains the nature of this disease.

SPRAINED HOCK.—Have a brown mare that got into a mire, some days ago, and has since been lame in hind leg. The hock joint of this leg had previously received an injury, but had sufficiently recovered for animal to be used when above accident occurred. What shall I do for it?
A. C.

Answer.—Will advise perfect rest. Bathe swollen leg for half hour morning and evening with water as hot as can be borne by the hand; rub dry with soft cloth and apply after each bath a little of the following lotion, which you can get of your nearest druggist: Tinct. aconite 2 ounces, soap liniment 2 ounces, witch hazel to make one pint. Mix these and apply as directed above.

RETENTION OF AFTERBIRTH.—Will you please tell me, through the Veterinary columns of the Kansas Farmer, what would be the proper treatment of a cow that has not properly "cleaned" after dropping her calf? What would you feed before calving to induce "cleaning"? We seem to have some little bother in that line this spring.
M. H. H. Kingman, Kans.

Answer.—In all such cases, the membranes should not be allowed to remain longer than twenty-four hours. Various means are employed for their removal. The only rational method consists in haltering animal in suitable stall; bare the arm to the shoulder, grease the hand with lard and introduce it carefully into the womb, carefully break loose the attached membrane from the natural eminences (coteleydons, always found in the uterus of cows) and remove all shreds, clots and fluids found, being careful not to injure the natural eminences, which are often called wild calves and forcibly torn away by persons ignorant of the anatomy of this organ. (2) Proper care, careful feeding; no medicine is of any value.

PREVENTION OF HOG CHOLERA.—Will you kindly tell me, through the Kansas Farmer, whether Glauber's salt and saltpeter mixed are good to prevent hog cholera?
C. K. P.

Answer.—Glauber's salt (sulphate of soda) is claimed to possess some medicinal value when used with other drugs—not, however, with saltpeter. We believe vaccination against this disease will soon be regarded as the surest preventive. The best medical means at present consists

Horse Owners! Use GOMBAULT'S

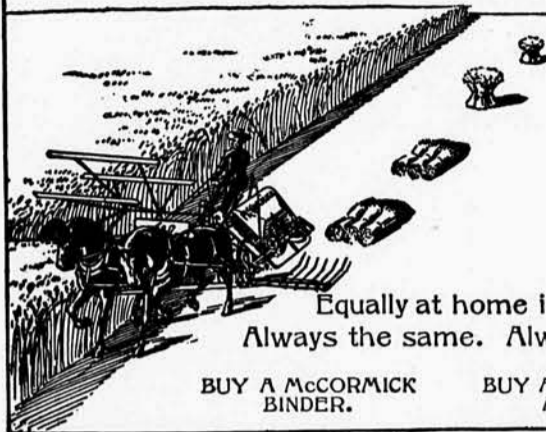


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in the administration of the following formula:

Wood charcoal	1
Sulphur	1
Sodium chloride (common salt)	2
Sodium bicarbonate (common soda)	2
Sodium sulphite	2
Sodium sulphate	1
Antimony sulphide	1

Pulverize thoroughly, mix well, and give one tablespoonful to every 200-pounds weight once a day in soft feed. Feed principally upon ground mixed grain. Salt hogs regularly and supply plenty of pure water.

State of Ohio, City of Toledo, Lucas County, ss.

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of Catarrh that cannot be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.
Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1886.
A. W. GLEASON, Notary Public.
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DROUTH BEATING CORN.
A recent writer in this paper asked: "Why don't Kansas farmers raise more early sorts of corn? The early varieties made twenty-five to thirty bushels per acre in Kansas in 1896, along side native corn that made less than five bushels." This is so in Kansas, as a rule. One hundred-day well-bred corn from Illinois matures its ears fifteen to twenty-five days before drouth or hot winds catches and ruins Kansas native corn. I have many testimonials affirming this. One below. Mr. J. D. Cowan, Austin, Kans., writes: "Your C. W. Pearl Corn made forty-two bushels fine corn per acre three weeks before drouth caught my native corn, which made very light yield of poor quality." C. W. Pearl Corn has made big yields in Kansas for fifteen years. It is very white No. 1 milling corn. Matures in 100 days. Price: Three pounds, postpaid, 75 cents; by fast freight, one-half bushel, 75 cents; one bushel, \$1.40; two bushels, \$2.55; five bushels, \$8.00; ten bushels, \$11.50. Golden Beauty, St. Charles White, Imp. Leaning and Hickory King Corn, in ten bushel lots, \$1.15 per bushel; thirty bushel lots, \$1 per bushel. Artichokes, forage and many other farm seeds.
My special treatise on how to raise big crops from Illinois-grown seed corn in Kansas in drouthy years, abundant proof and my new catalogue of corn and other field seeds sent free if you cut out and send this advertisement and three addresses of wide-awake land owners. I refer to editor of this paper. Or send money to First National Bank, Bement, Ill., to be paid over to me if they know me to be reliable.
ADDRESS..... J. C. SUFFERN, SEED GROWER, VOORHIES, ILLINOIS. QUICKLY

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MARKET REPORTS.

Kansas City Live Stock. Kansas City, March 13 - Cattle - Receipts since Saturday, 4,740 cattle; calves, 63; shipped Saturday, cattle, 636; calves, 62. The market was slow to 10c lower. The following were representative sales:

DRESSED BEEF AND SHIPPING STEERS. Table with columns: No., Ave. Price, No., Ave. Price.

WESTERN STEERS. Table with columns: No., Ave. Price, No., Ave. Price.

NATIVE HELPERS. Table with columns: No., Ave. Price, No., Ave. Price.

NATIVE COWS. Table with columns: No., Ave. Price, No., Ave. Price.

NATIVE FEEDERS. Table with columns: No., Ave. Price, No., Ave. Price.

NATIVE STOCKERS. Table with columns: No., Ave. Price, No., Ave. Price.

Hogs - Receipts since Saturday, 3,313; shipped Saturday, 796. The market was strong to 5c higher. The following are representative sales:

Table with columns: No., Price, No., Price for hogs.

Sheep - Receipts since Saturday, 1,824; shipped Saturday, none. The market was 10 to 15c higher.

Table with columns: No., Price, No., Price for sheep.

St. Louis Live Stock.

St. Louis, March 13. - Cattle - Receipts, 3,500; natives quiet, Texans a shade off, native ship-

Hogs - Receipts, 6,000; market firm; pigs and lights, 3.60@3.75 packers, 1.75@3.85; butchers, 1.85@3.95.

Chicago Live Stock.

Chicago, March 13. - Cattle - Receipts, 19,000; market 10c lower; beefs, 3.85@5.70; cows and heifers, 2.00@4.75; stockers and feeders, 1.84@4.60.

Hogs - Receipts, 32,000; market steady to a shade higher; mixed and butchers, 3.65@3.92 1/2; good heavy, 3.75@3.95; rough heavy, 3.65@3.70; light, 3.65@3.87 1/2.

Sheep - Receipts, 15,000; market strong, lambs steady; sheep, 3.20@4.75; lambs, 4.25@5.25.

Chicago Grain and Provisions.

Table with columns: March 13, Opened, High'st, Low'st, Closing for various commodities.

Kansas City Grain.

Kansas City, March 13. - Wheat - Receipts here to-day were 124 cars; a week ago, 282 cars; a year ago, 112 cars. Sales by sample on track:

Corn - Receipts here to-day were 82 cars; a week ago, 45 cars; a year ago, 134 cars. Sales by sample on track:

Oats - Receipts here to-day were 9 cars; a week ago, 4 cars; a year ago, 17 cars. Sales by sample on track:

Hay - Receipts here to-day were 23 cars; a week ago, 17 cars; a year ago, 39 cars. Quotations are:

Chicago Cash Grain. Chicago, March 13. - Wheat - Cash, No. 2 red, 70 1/2c; No. 3 red, 65@66c; No. 2 hard, 63@64c;

Corn - Cash, No. 2, 34c; No. 3, 31 1/2c.

St. Louis Cash Grain. St. Louis, March 13. - Wheat - Cash, No. 2 red, elevator, 72c; track, 72@73c; No. 2 hard, 66 1/2@67c.

Kansas City Produce. Kansas City, March 13. - Eggs - Strictly fresh, 11c per doz.

Poultry - Hens, 7 1/2c; springs, 8 1/2c; old roosters, 15c each; young roosters, 20c; ducks, 7c;

Vegetables - Navy beans, \$1.35 per bu. Lima beans, 4 1/2c per lb. Onions, red globe, \$1.00 per bu.;

Potatoes - Mixed varieties, 60@70c.



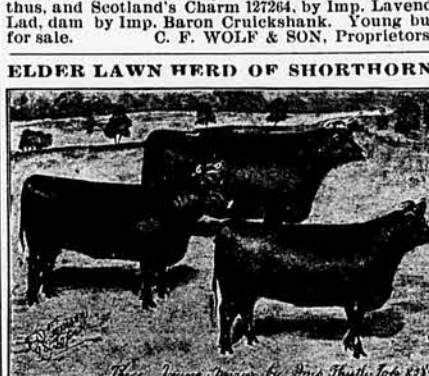
SPRING VALLEY HEREFORDS. Lincoln 47065 by Beau Real, and Klondike 42001, at the head of the herd.



CEDAR HILL FARM. Golden Knight 108086 by Craven Knight, out of Norton's Gold Drop, and Baron Ury 2d by Godoy, out of Mysie 50th, head the herd.



GLENDALE SHORTHORNS, Ottawa, Kans. Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bulls.



ELDER LAWN HERD OF SHORTHORNS. THE HARRIS-BRED BULL, GALLANT KNIGHT 124466, a son of Gallahad, out of 8th Linwood Golden Drop, heads herd.



SHORTHORN CATTLE. I have combined with my herd the Chambers Shorthorns and have the very best blood lines of the Bates and Cruickshank families.

Best of shipping facilities on the A., T. & S. F. and two branches of the Missouri Pacific Railways. Parties met by appointment.

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Has just issued an interesting pamphlet containing some well-written articles, which will be of interest to every stockman. They are for free distribution and you can get a copy by writing to FRANK B. HEARNE, Secretary, Independence, Mo.

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The Prize-winning Herd of the Great West. Seven prizes at the World's Fair; eleven firsts at the Kansas District fair, 1893; twelve firsts at Kansas State fair, 1894; ten first and seven second at Kansas State fair, 1896.

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I am now offering a Choice Lot of Gilts and Sows bred to my Herd Boar, Eberley's Model 20854. If you are looking for the right kind, drop me a line and get my list before buying.

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THE SCOTCH BRED BULLS Lord Mayor 112727 and Laird of Linwood 127149 HEAD OF THE HERD.

LORD MAYOR was by the Baron Victor bull Baron Lavender 2d, out of Imp. Lady of the Meadow and is one of the greatest breeding bulls of the age.

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Herd heads, Victor Hugo 41799 (sire imp.), Barkis 30040 (weight 800 lbs.), Prince Jr. 17th, from World's Fair winner.

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The Poultry Yard

Conducted by C. B. TUTTLE, Excelsior Farm, Topeka, Kans., to whom all inquiries should be addressed. We cordially invite our readers to consult us on any point pertaining to the poultry industry on which they may desire fuller information, especially as to the diseases and their symptoms which poultry is heir to, and thus assist in making this one of the most interesting and beneficial departments of the KANSAS FARMER. All replies through this column are free. In writing be as explicit as possible, and if in regard to diseases, give symptoms in full, treatment, if any, to date, manner of caring for the flock, etc. Full name and postoffice address must be given in each instance to secure recognition.

Hatching Young Turkeys.

Editor Kansas Farmer:—When early turkeys are wanted, I take the eggs and put under a large common hen. Nine eggs make a large sitting; if hens are small, seven are enough. By the time the two or three small turkey hens that I keep for mothers begin sitting I have quite a number of eggs that have been sat on from one to three weeks. I take a sitting that has been sat on about two weeks and put under the turkey hen and let her finish the hatching. Then I have a small covered pen, covered with light boards and tar paper, or a large box turned bottom upward, with one side uncovered, which I cover with laths, so that the young turkeys can run out and in as they like. I take the young turkeys from the common hens and put from 15 to 20 with each hen. I have never had any success trying to raise turkeys with common hens. They get lousy and will not weigh within 3 to 5 pounds as much as the ones that run with turkey hens.

As there has been so much said about feeding, I will only add that I feed both young chickens and turkeys one-third bran and two-thirds corn chop baked in a large shallow pan, which has proven to me to be a splendid food.

Every person raising poultry should have a patch of winter onions. I have two patches, one near the house, and another farther away that I keep for sets to use in the winter. Twelve rows, 100 feet long, 18 inches apart, will make enough feed after the first year for 250 or more chickens and turkeys.

Now is the time to prepare for that dreaded disease called cholera. The time is here that the green shoots from the wheat, alfalfa and grasses will cause hundreds of chickens and turkeys to die from bowel trouble if not fed food that will check it. Last fall when the rains set in one of my neighbors lost 100 head of turkeys, another 40, and several others quite a number from the green, tender wheat and alfalfa. I feed two-fifths bran and three-fifths of corn chop, mixed with Venetian red until it has a strong red color, and have never lost a turkey. Some use the Douglas mixture, some scalded bran and corn chop with plenty of pepper. All are good, and with plenty of good coarse grit, and clean water, you should have but very little sickness in your flock. J. R. WHITE.

Salina, Kans.

How to Set a Hen.

Very few people know how to set a hen properly. In the first place, remember that you can't make her sit if she don't want to. Cut a barrel in two in the middle, then cut out one or two staves, so that when it is stood on its end there will be plenty of room for the hen to pass in and out. Place the barrel on the ground, with the headed end up, and then scoop out the earth to a concave shape and put in a very little fine hay, and the nest is ready for the eggs. If it is not convenient to put the barrel on the ground, a grass sod placed underneath the nest will answer. It is best to place the hen on a few glass or worthless eggs, at first, as she may not take kindly to the nest you have prepared for her. Place her on the nest after dark and she will get accustomed to it through the night. If she seems inclined to sit after this, she may be given the eggs which are intended to be hatched. If the hen is allowed to leave her nest every day, a small coop may be placed in front of the barrel, and then she will be sure to return to nest. She should always have near her a cup of water and plenty of food. If the above directions are followed and the eggs are well fertilized, a good brood of chickens may be expected.—Ex.

To Get Eggs.

When the eggs are intended for the market, the male bird must be excluded from the hen yard. When this is done the eggs will keep fresh longer, and in fact will never addle, but merely dry away. The virgin pullet or hen will lay more eggs than the mated one. Stimulating food fills the egg basket. It may consist of wheat bran two parts, ground oats one and one-half parts, ground corn meal an eighth part; season with salt and one-half teaspoonful of ground black or

cayenne pepper to the pint of food. For hatching eggs the best diet is wheat, oats, ground bone, clover and blue grass and plenty of fresh water for any and all purposes. The alpha and omega of success is cleanliness.—Mrs. R. A. Judy.

Care of Sitting Hens.

I think the plan of placing a tobacco leaf in the nest, mentioned by one of your correspondents, is a good one, if the hen does not dislike it and go off, not to return. Every hen that knows her business as she ought to, comes off her nest every forenoon to roll, to eat and drink, and to exercise; at least that is the way the old-fashioned hens used to do. If you love your hen, and have an interest in her chicks, you will provide for her comfort and health. Be sure to have fresh, cool earth for her to scratch and roll in, as well as some ashes. Some soft food, with scraps of meat, vegetables, etc., from the table, and not forgetting a dish or earthen pan full of clean water. Do not compel your faithful hen to drink from a rusty tin pan. If you have not grass growing where she can get it herself, provide her with some along with her other food. But if she can have access to a spot of grass, she will help herself to it freely, and will pick at the grass the last thing, then wipe her bill and slip back to her nest.—H. V. A., in Indiana Farmer.

Poultry Notes.

As long as eggs are sold by the dozen there is no object in breeding for size of eggs.

Sitting hens should be kept where they cannot be annoyed by the other poultry.

Don't try to raise a thousand hens till you are sure you can make a success of a hundred.

Feed young chicks a little at a time and often. Allowing them to get hungry, and then feeding them as much as they can eat is injurious.

Bone meal is one of the best things that can be used in rearing poultry. A tablespoonful mixed with each quart of soft food will make them strong and vigorous.

The best way to arrange perches is to have them rest on trestles such as carpenters use, 18 inches high. These can be taken out and replaced in a few minutes, and the house easily cleaned.

A chick hatched in May and well cared for will usually mature just as soon as one hatched in February, in any part of the country north of a line drawn east and west through St. Louis.

The chaff from the barn floor should be saved and thrown where the young chicks can get at it. It is full of hay seed, and this is the very best feed for them, and scratching for the seed gives them needed exercise.

Never feed your hens food that is tainted, for it will injure the flavor of the eggs. If you doubt this, feed your hens on onions for a day or two and then try eating the eggs. Our hens never get any food that is not clean and wholesome.

The demure cat is very fond of young chickens once she finds that they are edible. When she gets this far along in knowledge she is too smart to live. If your chickens are disappearing, investigate the cat. Some say it is a pretty good plan to dispose of the cat and then investigate.

Most people have gotten safely over the nest egg superstition, and the ice cold imitation nest egg is no longer a means of making the winter laying hen still colder when engaged in the performance of her duties. People generally have reached the conclusion that, even if a hen should need a pattern to do her work by, it would be rather late for her to attempt an imitation after she goes on her nest to lay.—Texas Stock and Farm Journal.

I would not advise one to leave a good trade to follow the poultry business, but would insist on keeping a few fowls in connection with your vocation. It is surprising on what a small place a few hens can be kept and lay eggs every day. I once kept a rooster and a few hens in a pen 6 by 19 during the spring months, and they laid well; the eggs also hatched well. They were given a variety of food, a little at a time and often, in one-half foot of chaff and straw, where they were compelled to work for it.—W. A. C.

Honey

Gathered by bees from alfalfa bloom is "the finest in the world," so say best judges. Send direct to the Arkansas Valley Apiaries for prices of honey delivered at your station in any quantity, at from 6 cents per pound up. OLIVER FOSTER, Proprietor, Las Animas, Bent Co., Col.

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HONESTY AND TRUSTFULNESS REWARDED.

S. E. Brees, of Orange, Had an Experience Recently which is Intensely Interesting—An Example for Others.

From the Lake Review, Osakis, Minn.

The following account of a farmer's remarkable experience was recently told a reporter by Mr. S. E. Brees, one of the oldest settlers and most prominent farmers of the town of Orange, Douglas County, Minn. Mr. Brees is town clerk, having held this position for several years, and is a gentleman of unimpeachable integrity and honesty. This experience of Mr. Brees is certainly interesting. He says:

"In August, 1891, as I was on my last day's drive with the harvest team, I suddenly became faint and weak. Every move or exertion was made with an effort. I rode home and rested a number of days but did not obtain much relief. The top of my head had a peculiar feeling. I could not rest or sleep. It went on this way until I was nearly crazy. I had the grip previous to this and it left me with a severe cough and also a dull pain about the region of the heart. I consulted a prominent physician and took his medicines for about two months. Some relief was obtained. The physician pronounced my trouble a difficulty of the heart arising from the after effect of the grip. My family were alarmed about me, and for two years they would not let me go away alone for fear I would never get home alive. I finally consulted another physician. He told me the same as the first, but thought he could help me. I took his medicine six months, and for a while obtained considerable benefit, but

the old symptoms returned and I was as bad as ever.

"My wife and son finally advised me to take Dr. Williams' Pink Pills for Pale People. I didn't believe that there was any help for me, and one day my son came home with a box of the pills. I began taking them and before the box was gone I felt cheerful and easy, as my head was clear and seemed to be rested. The pain had left my heart, and I could walk as spry as ever.

"I have taken nearly five boxes and for the past two years my health has been steadily improving, and now I am able to do considerable work, both in winter and summer. Today I weigh about fourteen pounds more than I ever did. I have much faith in Dr. Williams' Pink Pills for Pale People, and this is natural enough as they have alone restored me to health and strength.

"I am now 57 years old. I sleep good, the numbness has left my arms, my brain is clear; my heart beats regular, and all these comforts and blessings I attribute to the use of these pills. S. E. BREES."

Subscribed and sworn to before me this 20th day of April, A. D., 1897.

WILLIAM B. LYONS,
Notary Public, Minn.

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Special Want Column.

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

EGGS FOR SALE—Barre and White P. Rocks, S. C. B. Leghorns, Indian Game, Buff Cochins, Black Langshan, White Guineas. One dollar per fifteen. Mrs. W. H. Williams, Toronto, Kans.

FOR SALE—Barred and White Plymouth Rock cockerels, \$1 each; Mammoth Bronze Turkeys, \$2 each; peacocks, \$2.50 each. Barred and White Plymouth Rock eggs, \$1 per 15. S. F. Glass, Marion, Kans.

FOR SALE OR EXCHANGE—Mammoth Bronze tom, one of the finest, 20 months old. Cannot use him any longer. Address E. H. Pratt, Bonner Springs, Kans.

FOR SALE—Russian artichokes for hogs. Yield enormously. Fifty cents per bushel, sacked and put on cars here. Order at once. F. W. Truesdell, Lyons, Rice County, Kans.

BARGAINS—M. B. Turkey toms, 24 pounds, large bone, \$4; B. P. Rock cockerels, \$1 to \$2. Can order direct, describing wants, to save time. See February issues, page 1, for premiums. Mrs. F. A. Hargrave, Richmond, Kans.

WANTED—Kitchen help, able to cook and wash. Thirteen dollars per month. J. H. Taylor, Rhinehart, Kans.

STALLION FOR SALE—Imported registered Percheron-Norman. Black, weight 1,800 pounds. Address Joseph McCoy, Eskridge, Kans.

FOR SALE—One registered Poland-China sow and several hundred service (or Juneberry) and Crandall tree currant bushes. J. W. Vining, Wilsey, Kans.

WANTED—A sheep farm. Address W. M. Hollister, Box 605, Grand Forks, N. D.

FOR SALE—Buff Cochins Bantam eggs, \$1 for 15. A. T. Cooley, Jewell City, Kans.

FOR SALE—Poland-Chinas and Duroc-Jerseys, all sizes. Barred Plymouth Rocks and Single Comb Brown Leghorns. Eggs \$1 per 15. Write D. Trot, Abilene, Kans.

EGGS—Handsomely Barred Plymouth Rocks at \$1.50 per 15. John Saggau, Marion, Kans.

WANTED—To sell or trade for a large jack, one imported English Coach stallion, a good specimen of his class, weighs 1,400 pounds. J. C. Pontius, Larned, Kans.

FOR SALE—160 acre farm near Larkin, Kans.; improvements in perfect condition. Write Edmund Burr, Leavenworth, Kans.

TREES, SHRUBS, VINES AND A FULL LINE OF Nursery Stock at low prices. C. L. YATES, Rochester, N. Y.

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FOR SALE—Two registered Percheron stallions, weight 2,000 to 2,100 pounds. For particulars, address C. Spahr, Rome, Kans.

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2,000 BUSHELS SEED SWEET POTATOES FOR SALE. Nine best kinds. Write N. H. Pixley, Wamego, Kans.

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VINELESS AND COMMON SWEET POTATOES—Furnished to sprout on shares. No experience required. Directions for sprouting with order. T. J. Skinner, Columbus, Kans.

FOR SALE OR TRADE—Farm of 80 acres, 10 acres orchard; well improved; 3 miles to station. M. E. Charvoz, Allen, Kans.

WANTED—To lease or buy a cattle ranch, from 1,000 to 1,600 acres; southern Kansas preferred. Must have living water. Address, J. H. Wallace, 2408 E. Eleventh Street, Kansas City, Mo.

FOR SALE—Four large black jacks. Address, J. P. Wilson, Wellsville, Mo.

FOR SALE—\$3.00 per acre for improved 100-acre farm 1 1/4 miles north of Bushong Station, Lyon Co., Kans. Address, J. B. McAfee, Topeka, Kans.

FOR SALE—100 cars cottonseed meal. Also corn and feed. Address Western Grain and Storage Co., Wichita, Kas.

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TO EXCHANGE—A daughter of Hadley Jr., dam by Kiever's Model, for ten bushels of alfalfa seed on track. F. W. Baker, Council Grove, Kans.

JACKS FOR SALE—Three choice black jacks for sale, 3 to 5 years old. Prices right. Theo. Welch Selbaum, Ogden, Riley Co., Kans.

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FOR SALE—High-bred English Pug dogs, 3 months old. Price, males, \$5; females, \$2.50. Address Crystal Springs Poultry Farm, Salina, Kans.

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I HAVE A THOROUGH-BRED 2-YEAR-OLD Holstein bull for sale or exchange for another Holstein bull. Correspondence solicited. G. J. Coleman, Box 204, Mound Valley, Kans.

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NORTHERN-GROWN ONION SETS AND SEEDS. Red Wethersfield, per pound, 75c; Red Globe, per pound, 90c; Yellow Danvers, per pound, 85c; White Silver Skin, per pound, 90c; Bottom Sets, any kind, per bushel, \$2.75. Seed potatoes, all sorts, at lowest prices. Write me. E. R. Hayes, Commission Merchant, Topeka, Kans.

FIVE-ACRE TRUCK FARM ON KAW RIVER bottom, near Grover Station, in Douglas County; also \$300 worth of personal property, team, cow, household goods, feed, etc. Four hundred dollars spot cash takes it with suitable deed. No trade wanted. Address H. C. Allen, Big Springs, Kans.

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