

KANSAS FARMER

ESTABLISHED IN 1863.
VOL. XXXIV. NO. 30.

TOPEKA, KANSAS, THURSDAY, JULY 23, 1896.

SIXTEEN TO TWENTY
PAGES—\$1.00 A YEAR.

TABLE OF CONTENTS.

PAGE 466—AGRICULTURAL MATTERS.—Soil Ferments in Agriculture. Climatic Considerations in Cropping. Saving Alfalfa Seed.
PAGE 467—THE STOCK INTEREST.—Our Hog Interests. Some Hints on a Colt's First Lessons in Harness.
PAGE 468—IRRIGATION.—Growing Greeley Potatoes. From Pennsylvania. Farm Waterworks Combined With Irrigation. The Amount and Cost of Water.
PAGE 469—THE POULTRY YARD.—The Mid-Continental Poultry Show. Death to Mites. Tornadoes and Cyclones. Dodder in Alfalfa. Chinch Bugs.
PAGE 470—THE HOME CIRCLE.—The Spirit of Love (poem). Woman Frog Hunter. Testing Cake in the Oven. Fresh Currant Pudding. Useful Suggestion. How to Clean Silk. Cleaning Curatins. Bandaging a Finger. Steam Baths in the House. Ruches Worn This Season.
PAGE 471—THE YOUNG FOLKS.—Blue Violet (poem). Champion Boy Athlete. Tom Was Frightened. The Obedient Egg. Facing a Grizzly.
PAGE 472—EDITORIAL.—A Scrap of Ancient Kansas History. His Broad Acres.
PAGE 473—EDITORIAL.—Sacaline. Weekly Weather-Crop Bulletin.
PAGE 474—HORTICULTURE.—Apple Tree Scald. The Cottonwood Tree. Small Fruit Culture for Market.
PAGE 475—HORTICULTURE (continued).—A Cannery. Sheep in the Orchard. In the DAIRY.—Selecting Cows. How I Made Prize Cheese. Cheese and Courtship. Duties of Creamery Patrons.
PAGE 476—Gossip About Stock.
PAGE 477—THE VETERINARIAN....Gypsum for Alkali. Market Reports.
PAGE 478—THE APIARY.—Feeding Bees for Profit. The Control of Swarming. Bees in a New Line. Hints for Beekeepers. Notes for Beekeepers.

BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the Breeders' Directory for \$15 per year or \$8 for six months; each additional line \$2.50 per year. A copy of the paper will be sent to the advertiser during the continuance of the card.

HORSES.

PROSPECT FARM.—CLYDESDALE STALLIONS, SHORT-HORN CATTLE.
POLAND-CHINA HOGS.
Write for prices of finest animals in Kansas.
H. W. MCAFEE, Topeka, Kas.

CATTLE.

VALLEY GROVE HERD OF SHORT-HORNS.—For sale, choice young bulls and heifers at reasonable prices. Call on or address Thos. P. Babst, Dover, Kas.

FAIRVIEW STOCK FARM.—Registered Short-horn cattle. 7th Earl of Valley Grove 111907 at head of herd. Young stock for sale. E. H. Littlefield, Newkirk, Oklahoma.

WORLD RED POLLED CATTLE AND COTS.—World sheep. Young stock for sale, pure bloods and grades. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo.

NEOSHO VALLEY HERD OF SHORT-HORNS.—Imported Buccaneer 106658 at head of herd. Registered bulls, heifers and cows at bed-rock prices. Address D. P. Norton, Council Grove, Kas.

CATTLE AND SWINE.

ASHLAND STOCK FARM HERD OF THOROUGHbred Poland-China hogs, Short-horn cattle and Plymouth Rock chickens. Bred in service. Admiral Chip No. 7919 and Abbottsford No. 2351, full brother to second-prize yearling at World's Fair. Individual merit and gilt-edged pedigree my motto. Inspection of herd and correspondence solicited. M. C. Vansell, Muscotah, Atchison Co., Kas.

SWINE.

Holstein-Friesians. M. H. ALBERTY, Cherokee, Duroc-Jersey swine.

V. B. HOWEY, Box 103, Topeka, Kas., breeder and shipper of thoroughbred Poland-China and English Berkshire swine and Silver-Laced Wyandotte chickens.

POLAND-CHINAS FOR SALE.—Young Model 1957, King's Royalty 13927. Their get, either sex, otswold bucks. The above stock will be sold right if taken soon. Address H. H. Hague & Son, Walton, Kas.

OHIO IMPROVED CHESTER SWINE.—Pure-bred and registered. One hundred spring pigs at hard times prices. Also a few boars ready for service. H. S. DAY, Dwight, Morris Co., Kas.

PRINCETON HERD OF POLAND-CHINA SWINE contains the most noted strains and popular pedigrees in the U. S. Choice animals for sale. Address H. Davison & Son, Princeton, Franklin Co., Kas.

D. TROTT ABILENE, KAS., headquarters for POLAND-CHINAS and the famous Duroc-Jerseys. Mated to produce the best in all particulars. Choice breeders cheap. Write.

SWINE.

TEN POLAND-CHINA BOARS—\$10 to \$20 apiece. J. H. Taylor, Pearl, Kas.

K. N. FRIESEN, ALTA, KAS.—Proprietor of the Garden Valley Herd of Thoroughbred Poland-China swine. Selected from best strains. Stock for sale at all times. Write me. Mention FARMER.

FOR SALE—Duroc-Jersey pigs; also Poland-China. Bronze turkeys, Toulouse geese, Pekin ducks, Barred Plymouth Rock and Brown Leghorn chickens. Ready to ship out. J. M. Young, Colfax, Kas.

WM. PLUMMER & CO., Osage City, Kas., breeders of Poland-Chinas of the best families. Also fine poultry. Pigs for the season's trade sired by five different boars.

POULTRY.

VALLEY FALLS POULTRY YARDS.—The most extensive and best equipped yards in the State. Thirty-five varieties of chickens. Breeding pens scoring from 90 to 96. Eggs \$1.50 from pen No. 1 and \$1 from pen No. 2. All kinds of Cochins, Brahmas, Langshans, P. Rocks, Leghorns, Minorcas, Wyandottes, Hamburgs, Javas, Games, Sherwoods, Red-caps and Bantams. W. B. McCoy, Proprietor, the Kansas Poultryman.

POLAND-CHINA BOAR PIGS.—From Wren's celebrated Wren's Medium and Lady Orient, Long-fellow, etc. Nearly all solid black. Price \$7 for choice. No better bred stock anywhere in the West. EGGS.—B. P. Rocks from prize-winning stock at \$1.50 per pair. White and Brown Leghorns, Buff Cochins, Black Langshans, Black Minorcas, Silver Hamburgs, now all for 65 cents per thirteen. ZACHARY TAYLOR, Marion, Kas.

Barred Plymouth Rocks.

All the leading strains. Thirty young cockerels and twenty-five pullets for sale. A 98-point bird at head of the herd. Eggs \$2 per setting of thirteen. S. McCullough, Ottawa, Franklin Co., Kas.



Round Top Farm

PRAIRIE STATE INCUBATORS.

Plymouth Rocks, Light Brahmas, Langshans, Indian Games, Buff Leghorns, Bantams. Eggs \$2 per fifteen; \$3.50 per thirty. Forty-page catalogue, 10 cents, treats on artificial hatching, diseases, etc.

Fred B. Glover, Parkville, Mo.

A DEATH WARRANT for Lice, Mites, Fleas and other vermin on poultry, stock, etc. They are quickly and completely exterminated. No dusting or dipping. Lee's Lice Killer. Endorsed by all poultry farmers. A postal will bring circulars of information and testimonials. Good sellers. Agents wanted. Geo. H. Lee, Mfr. Lee's Lice Killer, Exeter, N. H. When you write mention Kansas Farmer.

SWINE.

BERKSHIRES. H. B. COWLES, Topeka, Kas.



FINE BLOODED Cattle, Sheep, Hogs, Poultry, Sporting Dogs. Send stamps for catalogs. 150 engravings. N. P. BOYER & CO., Coatesville, Pa.

E. LISTON, Virgil City, Cedar Co., Mo., wants to sell Berkshires at lower than gold basis prices. Try me for best quality and low prices. Mention KANSAS FARMER.

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.

BERKSHIRES. We offer choice selections from our grand herd, headed by a great imported boar. New blood for Kansas breeders.

WM. B. SUTTON & SON, Russell, Kansas.

WYNDALE FARM HERD. Registered Berkshires and B. P. Rock Chickens.

Only the best stock for sale. Eggs in season. Correspondence solicited. M. S. KOHL, Furley, Kas.

SELECT HERD OF BERKSHIRES

For ten years winners at leading fairs in competition with the best herds in the world. Visitors say: "Your hogs have such fine heads, good backs and hams, strong bone, and are so large and smooth." If you want a boar or pair of pigs, write. I ship from Topeka. G. W. Berry, Berryton, Shawnee Co., Kas.



J. T. LAWTON (successor to John Kemp), NORTH TOPEKA, KAS., breeder of improved Chester White swine, Youngstock for sale. Also Light Brahma fowls.

When you write mention Kansas Farmer.

SWINE.

BELMONT STOCK FARM

Geo. Topping, Cedar Point, Kansas.

Breeder of English Berkshires and Poland-China swine, S. C. Brown Leghorns, B. Plymouth Rocks, Mammoth Bronze turkeys and Imperial Pekin ducks. Write for prices. Farm six miles south of Cedar Point, Chase county, Kansas.

W. S. ATTEBURY, Rossville, Kansas, BREEDER OF Chester Whites Exclusively. Young stock at all times. Satisfaction guaranteed.

Kansas City Herd Poland-Chinas

The future villa of Hadley Jr. 13314 O., the greatest boar of his age. I have pigs for sale now by Hadley out of Tecumseh Mortgage Lifter 32649 S. Order quick and orders will be booked as received. Farm nine miles south of Kansas City, on Ft. Scott & Memphis R. R. Postoffice Lenexa, Kas.

W. P. GOODE, Proprietor, Lenexa, Kas.

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

PLEASANT VALLEY HERD REGISTERED POLAND-CHINASWINE

Westphalia, Anderson Co., Kas.

Breeder of high-class pedigree Poland-China swine. Herd headed by Tecumseh Grand 9178 S., assisted by Guy Wilkes 3d 12181 C. Tecumseh Grand 9178 S. is now for sale, also fifty choice April pigs. Write. E. A. BRICKER.

ROYAL HERD

POLAND-CHINAS and B. P. Rock chicks. Cunningham's Choice 13731 S., second premium State fair, 1895; his grandsire Victor M. First premium State fair, 1895, on Plymouth Rocks. Fifteen eggs for \$2. Ward A. Bailey, 1470 E. 15th St., Wichita, Kas.

TOWER HILL HERD

Registered Poland-Chinas.

175 head, 30 brood sows. Herd boars are Black Stop 10530 S.; U. S. Butler 13588 S.; George Free Trade 21053 A., and a grandson of J. H. Sanders 27219 O. Young boars ready for service and bred gilts for sale. B. R. Adamson, Fort Scott, Kas.

VERNON COUNTY HERD

PEDIGREED POLAND-CHINAS.

Forty-five spring pigs sired by Silver Dick 1480 S., and out of high-class dams. Write or visit herd.

J. M. TURLEY, Statesbury, Vernon Co., Mo.

J. R. KILLOUGH & SONS, Richmond, Franklin Co., Kansas.

POLAND-CHINA SWINE.

Herd headed by Upright Wilkes 13246 S. and J. H. Sanders Jr. 13739 S. 25 brood sows, 100 spring pigs; 18 young boars, 6 Sanders and 4 Wilkes, ready for service. Orders for youngsters being booked. Write or come. When you write mention Kansas Farmer.

Highland Herd of Poland-Chinas.

Herd headed by Breckenridge 12987 S. Fifteen brood sows of Black U. S. Tecumseh and Corwin strains; 75 choice spring pigs, March and April farrow; 5 fall boars, large and growthy, sired by Seldom 14251 S. We have some fall gilts that are bred to Claud Sanders. These gilts are large, growthy and with extra fine finish. We will sell as cheap as you can buy the same class of pigs elsewhere. Come or write. Dietrich & Gentry, Richmond, Kas.

Clover Leaf Herd Poland-Chinas.

We Have the Best. Nothing Else.

J. H. Sanders Jr. 14953 S. 35089 O. heads our herd. Three of his get sold for \$865; entire get at sale averaged over \$200; get during his term of service exclusive of public sale brought over \$2,700. Thirty-eight pigs getting ready to go out. Among our 14 brood sows are Black Queen U. S. Corwin 28801 S. Silver Bar U. S. 30684 S. Black Queen Hadley 1st 30574 S. Annie Black Stop 36631 S. and Ruby Rustler 4th 36355 S. Write, or better, visit the herd. G. HORNADAY & CO., Fort Scott, Kas.

R. S. COOK, Wichita, Kas., Breeder of Poland-Chinas.

World's Fair—more than any single breeder west of Ohio.

When you write mention Kansas Farmer.

CATTLE.

SHANNON HILL STOCK FARM

G. W. GLICK, ATCHISON, KAS.

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

SWINE.

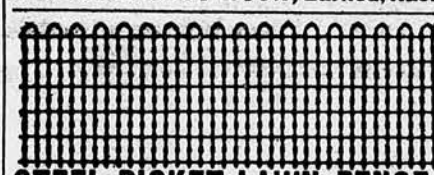
Thoroughbred Duroc-Jersey Hogs

Registered stock. Send for 44-page catalogue, prices and history, containing much other useful information to young breeders. Will be sent on receipt of stamp and address. J. M. STONEBRAKER, Panoia, Ill.

Italian Bees

Full colonies of Italian Bees shipped to any point, and at any time during the summer. Safe arrival guaranteed. Bee-Hives of the latest pattern. Smokers, Extractors, Comb Foundation, Books on Bee Culture, and everything pertaining to bee industry. Circular free.

Address A. H. DUFF & SON, Larned, Kas.

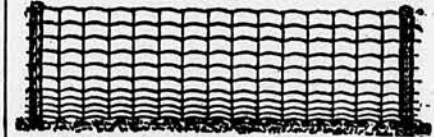


STEEL PICKET LAWN FENCE,

steel gates, steel posts and rail, also Field and Hog Fence Wire, single and double farm gates.

For further information, write to the

UNION FENCE CO., De Kalb, Ill.



Call Next Witness!!!

Name, J. W. Dewey, residence, Cambridge, Mich., occupation, farmer. Bought 40 rods of Page in 1886—gave note payable in one year, if perfectly satisfied. Paid note before due. May 21, '96, writes "10 years to-day since put up first Page." Holds all his stock, had no repairs, and has now 500 rods in use. See copy of his note and letter in the "Hustler."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

are unrivalled for the cure of chronic lung and throat diseases. Pure, dry air; an equable temperature; the right altitude; constant sunshine.

Descriptive pamphlets, issued by Passenger Department of SANTA FE ROUTE, contain such complete information relative to these regions as invalids need.

The items of altitude, temperature, humidity, hot springs, sanatoriums, cost of living, medical attendance, social advantages, etc., are concisely treated.

Physicians are respectfully asked to place this literature in the hands of patients who seek a change of climate.

Address G. T. NICHOLSON, G. P. A., A. T. & S. F. Ry., Chicago.

are unrivalled for the cure of chronic lung and throat diseases. Pure, dry air; an equable temperature; the right altitude; constant sunshine.

Descriptive pamphlets, issued by Passenger Department of SANTA FE ROUTE, contain such complete information relative to these regions as invalids need.

The items of altitude, temperature, humidity, hot springs, sanatoriums, cost of living, medical attendance, social advantages, etc., are concisely treated.

Physicians are respectfully asked to place this literature in the hands of patients who seek a change of climate.

Address G. T. NICHOLSON, G. P. A., A. T. & S. F. Ry., Chicago.

are unrivalled for the cure of chronic lung and throat diseases. Pure, dry air; an equable temperature; the right altitude; constant sunshine.

Agricultural Matters.

SOIL FERMENTS IMPORTANT IN AGRICULTURE.

By H. W. Wiley, Chief of the Division of Chemistry, United States Department of Agriculture, from the Yearbook of the United States Department of Agriculture for 1895.

(Continued from last week.)
KINDS OF ORGANISMS.

The nitric organisms in the soil exist in common with hundreds of others, many of which are doubtless active in the solvent work. The nitrifying organisms themselves, as will be mentioned further on, have such important relations in the supply of nitrogenous food as to have escaped consideration in their more purely solvent action. The attention of bacteriologists has been devoted almost exclusively to a study of the nitrifying organisms in respect to their relation to albuminoid and ammoniacal bodies. For this reason the action of these organisms and others relating thereto as a solvent for mineral particles in preparing them for plant absorption has not received the consideration which it merits.

THE NITRIFYING FERMENTS.

The micro-organisms of most importance to agriculture, and those to which attention is particularly called in this article, are the bacteria which act upon nitrogenous matters and oxidize them to nitric acid, or which exert a reducing effect on nitric acid, bringing it to lower forms of oxidation, or even to free nitrogen. These organisms belong to many different species, and act in very many different ways. The general group to which these organisms belong is known as nitro-bacteria. The classification of these organisms by genera and species would prove of little interest to the readers of this article. In general it may be said that there are three distinct genera, comprising, in the first place, those organisms which form ammonia or carbonate of ammonia from organic nitrogenous compounds, such as albumen; in the second place, the organisms which transform carbonate of ammonia into nitrous acid; and, in the third place, those which transform nitrous into nitric acid. Each genus is necessary in the complete transformation of proteid matter into nitric acid, in which latter form alone nitrogen is chiefly available for plant food.

FORMATION OF AMMONIA.

The bacteria which are especially active in the formation of ammonia are found constantly in the surface soils and in the air and rain waters. By the activity of these organisms in the decomposition of albumen or of an albuminoid body large quantities of ammonium carbonate are produced. The organic carbon, which is present in the compound, is also acted upon during the decomposition of the albumen, and by its oxidation certain organic acids are produced together with carbon dioxide. Any organic sulphur which is present in the original compound becomes converted into an acid. As a rule, nitrogen, in the decomposition of albumen and albuminoid bodies, is not produced in its free state unless, indeed, the denitrifying organisms should attack the products of the first oxidation. The ammonia ferment naturally produces alkalinity in the media in which it is active, but it has been found that its activity is not wholly destroyed even in the presence of a slight excess of acid, provided the amount of acid present does not exceed 1 per cent. As with the case of the other nitrifying organisms, the ammonia ferment is most active in a warm environment. A temperature of from 80° to 100° F. is found most favorable to the production of a maximum fermentative activity. As the temperature approaches the freezing point the activity of the organisms diminishes and finally ceases altogether, but their vitality is not destroyed. Above a temperature of 110° F. the activity of the ferment is also much diminished, and at a higher temperature ceases. A temperature near the boiling point of water continued for some time destroys the vitality of the organisms altogether.

The demonstration of the fact that

the transformation of organic nitrogenous matter into ammonia is due to micro-organic activity is easily made in the following simple manner: Two samples of the same soil are placed in suitable vessels. The percentages of ammonia and of oxidized nitrogen which these samples contain are determined by the usual chemical process. One of the samples is then sterilized by heating it for a few hours to a temperature considerably above the boiling point of water. After the lapse of a few weeks or months, the ammonia, or its oxidized products, nitrous and nitric acids, is again determined in the two samples. In the unsterilized sample it will be found, provided the soils be kept moist and at the proper temperature, that there is a marked increase of ammonia. In the sterilized sample no such increase will be found.

In general it may be said that the organic matter in the soil which is the source of ammonia is not altogether albuminoid or proteid matter, but includes also the nitrogenous constituents of humus. Soil humus is remarkably rich in carbon, and under the conditions favorable to nitrification this is constantly suffering oxidation. As a result of this constant oxidation the percentage of carbon in humus maintained for a long while under cultivation is much less in proportion to the other constituents of that body than in soils which are regularly fertilized with organic matters or in virgin soils.

The exact manner in which micro-organisms reduce the nitrogenous stores of humus to the form of ammonia are, of course, not known, and the ferments which are active therein have been the subject of less investigation and are more imperfectly understood than those which are active in the formation of nitrous and nitric acids.

It may be possible that the organism which converts organic matter into carbonate of ammonia and that one which forms nitrous acid are quite similar in their character, but this cannot be definitely stated.

(To be continued.)

Climatic Considerations in Cropping.

Our farmers have learned much in adaptation of crops to climates, and they have much still to learn. Not only surface configuration, elevation, and exposure give climatic variations, but soil formation and its mechanical texture intensify the necessities for wisdom in the selection of plants for cropping purposes. The fortunate combination of soil and climate of the uplands of the later geologic formations of the South produces the best cotton of the world for ordinary purposes. The ocean shores yield the sea island fiber which is unsurpassed in its class. Whether the Egyptian cotton, giving an intermediate fiber can find a suitable habitat here is uncertain and probably doubtful; it appears to be the product of its Nile environment. Tobacco is peculiarly sensitive to those differences of climate and soil, the latter especially. The Burley is apparently restricted to its Ohio river and blue grass areas, the heavy shipping to the valleys of the Tennessee and Cumberland, the golden wrapper to the upland districts of North Carolina below the Piedmont, the fragrant smoking to the Dansville and Lynchburg districts of Virginia, and the cigar leaf to small areas of peculiar adaptation in the Connecticut valley, in New York, Pennsylvania, the Miami valley of Ohio, and southern Wisconsin, each with marked differences of product. Every district has its distinct peculiarities which apparently cannot be exactly duplicated in any other part of the country, each growing to best advantage a distinct variety of the plant adapted best to its peculiar lines of product and special uses. The blue grass is a boon to the Ohio river region and in similar climates and suitable soils perhaps in less degree, but in large districts of higher altitudes it is little less than a bane by its comparative inferiority. The red clover has a wide area of adaptation, and is the source of unbounded fertility and rapid recuperation in extensive districts, yet

it is regarded as unsuited to soils of the extreme South, though available in more elevated and northern locations; and it is displaced in the arid regions by its deep-rooted and water-seeking conqueror, alfalfa. The Bermuda, Japan clover, and other southern plants on the Gulf coast, take the place of timothy, orchard grass and other plants deservedly popular in the more temperate regions of America and Europe. It is not merely a survival of the fittest, but a search for something to fit the climate and soil of each district for successful production.

In vegetables there are similar climatic and soil preferences. The Essex seacoast and the Weathersfield district in Connecticut may have something more than skill in cultivation and the accident of general exploitation to account for their great success in onion production. The New Jersey flats have something more than a proximity to a metropolitan market as their warrant for an annual production of vegetables worth \$500 to \$800 per acre. There is good reason why the New Jersey sweet potato commands a higher price than others from the same latitude or those even of more southern origin. The Kalamazoo marshes, floating on lakes, threaten to monopolize celery production, commanding fabulous rents for areas practically worthless a few years ago.

The peanut seems to have its peculiar and somewhat restricted habitat in the South, though it grows throughout the cotton States. In fruits we find still more marked and obstinate preference. The peach refuses to grow, bear or live long except in its chosen locations. The Michigan shores, with the lake on the west, staying development of bud and blossom in the spring as its winds sweep over masses of melting ice, and arresting the progress of frosts in the autumn by the influences gathered from water of higher temperature than the air. Similar causes make the success of peach orchards in western New York. The Maryland and Delaware peach belt is a product of climate and there are local advantages which give superiority to the peach orchards of the Shenandoah valley and other districts in the South. The apple is less fastidious, but the great apple belts are easily defined as western New York, western Michigan, the bluffs of Missouri—the Ozark region, the Blue Ridge and Valley of Virginia and mountain slopes of North Carolina, and southern New England. The Albaric pippin, which ranks in London with the Newton in popularity and price, grows in perfection only in Albaric, Bedford, Amherst and adjacent counties in Virginia. The grape is still more exclusive in its requirements. The European varieties refuse to live outside of greenhouses except on the Pacific coast. The Scuppernong will only live on the seacoast south of Norfolk. The Catawba and Isabella are natives of upland North Carolina, but grow in selected localities with favorable climatic influences, like Kelly's island and the shores like in western New York. Other fruits have similar preferences for soil and situation. In the arid regions of the West the necessities of wise selection of plants in agriculture are absolute and imperative. After utilization of available rainfall by fitting the soil for its reception and retention, after further use of all means of irrigation, there is still a very large opportunity to render agriculture profitable by the selection of plants best suited to climate and soil. It is a necessity now partially understood and in a tentative way practiced. When corn culture becomes precarious, rice corn, Kaffir corn and the various sorghums are found to endure the heat much better, and furnish substitutes for our great feeding grain, and alfalfa replaces our common forage crops for feeding. Many dry weather plants are yet to be introduced to add to the wealth of production of the dry zone, and to render possible the extension of home-making within it. As an extreme example the Australian salt bush has been recommended for the most arid section of California. It is perennial, producing itself from the root. It grows in wheel-shaped masses, sometimes attaining a diameter of six-

Sick Headache Permanently Cured

"I was troubled, a long time, with sick headache. It was usually accompanied with severe pains in the temples and sickness at the stomach. I tried a good many remedies recommended for this complaint; but it was not until I began taking



AYER'S

Pills that I received anything like permanent benefit. A single box of these pills did the work for me, and I am now a well man."

C. H. HUTCHINGS, East Auburn, Me.

For the rapid cure of Constipation, Dyspepsia, Bilioussness, Nausea, and all disorders of Stomach, Liver, and Bowels, take

AYER'S Cathartic Pills

Medal and Diploma at World's Fair.

Ask your druggist for Ayer's Sarsaparilla.

teen feet in one season. It has a prostrate habit, forming a green cushion eight to ten inches thick, and it is claimed to yield twenty tons of green or five of cured forage to the acre. It also grows from seed. It is said to be fattening feed in its green state for hogs and sheep, and that horses and cattle learn to live and thrive on it. A further extreme is the canagire, or tannin plant, which will not grow in good soil, but thrives in sand and gravel, growing two or three years or more. The plant has been growing at the experiment station in southern California. It seems at least to show that we need not despair of finding plants suited to the most unpromising situations. Here is fact for thought, suggestions for experiment, wherein lie some of the largest possibilities for the extension of American agriculture. —J. R. Dodge, in *Prairie Farmer*.

Saving Alfalfa Seed.

EDITOR KANSAS FARMER:—I have been much interested in alfalfa, and have put out in this vicinity, during the past two years, 800 bushels of seed. I am now frequently asked about the cutting and curing for the seed crop, and would at this time like to see something in the KANSAS FARMER on this subject, as the crop here is nearing the seed time. P. H. ALBRIGHT.

Winfield, Kas., July 9, 1896.

It is the opinion of many growers that alfalfa should be cut for hay and not allowed to mature seed until it is several years old. If the young plants are allowed to mature seed the stand is liable to become thin and irregular.

One of the best methods to harvest alfalfa seed is with the binder, using it as a dropper. This method is not more rapid than mowing and raking, but it is less liable to "shatter" the seed, and the saving much more than compensates the extra work. After a little curing the bunches dropped from the machine are "shocked" carefully and allowed to cure sufficiently for stacking, when, with careful handling, the alfalfa is stacked. Some thresh with the ordinary threshing machine, others with special machinery which is said to be preferable. Threshermen very soon learn, however, to do fairly good work with the common thresher.

EFFECTUAL.—Charles J. Booth, Olive-wood, Cal., says: "I have used Ayer's Pills in my family for several years, and have always found them most effectual in the relief of ailments arising from a disordered stomach, torpid liver, and constipated bowels."

Kalamazoo, Mich., is famous for celery—also as the home of Thos. Slater, whose advertisement appears on page 15.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

SEPTEMBER 17—W. H. Wren, Poland-Chinas, St. Joseph, Mo.
OCTOBER 1—E. E. Axline, Poland-Chinas, Oak Grove, Jackson Co., Mo.
OCTOBER 30—J. R. Killough & Sons, Poland-Chinas, Richmond, Kas.

OUR HOG INTERESTS.

Address of Hon. A. J. Lovejoy, before Illinois Live Stock Breeders' Association.

From the first settlement of our country the hog has been an important factor in the interests of agriculture, and from year to year as our country grows older the breeding and feeding of swine keeps pace with the other great industries of this country.

I find that for the year 1895 the receipts of live hogs at Chicago alone were 7,901,883, and for 1894 7,483,228; an increase for 1895 over 1894 of 418,655. In addition to this there were received 44,262 dressed hogs during 1895. There was exported to Germany and France during 1895 pork alone to the amount of 45,094,691 pounds; 1894, 35,537,598 pounds, and 1893, 20,677,410 pounds. This shows the increase of exports of pork alone for 1895 to have been 9,557,093 pounds, and that while all industries are lagging and many at a standstill, the hog industry has steadily increased and is to-day, in spite of all the drawbacks surrounding it, the most profitable of any department of the varied products of the farm in general and certainly so to the progressive farmer. And it is only the progressive farmer who reads, who thinks, and who uses brains as well as muscle in his business, that can hope to succeed in the future. The farmers' institutes of the different States and the State experimental stations are doing a most valuable work for the benefit of all who are engaged in agriculture or the breeding and feeding of domestic animals. The results of these experiments and investigations in throwing light upon the production of crops and the discussions at the institutes of this country have done more in the last ten years to awaken an interest in our methods than was done in a lifetime of earlier days. Yet how many farmers there are in every community who still persistently stick to the old methods and farm as did their grandfathers and in the growing of swine think that anything is good enough for a hog or that there is nothing in improved blood or improved methods, as a hog is a hog and that is all there is to it. These are usually the kind of farmers who are always running down their own business, claiming it does not pay. What would this kind of a man do in any other business?

The hog interest of this country is the sheet anchor of our prosperity and as such should command our best care and attention. He not only brings profit to the farmer beyond most of the domestic animals by condensing the products of the farm from the raw material into a finished commodity that is in demand all over the world, but he keeps the wheels of industry oiled. He is also the foundation of the Armour Institute, of Chicago, where the poor can secure a practical education and become useful citizens. He is also being used by unscrupulous persons in adulterating our cheese, and in this manner, while making another profit, is injuring another of our greatest industries—the dairy. A shame that this is true. As "time changes all things," so it has changed the demand for our pork products, and the profitable hog of to-day is a very different animal from his early ancestors, and from the very nature of his changed conditions it is necessary in order to make the greatest profit from him that he must be properly fed on such food as produces growth and muscle and given the best of attention by being sheltered from the winter's storm and summer sun. During the earlier part of his life, while yet suckling, he should be taught to eat by arranging a place where he will not be molested by the older animals, and should be given, if possible, sweet skimmed milk with wheat middlings. This, with a small

portion of corn meal added, or even whole corn, will develop him very fast, and by the time he is weaned (which should not be under three months) he is well on toward early maturity. Pigs farrowed early in March can be ready at weaning time to go into the clover pasture, than which there is no better or cheaper feed. At this age the feed should be somewhat changed. But if desired to push them for earliest possible shipment they should have a little slop as before, together with what corn they will eat. At this season of the year I would prefer the corn shelled and soaked in water twelve to eighteen hours, or until somewhat softened. By feeding in this manner they will eat more and digest it easier. They should have good shade in which to lie during the heat of the day, and also have all the pure fresh water they can drink. As the demand is now for a hog of from 200 to 250 pounds, you will, by this treatment, have your spring pigs ready for the market at from seven to eight months of age, or less, and they are ready to command the highest price in any market, and have arrived at this weight in a very short time and at little expense.

While a strong believer in early maturity, I doubt not that many of our feeders and breeders have carried it almost to the danger point by using corn as the only grain food, and by forcing the pigs on this for generations have materially weakened the constitution and subjected them to the many diseases that the modern hog is heir to; whereas, if milk, middlings, ground wheat, rye, oats, or a combination of any of these were used, with a little oil meal added, until the finishing period, then finish upon corn, we would have a hardier, healthier animal and be less liable to contract disease. Many would prefer to use less grain and get more from the clover, which is also a very profitable method where a little more time is needed to mature the animals. Good thrifty shoats on clover pasture grow and thrive well. An acre of good red clover pasture will make 400 pounds of growth on hogs and is a cheap and healthy food. Young hogs that have had nothing but clover during the flush of the of the season and then changed gradually to a full feed of corn will put on more pounds of fat per day than can be done in any other way. I have in one instance made an average gain of three and one-quarter pounds per day for a period of sixty days on a bunch of thrifty shoats by this treatment, using old corn shelled and soaked. Some may prefer pasturing until new corn is ready to feed but I am of the opinion that too much new corn fed to young hogs is not as safe as old corn, even though the cash value of old corn is much higher. I consider new corn rather a dangerous feed. It seems to in some way injure the digestive apparatus and get them in a condition to be totally unable to withstand an attack of disease. Some even go so far as to claim that exclusive new corn feeding will cause cholera, but this I think impossible, believing that nothing but the microbe or hog cholera germ will do this. In years past farmers thought a hog must be fed until he reached a weight of 350 to 500 pounds before he was ready for market, but have found that they can grow two hogs of 200 to 250 pounds cheaper than one that weighs 500 pounds and thus avoid much of the risk.

While the growing of swine is no doubt one of the most profitable industries it has its difficulties. There is a dark side to this as well as all other industries and much of this cannot be avoided. How many have had a fine, thrifty bunch of early pigs in the spring, given them the best of care and attention throughout the summer, have watched them each day thrive and develop in such a satisfactory manner, and are anticipating the profit for the care and feed, only to find at the next feeding time that one or two are a little off their feed. They come out with backs arched, heads drooping and a staggering gait. This is a time that tries a man's nerve and sets him to thinking. He must never weaken under this most trying ordeal, but act and act quickly. This is where many make a mistake by losing their heads

and getting discouraged. While we know that a bad case cannot often be cured much can be done by eternal vigilance. We once saved 80 per cent. of our herd by at once separating the well ones from the sick, and not the sick ones from the well ones, and removing them some sixty rods from any other hogs into a grass lot of about two acres containing a good dry shelter. This sleeping place was thoroughly cleaned every day or two, disinfected with air-slaked lime and carbolic acid and water. The troughs were treated in the same way, and clean, dry rye straw used for bedding. No corn was fed; but a feed of middlings, ground oats and oil meal given, this being a cooling diet. Fresh water was given and some aconite put into the drinking water to allay any fever that might occur. I have also used nitro-muriatic acid as prescribed by Dr. McIntosh, Professor of Veterinary Science of the University of Illinois. This we consider a grand good antiseptic, but, as the Doctor says, must be used with caution. We recommended it last fall to a party who was losing his hogs. He put the dose for some sixty young hogs into the drinking water and the few that came out and drank got the most of the acid and it killed ten of them.

I am not advocating any cure, or that it can be cured, but believe that by the strictest measures of sanitary surroundings and a determination to never let up with care and such medicine as you deem best at the time, a fair per cent. can be prevented from taking it. If it were not for the ravages of disease there is no telling where the hog interests of this country would end. Perhaps they would become so cheap that they would not pay. But as it stands to-day there is no part of the industries of the farm that can be made to pay as well as the growing and feeding of such hogs as the markets of this and foreign countries demand. Let us use better methods, give our best care and attention to every detail of the business, and in times of trial have lots of pluck and success will attend us, for

"Pluck wins, it always wins.
The days be dark and nights be slow
Twixt days that come and go.
Still pluck wins. Its average is sure.
He gains the most who can the most endure,
He who faces issues, who never shirks,
Who waits and watches, and who always works."

Some Hints on a Colt's First Lessons in Harness.

The following sensible remarks about breaking colts to harness were written by a correspondent of the *Country Gentleman*:

"Just at this time of the year many a farmer has a colt that he intends to train for future use, either as a farm or road horse. Now the matter of breeding, transmission of disposition and traits, is always of great influence over the character of the future usefulness of the horse, and will come out in one way and another while training the colt. But by a proper fitting and skillful handling all these things may be overcome, and a colt bred from stock that, because of viciousness and bad habits, are almost worthless, may be made a pleasant, safe, reliable horse.

"One of the most common mistakes is that of putting a colt into training while he is not in the best of flesh, and often when he is having but little, if any, grain. Such colts are soon drilled out and their nerve and muscle, of which they have but little, gone, and we soon have the beginning of balky horses, just because, while to appearance they may have flesh and weight, they have no muscle or nerve. Because they are tired, and not generally because of temper, they refuse to go on, and are, of course, accused of being balky.

"The first thing, in my opinion, to do in getting a colt ready for the training that is to make a horse of him, would be to commence the feeding of grain sufficient to get him in the best of condition—in such a condition that he feels full of spirit and pluck, so that when taken out at halter you have your hands full to handle him. During this time of better feeding, be sure each day to give him a good grooming, not only for the help it gives toward a better condition of flesh and nerve, but because of his learning

Woman's Work

Is never done, and it is especially wearing and wearisome to those whose blood is impure and unfit properly to tone, sustain and renew the wasting of nerve, muscle and tissue. The only remedy for tired, weak, nervous women is in building up by taking a good nerve tonic, blood purifier and vitalizer like Hood's Sarsaparilla. For troubles Peculiar to Women at change of season, climate or life, great cures are made by

Hood's Sarsaparilla

The One True Blood Purifier. All druggists. \$1. Prepared only by C. I. Hood & Co., Lowell, Mass.

Hood's Pills do not cause pain or gripe. All druggists. 25c.

by it to handle, which will do much toward making him less shy of biting gear or harness when he comes to that. All this may seem of but little account to most men, but no matter. I have seen many a horse that made trouble every time he was harnessed just because of some little mistake at the first few times of harnessing or unharnessing.

"The practice of a large majority of men in the biting of the colt, that of putting him in the biting gear and turning him out in a yard or field for hours is, to say the least, barbarous, and often spoils the carriage of head and easy handling on the bit. In my own practice I never put a colt in the biting gear and let him loose from my hold a moment. I want him to learn at once that I am the master of things, and for the first few lessons I never give him more than twenty to thirty minutes of the straps, and not pulled very snug at that. Just as soon as he shows weariness (and he will in a very short time) I take him out, and, after a short resting, put him in again. In a very short time the colt will become accustomed to these new things, and take lessons of much longer time; and he is then ready to have reins put in, and you can step in behind him and begin to teach turning to right and left, stopping at the word 'whoa,' and standing back when told to.

"When these are learned, your colt is ready for the shafts or pole. Generally it is well for the first few hitchings to put him beside another horse. But never make the mistake of putting him in with some slow, spiritless horse; but rather have one that can be with him in every move, and stay with him if the colt wants to make a good lively gait. Besides, with a horse with him, the colt will pass many things without fear, which, if alone, would make him shy. After a few times of light hitching, commence with light loads, something that the colt will feel easy to move. And by careful handling for the first few months, you will be surprised at the weight he can handle, and with what ease and confidence he will take a load out of a tight place.

"Never be jumping to catch hold of a colt at every move he makes, for he soon comes to feel you have no confidence in him, and will become very uneasy about standing. This matter of standing when stopped can be well fixed with the colt when first in the biting gear.

"If you do not want a horse that is troublesome in shoeing, you can, at the time of grooming, or in the biting gear, handle his feet so that when taken to the shop for shoeing you need have no trouble, and will always feel safe to put him in the hands of the blacksmith and have no fear of his getting injured by shoeing.

"Never drive so far, when first handling, that he will come back to the stable tired and spiritless, and you will generally have a free, smart driver. I never use blinkers or check, only use the check-rein while training for the harness. Without blinkers you seldom have a skittish or shying horse, and without check he can do more work, or cover more miles, and not be worried.

"Another thing—never get angry at

the same time the colt does, for if you do you will get into trouble. Generally be careful in the use of the whip. It may be needed sometimes, but generally one blow will answer far better than more. Never show fear or nervousness yourself if you want a horse to be calm.

"This method of training colts has been my practice for years, and I can to-day look back over a term of forty-five years and say I never had a balky or vicious horse; and I have bred them from several strains of high-mettled stock, and have, in handling scores of colts, found many that, with a little mistake in training, would have been like hundreds of horses all over the country—not worth a dollar for use, because they cannot be relied on when wanted. Balky, vicious trainers generally make horses like themselves."

Irrigation.

GROWING GREELEY POTATOES.

There was a time when the opinion generally prevailed among the Greeley farmers that very little water was needed in successful potato culture; no such idea prevails to any extent now. The original belief, or impression, arose from two sources. Old settlers who had grown potatoes on the alluvial margins of the rivers, before upland irrigation was practiced to any extent in Colorado, had been in the habit of selecting choice places for this crop where the under soil was always damp and little artificial irrigation was required. They said that potatoes needed very little water, and if that theory was true they ought to get along all right this dry year. In a majority of the upland soils, in the raw, unmanured state, it was found that either early irrigation for potatoes or corn, or even later irrigation in excess, resulted in the first instance almost invariably in stunting the growth of the vine, which turned yellow and sickly after the application of the water; and the second instance often checked instead of stimulated the growth of the tuber, and resulted in ill-formed potatoes and a small yield. Now they have ascertained that all this is the result of a condition of the soil; a cold mineral soil, almost destitute of decayed vegetable matter, and having little soluble material in it for plant food, often sodens down like a mass of plaster when water is applied, and plants, especially corn and potatoes, cannot assimilate much water to advantage when planted in such land. Constant stirring of the soil, of course, benefits the crop under such circumstances, but with a lean soil, whether of a sandy or clayey nature, no one could tell before heavy manuring of the land was resorted to whether a very early irrigation, rendered necessary from the absence of the usual spring rains, would benefit or injure the potato crop. Experience and practice are entirely different now. As they began to apply manure in quantities to the lands in order, primarily, to increase the fertility and the resulting yield, they made the discovery, first, that the plants needed more water or the manure would burn them; and next that with richer soil and more plant food, rendered soluble and available with water and cultivation, both potatoes and corn could stand more water and earlier in the season, not only without injury but with material and perceptible benefit. Now when they can get it they use twice the water they used to think either safe or necessary. At one time in the history of potato farming near Greeley, the farmers figured that if it became necessary to irrigate potatoes to bring them up the chances were just about even between total failure if they did not put on the water and a practically total failure if they did. Now the moment the growers get done planting, if the ground is too dry to bring the potatoes up, and if the prospect of copious rainfall is not extremely favorable, no one fears and very few hesitate to furrow out the ground and put on the water at once; and if the seed is in fair condition it is the uniform experience that the young plants will push themselves through

the earth in an astonishingly short time, and grow with vigor after they come up. Two irrigations were formerly considered sufficient, under ordinary circumstances as to rainfall, to mature an average crop of potatoes. Three irrigations under the conditions of extreme drought were considered ample. As the country gets older and improved methods of cultivation supersede the first primitive efforts; as the soil is enriched by liberal coatings of manure, or by the turning under of masses of alfalfa, rich in nitrogen and other plant foods, more and more water is required to produce the best results. The potatoes are irrigated from four to eight times now, and when there is a sufficient supply of water the growers do not hesitate to run the water down the potato rows once every week from the time it first becomes necessary or advisable to apply the water until the growth of both tuber and vine is completed, and the results would be all the better; only provided that the soil is well drained and thoroughly enriched with manure or alfalfa and that cultivation is thorough. The strong point in the whole business is to keep the ground at an even moist temperature, and in very dry seasons, like the one now upon the country, this subject of moisture becomes a good deal of a worry and water has to be doled out sparingly. In certain localities around Greeley large reservoirs supply sufficient irrigation and farmers living under these reservoirs are fortunate in being so advantageously situated. With short water the need of cultivation becomes more apparent and must be conscientiously carried out.—*Denver Field and Farm.*

From Pennsylvania.

The following letter from the well-known firm of David Landreth & Sons, of Bristol, Pa., and the answer of the editor of KANSAS FARMER, are given because the information asked and given is such as is of importance to many others as well:

BRISTOL, PA., July 13, 1895.
EDITOR KANSAS FARMER:—We have been advised to write your journal with respect to underground irrigation as compared to surface irrigation. Like several hundred thousand other river farmers we have a farm which suffers annually from protracted drought, while sweeping past us at a depression of ten to twenty feet below the surface is an unlimited volume of water, in this particular case one mile wide and twenty feet deep. The farm surface is of very variable contour, elevations and depressions ranging in all and every direction six to ten feet in spots of five to six acres. How is such a farm irrigated? How is the water obtained from the river front? How is it applied, and do ponds form in the basins? If a cheap, practical plan could be made public there are hundreds of thousands of farms, east and west, which could be turned into gardens by use of water now rushing past their doors.

D. LANDRETH & SONS.

TOPEKA, KAS., July 18, 1895.

David Landreth & Sons, Bristol, Pa.:

GENTLEMEN:—Your letter of July 13, making certain inquiries about irrigation, is received. The writer is somewhat interested in irrigation, having a farm on which he has an irrigation plant which was used to some extent last year and enlarged and improved for this season's work.

The question as to whether irrigation should be underground, or, as frequently designated, "sub-irrigation," or by application of water on the surface, is rather a large one. Where the underground system is used it is necessary to lay tiling at about fourteen to eighteen inches below the surface, and in lines at varying distances apart, the distance depending much upon the character of the subsoil. If the subsoil is open and gravelly, so as to allow water to pass rapidly downward, it is scarcely practicable to pursue this method at all. This point has been quite well established by the experiments of the Utah Experiment Station, at Logan, whose bulletins on the subject you will find valuable and interesting. Prof. F. H. King, of the University of Wisconsin, at Madison, has also conducted valuable experiments on this subject, accounts of which are given in his annual reports for 1894 and 1895. The subject is also somewhat discussed in Prof. King's book, "The Soil," published by MacMillan & Co., New York. Hon. Martin Mohler, of Topeka, ex-Secretary of Kansas State Board of

POWER FROM GASOLINE? YES.

Its Very Economical, Simple, Safe and Reliable, and Weber Gasoline Engines require no engineer. His salary goes in your pocket. For information address Weber Gas & Gasoline Engine Co., 459 Southwest Boulevard, Kansas City, Mo.



Agriculture, has made a considerable study of sub-irrigation, and has contributed several articles to current periodical literature on the subject. So, also, Mr. H. R. Hilton, of Topeka, recently a special agent of the United States Department of Agriculture for the investigation of soil moisture in Kansas, has been a diligent and careful student of the subject, and is, perhaps, as good an authority on the circulation of water in soils as can be consulted.

Recurring to the subject of sub-irrigation, my inquiries into the matter lead me to believe that over a compact clay subsoil it may be made successful by pulverizing or loosening the surface soil to the depth at which the tiles are laid. I have, however, considerable doubt as to whether, for general application, this method is as much to be commended as the more usual method of passing the water to the soil through furrows on the surface, or, where this is not practicable, flooding.

The question you raise as to the practicability of bringing water to land lying as you say yours lies is one which cannot be answered without a fuller description of the land than your letter contains. A little competent engineering enables one to carry water onto places which novices would declare impossible, but if the land lies in mounds, and these mounds are too great to be leveled off, irrigation is probably impracticable on the higher points; so, also, if there are depressions from which the irrigation water cannot be drained great damage is liable to result from the settling of the surplus water into the depressions. If I had a contour map of your farm I might form a fairly intelligent opinion as to the practicability of irrigating it, or any part of it.

It seems to me little less than criminal to allow crops to be parched or even seriously damaged by dry weather, with an abundant supply of water so near as you describe. My impression is that the most feasible method of lifting water in such case is by pumping. In this State, where the wind is strong, steady and willing, the windmill pump is by all odds to be selected. My windmill has pumped over 600 gallons per minute, and I think in our strongest winds is capable of lifting 1,000 gallons per minute, the lift being about the same as yours; but the details of this and as to the distribution of water on the land are subject to local conditions to such an extent that without a knowledge of the cost of fuel, and the sum of other uses of engine power, etc., it would be impossible to advise intelligently. I shall be glad to hear from you at any time and to contribute such information as I may possess.

Very truly yours,
E. B. COWGILL, Editor.

Farm Waterworks Combined With Irrigation.

A supply of water is a prime necessity, and the matter of raising and distributing it artificially is of first importance, especially where rainfall is limited and irregular. I began early this spring to supply my garden, lawn, etc., with water artificially. A reservoir sixty by sixty feet was constructed by excavating to a depth of three feet and making a bank of earth with that taken from the inside. This holds sufficient water to supply two and one-half acres, and cost me \$14.85. Water in abundance is found in the valley of the Arkansas at a depth of about six feet. A ten-inch galvanized iron casing, punctured so as to admit water, was sunk in the gravel to a depth of fifteen feet. In this a pump was placed with five-inch cylinder, the stock projecting about six feet above the surface of the ground. Over this was placed a ten-foot windmill mounted on a forty-foot tower. Since its erection there has always been sufficient wind to keep it running rapidly, and the pond can be filled at the rate of 1,000 gallons per hour. In order to secure pressure for distributing water about the house and barn, watering trees, flowers, grass,

running a fountain, washing buggies, watering stock, etc., a stand-pipe system was constructed. I secured twenty-six feet of ten-inch galvanized casing, bolted it to the top of the pump stock, had a plug fitted to screw into the spout of the pump, fastened a two and one-half inch waste pipe on the outside of the larger pipe, tapped the pump stock ten inches above the surface, and the problem was solved. With a thirty-two-foot head I secure enough pressure to throw a stream of water ten to fifteen feet high and twenty-five to thirty feet horizontally. If grass and flowers will grow on the banks of the fish pond it will not only be useful but will be a thing of beauty. I expect to stock it with fish as soon as the United States fish car comes this way.—*M. B. Fitts, in Orange Judd Farmer.*

Amount and Cost of Water.

Extract from paper read at the annual meeting of the Illinois State Horticultural Society, by Dr. Clark Gopen, Superintendent of the Illinois Eastern Hospital.

In the farther discussion of this subject I will endeavor, as far as possible, to anticipate questions, but will be most happy to have any of you ask questions that may occur to you. First: What is necessary to raise crops by irrigation? Water, soil and sunshine. As the latter is beyond our control we will confine ourselves to the two former. And first, with reference to water. It makes but little difference what kind of water is used just so it is wet. It does not need to be clean water. On the contrary, it is better that it should not be, if the impurities contained are such as will not injure the crops or are such as will benefit them. Of course brackish or salt water could not be used, but the water that runs in the streams, pond waters, well waters, spring waters or storm waters, all answer the purpose well. Those who are so fortunate as to have large ponds, springs or running streams, need have but little difficulty in obtaining the necessary water supply. The need of irrigation in this region is not felt to such a degree as to lead to the hope that any extensive system of irrigating ditches will be laid out through our valleys, as might readily be done if the need was more urgent, and which would pay well even under present conditions. So that irrigation in the humid regions will undoubtedly be individual, rather than co-operative, in character.

What, then, are the means by which an individual, or, at most, two or three individuals acting together, may secure to themselves an irrigation plant? In a very few cases this may be done by building a dam across a stream and diverting the water into a channel, which will be carried around on the higher grounds and utilized by those owning the land farther down the stream, as is done in Colorado. But, in the main, I take it, irrigation in the humid regions will be used by horticulturists and garden or truck farmers, and in this case only tracts of from ten to forty acres will be irrigated. In these cases the water will have to be raised, probably by some form of pumping machinery.

The first question to be determined is the question of the amount of the water supply. Before you can have your stew you must catch your rabbit. If you have only water for your stock or house you might just as well drop the subject at once. To irrigate even a few acres will require water by the thousands of gallons, nay, even by the hundreds of thousands of gallons. But this need not alarm you, for by means of improved and comparatively inexpensive pumping machinery it is now found possible to deliver water at a very small cost. Our irrigation required from 100,000 to 200,000 gallons per acre.

A rainfall of one inch of rain covering one acre of ground requires 27,154 gallons. As at least two inches of rainfall is necessary for even a light irrigation, approximately, 55,000 gallons per acre are required for this. Eight inches, or 220,000 gallons, will give two

good wettings, which is usually all that is needed in this region. More water can be used to advantage, as a 70 per cent. saturation by bulk, it is estimated, will give the highest results.

The amount of water used per acre seems to vary much with different users, through economy or wastefulness, also in various countries. Prof. King found he could use thirty-four inches for the season in Wisconsin. In California the amount runs from seven and one-half to twenty inches; in Colorado twenty-two inches; in India forty-eight inches. In Italy four inches are used for a wetting. In France and Italy the amount per season is about fifty inches. I think eight inches a safe estimate for the season.

We found that it cost us about three-tenths of a cent per thousand, or \$3 per million gallons, to deliver the water at the point required. At this rate the cost of delivering 100,000 gallons, the amount necessary to irrigate one acre, was about 30 cents; for two irrigations, about 60 cents per acre. You see, therefore, that the expense is not great. This is a rather higher cost than is usually made for lifting water, for the reason that we maintain in our system a pressure of fifty pounds, thus requiring high-pressure pumps, which are more expensive to operate than low-pressure pumps. If your farm is located on the bank of a stream, or if you have an inexhaustible well, you can afford the expense of raising water. I think the farmer, even if he has but a small surplus of water, cannot afford to fail to use it for the purposes of irrigation, for not only does he derive the benefits of increased products, but the use of the water improves his soil. The valleys of the Nile and the Ganges, reckoned the two most fertile valleys of the world, have been tilled without interruption for thousands of years with no other fertilization than that which is derived from the waters of these rivers.

Tornadoes and Cyclones.

The Chief of the United States Weather Bureau has issued a circular deprecating the use of the term "cyclone" when "tornado" is meant. In explanation he says:

"The tornado is a sudden outburst of wind in an otherwise quiet, sultry atmosphere; it is ushered in by a loud, indescribable roar, similar to a continuous roll of thunder; its path is very narrow—seldom more than 500 feet wide at greatest destruction; it moves, generally, from southwest to northeast, and rarely extends more than twenty miles; it very often rises in the air, to descend again at a point a few miles ahead; it is always accompanied by thunderstorms, with often a bright glow in the cloud; this cloud has usually a funnel shape, which appears to be whirling, though some observers have described its appearance like that of a huge ball rolling forward. A tornado may be considered as the result of an extreme development of conditions which otherwise produce thunderstorms.

"A cyclone, on the other hand, is a very broad storm, oftentimes 1,000 miles in diameter, and sometimes can be followed half around the world; the winds circulate about it from right to left, or the way one turns clock hands backward (in the southern hemisphere this motion is reversed). The air pressure always falls as one approaches the center, where, at sea, there is a portentous calm, with clear sky visible at times. The cyclone winds often rise to hurricane force, but are not to be compared with the extreme violence of the tornado, before which the most solid structures are razed.

"The French term *trombe* or *tourbillon* describes almost exactly the tornado, which term was first applied to severe squalls, with funnel-shaped clouds, experienced on the west coast of Africa, and which, to this day, inspire the utmost fear in the minds of the natives."

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

Young men or old should not fail to read Thos. Slater's advertisement on page 15.

The Poultry Yard

The Mid-Continental Poultry Show.

The managers of this show are making great efforts to excel any of their previous shows. Having gained for itself an enviable reputation for fair dealing, prompt payment of premiums, and impartial judging, and the managers having secured the services of the most noted judges of the country this year, they confidently promise all breeders and exhibitors the largest poultry show of the West, from December 22 to December 29, inclusive. The judging will be completed the second day of the show and the ribbons will be up.

The most noted breeders of the country have assured the managers of their desire to exhibit, as they consider the prestige of the Mid-Continental second to none. Ample provision will be made this year for a personal and competent supervision of all birds exhibited without the presence of the owners.

Death to Mites.

EDITOR KANSAS FARMER:—In our FARMER of 1895, some time about February, there was a recipe for destroying mites in a chicken-house. It was a drug and hung in a vial under roosts. Will you kindly publish it again?

MRS. A. F. BROWN.

Abilene, Kas., July 10, 1896.

Bisulphide of carbon is the substance referred to. Buy it in not less than pound lots. Put a little in a small bottle, stop the bottle with cotton or some

seed, if possible, from fields known to be free from dodder. Where alfalfa is cut every thirty or forty days for the hay crop there is but little chance for the pest to thrive, as it will not spring back from the root, but must reseed itself to grow at all.—*Montana Stockman.*

Chinch Bugs.

EDITOR KANSAS FARMER:—I see that my article on chinch bugs—the way to fight them—has called the attention of at least two brother farmers to the subject, who give their plans of fighting them, each differing from the other, and each differing from the plan I gave. I want to say I thank them for the attention they have given the matter. I believe it to be a matter of sufficient importance to us farmers to be thoroughly worthy of an earnest investigation.

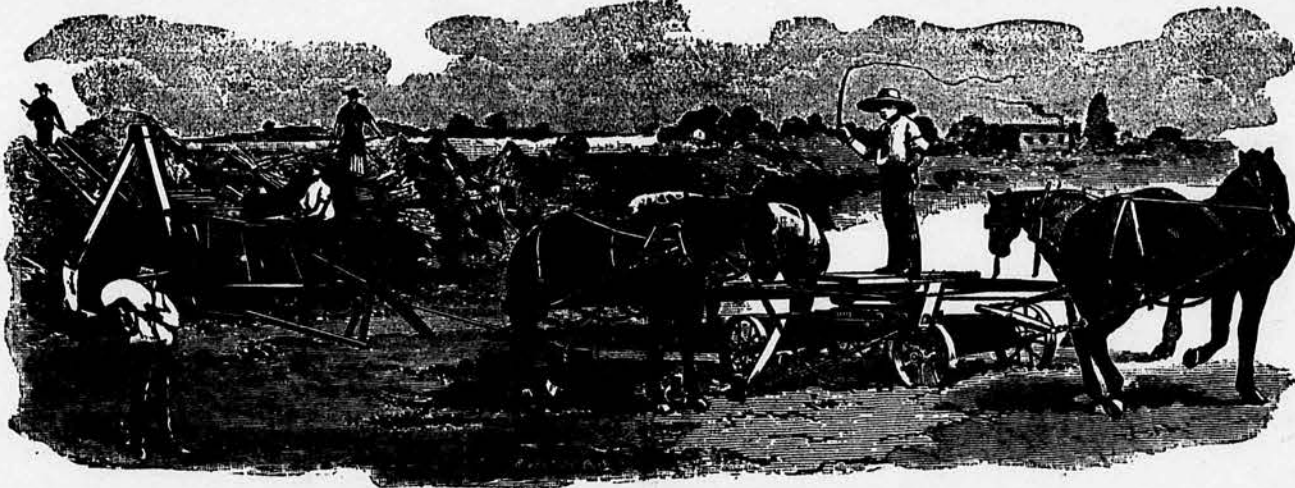
I was aware that the plan I presented could not be carried into effect without a great deal of labor and trouble, and for that very reason, when I remember we farmers are as loth to be to extra trouble as other people are, there being a manifest tendency to endure adversities rather than to tackle what seem to be gigantic difficulties, in an attempt to rid ourselves of them, I suggested the compulsion of the law.

I shall first notice some parts of Mr. F. P. Stonebraker's plan. He says, "burn over all the places where they have wintered." This, he seems to think, will destroy the bugs before they have an opportunity to lay eggs. I agree that the plan is a good one, if the bugs can be reached with the fire at that time in the places where they have wintered. All we need to do is

Snow's remedy, without concert of action over a large area of country—so large they cannot fly over it.

P. P. Deckman thinks they can be headed off by sowing clover. His remedy is a good one if clover will keep them off. Those living where clover will grow will do well to experiment on that line. But, unfortunately for us in this locality, clover so far has been a failure—that is, we cannot get it to grow to any purpose. I received one letter from a brother farmer, which, I am sorry to say, has got misplaced and cannot be found and I do not remember his name, but I think his plan is worthy of notice, for there is some merit in it. But that, too, is surrounded by difficulties. His plan is to, so soon as the wheat is cut, plow furrows a short distance apart through the field (this is before the new bugs can fly), then dig holes, like post-holes, occasionally along in the furrow, between which pour a continuous string of coal tar. The bugs will not cross the tar, but will run along it, seeking a place to get through, and when they come to the holes they will fall in and not be able to get out, when they can be destroyed. This might accomplish the purpose if there came no rain, but so soon as there should be any considerable rain storm, it would cease to be a bar to their progress.

Now, brother farmers, I hope you will spend some thought on this subject. These bugs are the greatest pest that menaces our crops. The loss by them aggregates millions every year. If we were to quit raising wheat they would soon disappear, but this would not be desirable to do, as we



COLUMBIA THRESHING MACHINE.—Manufactured by Belle City Manufacturing Co., Racine, Wis.

porous substance, leaving the stopper loose enough to allow the smell to escape. Hang in the chicken-house and close the doors and windows until the chickens come in, then cork the bisulphide tight until the next day and repeat. Be careful to not bring any fire near the bisulphide, as it is explosive. It is death to lice and mites.

Dodder in Alfalfa.

This is the time of year to begin looking for dodder in the alfalfa fields, especially those that are not to be cut for hay this month but are to be reserved for the seed crop. Dodder is the worst pest that has ever come to alfalfa plantations, and it can be eradicated by timely action and by employing the proper means. When the affected patches are first noticed mow them with a scythe about the width of a swath outside of the plants actually infested. As soon as the plants cut are dry enough to burn rake them to the center of the patch and burn them. Do not attempt to carry them out of the field as there would be danger of scattering the seeds or pieces of dodder. If a field has become thoroughly infested in many places it ought to be plowed and the plants turned under, to be followed for two or three years by hoed crops or cereals. A solution of calcium sulphite has been used in Europe to kill dodder seeds in clover seeds, and it would doubtless work as well with alfalfa seed, as its action depends upon the difference in the hardness or thickness of the seed coats of the dodder and clover. The best and safest method, however, is to use only clean seeds. The dodder seed is much smaller than alfalfa seed and may be screened out, but it would be better to obtain alfalfa

to study their habits a little and the difficulty is easily discovered. They hunt shelter under whatever trash or litter may be found next the ground, and around the stalks of grass next the roots, just beneath the surface; under leaves in timbered or brush places, in orchards and in any place where moisture or shelter can be found. In such places freezing does not hurt them. The first warm spell that comes to start the wheat or other early vegetation, they come out, and immediately fly off in search of green food. At such times the air will be full of them, and they will go miles away, or till green food is found. Now, to burn off the litter in the spring we would burn the surface, which is dry, but the bugs are next the earth, and often just in it, where it is too damp to burn, so we see we could not reach them then. If we could burn over all the country during an extreme dry spell in the fall, I think it would accomplish the purpose; but there is almost, if not quite, an insurmountable difficulty meets us here. Most of us have learned to our sorrow that fire, when all combustibles are dry, sometimes has a fashion of getting beyond our control, in which case the remedy might be worse than the disease. He is right when he says, "Mr. Willey thinks it is useless unless there is concert of action." I may go to work and clean up my own farm, but I cannot demonstrate to my neighbors, who do not, that I am not troubled with the bugs eating up my crops, because however much I may clean up, my neighbor's bugs will fly over the fence and destroy my crop just as badly as they do his. I assert, again, there can be nothing accomplished in any method I have ever heard of, not even Prof.

need bread. Let us investigate this matter thoroughly and try to arrive at some plan which has the elements of feasibility about it, and then let us go to work and rid ourselves of this pest. It will be necessary to have a concert of action all over the country. I believe it is within the power of man to rid himself of the ravages of most of these pests, if he will only exert himself to find the remedy which it may require to accomplish it, or it may be necessary to rearrange our social relations so there will be more co-operation. C. W. WILLEY.

Horse bread in France is made of 400 pounds rye flour, 100 pounds crushed rye and 100 pounds wheat bran. It is advantageously fed with hay and straw to the army horses and horses in Paris, that require extensive feeding.

SHORTHAND Typewriting, Book-keeping and Penmanship thoroughly taught. Twelve teachers, 600 students, cheap board, and the finest Commercial College Building in America. Graduates readily secure situations. Beautiful illustrated catalogue FREE. Address D. L. MUSSELLMAN, Pres., Gem City Business College, Quincy, Ill.

THE STATE OF has a population of 400,000 and with development of its great resources in Agriculture, Timber, Minerals and Fisheries, will support millions. Climate, mild, healthy, equitable. No cyclones, blizzards or violent thunder storms. No malaria. Its seaboard advantages are unequalled and three transcontinental railroads have their terminal on Puget Sound. Farmers and manufacturers especially should add. Sec'y Wash'ton State Immigration Ass'n, Seattle, Wash.

"Eli" Baling Presses

33 Styles & Sizes for Horse and Steam Power
48 Inch Feed Opening
Power Leverage 64 to 1
Send for 64 page illustrated catalogue.
COLLINS PLOW CO., 1120 Hampshire St., Quincy, Ill.

The Home Circle.

THE SPIRIT OF LOVE.

Men say that the reign of fairies
Has passed forever away;
That magic no longer varies
The world's plain, working day.
But there is a spirit that wanders
Up and down all regions and climes,
Working each hour more wonders
Than the fairies of olden times.

He can transform into beauty
The homeliest face and form;
He can smooth the rough path of duty
And hush into calmness each storm.
The cottage he turns to a palace,
The hard he makes easy and plain.
He sweetens the drops in life's chalice,
And draws lasting pleasure from pain.

Dost thou ask for the name of this fairy?
For the place that is blessed by his stay?
And how thou shalt coax him to vary
The life and the work of thy day?
Dost he heed the wild cry of a mortal?
Will he come for a woman's low plea?
Darest thou hope he will enter thy portal
And work out a wonder for thee?

Oh, that spirit is near and about thee,
Thou need'st not to search him afar,
His eye is too keen not to note thee,
He will come if thy door is ajar.
To the world that God's mercy still spareth
He hath stooped from the Father above;
As we know by the name that he beareth,
The Father's own name to us—Love.
—F. H. Marr.

WOMAN FROG HUNTER.

How a New Jersey Maiden Makes a Comfortable Living.

Miss Mona Seldon, of Friendship, N. J., is a hunter of renown. The game she bags is frogs. For seven years she has been supporting herself by her unique method. Now she is one of the most prosperous citizens in the little town, and she is reputed to have a bank account which, if it keeps on growing, will eventually enable her to give up frog shooting. Before she took to frog shooting Miss Seldon taught school in the country regions. She did not particularly enjoy teaching, for her pupils were frequently boys about twice as big as herself, and they had that particular form of humor which shows itself in being obstreperous. Moreover, the salary did not satisfy Miss Seldon's ideas of proper compensation. Consequently, when she found that frogs were a costly luxury she resolved to invest her savings in a frog farm. Friendship being rich in bogs and swamps, Miss Seldon bought 20 acres of land, fenced it in and began to raise frogs for the New York market, to the scornful delight of her neighbors. They thought she was a harmless and amusing lunatic when they saw her practicing shooting frogs. But when they learned that she cleared \$1,000 the first season, those who came to scoff remained to imitate, and frog shooting became a popular occupation in Friendship. The other shooters sell their game to Miss Seldon, who in turn sells it to the market.

Testing Cake in the Oven.

Miss Parlos gives the following directions for testing the oven in cake baking: "For sponge cake put a piece of paper in the oven, close the door, and open it in five minutes. If the paper is a rich yellow, the oven is right; but if it is a light yellow the oven is too cool; if a dark brown, it is too hot. For pound cake the oven should be just hot enough to color light brown. Cup cakes require an oven of about the same temperature. All thin-rolled cakes require a hotter oven, so that the paper should turn a dark brown in five minutes. The length of time required for baking certain cakes will vary with their thickness or the size of the pan in which they are baked."

Fresh Currant Pudding.

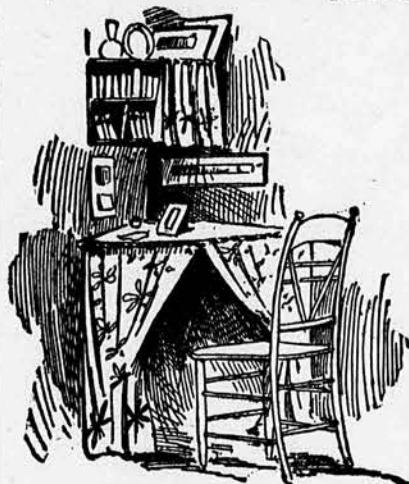
Pour over squares of stale sponge cake a very sweet custard into which ripe currants have been stirred and serve at once. Or, stir ripe currants thickly into a rich batter made with two eggs, half a cup of sweet cream, one cup of sugar, one teaspoonful of baking powder and enough flour to stir thin; pour all into a buttered basin and steam one hour. Or, stir currants thickly into a nice bread pudding. Or, put layers of bread nicely toasted and buttered into a baking dish with very ripe sweetened currants between them. Pour over a little water—just enough to moisten the bread—and bake the pudding about half an hour; then serve it with sweetened cream.

To retain an abundant head of hair of a natural color to a good old age, the hygiene of the scalp must be observed. Apply Hall's Hair Renewer.

USEFUL SUGGESTION.

Combination Corner of Value When Room Must Be Economized.

These are the days when, in the overhauling of her home, the chatelaine sighs for some fresh effects as well as renovation. Many of the makeshifts, or so-called effective schemes recommended to the economical housekeeper are worthless and do not in the least pay for time and trouble expended. A suggestion embodied in an illustration taken from the Upholsterer seems, however, of distinct value in an apartment



A COZY WRITING CORNER.

that must combine several uses, and where, therefore, room is at a premium. The corner shown is a writing table, bookshelf, and useful nook combined. Its production is readily understood from the representation. A corner shelf is fitted with a curtain which may conceal other shelves or set of shoebags, or place for gas stove when not in use, or what one wishes. Above, books may be placed with a bit of pottery, as a further brightener.

HOW TO CLEAN SILK.

A Process Which Will Prove Successful in Most Cases.

The cleaning of silk is a much more difficult thing than the cleaning of wool. There are few cloths of pure wool which cannot be washed with white soap and water. The process of cleaning the cloth with soap bark is much more thorough than any ordinary washing with soap and water can be. Silk of ordinary weaves cannot be washed successfully without losing luster and changing color. The dyes of silk are not made so as to be color-proof, as cotton goods usually are. There is no special effort on the part of silk colorists to do anything but prepare goods that will not fade in the light and under the ordinary circumstances to which silk is subjected. There are some delicate colors that will not stand cleaning. The majority of silks may be cleaned by the process given, otherwise they may be considered beyond cleaning. Lay the pieces of silk on a pad made of linen. The fold of a white linen sheet will do very well. Stretch the silk on the pad, and if it is greasy remove the grease spots with a piece of cotton dipped in refined gasoline or benzine, the name under which gasoline is often sold by druggists. Clean the silk in this way on both sides. Do not wet it, but moisten the cleaning pad of cotton often with the liquid. After the process take a fresh pad of linen and lay the silk over it and sponge it well with a mixture of half rain water and half alcohol. Rinse this off with clear rain water, drying it carefully with linen so as to absorb all the moisture you can. Turn the silk on the wrong side, lay a cloth over it and press it very carefully. If it is very delicate silk it can sometimes be dried on the board without applying heat.—N. Y. Tribune.

CLEANING CURTAINS.

Lace Must Be Handled Carefully to Secure Good Results.

It always pays to have a frame of light wooden strips to dry curtains on. It should be the exact size of the curtains, so that they may be stretched on it when wet and dried in this way. Tack a strip of strong cloth on all sides of the frame, and pin the curtains evenly to this strip at the bottom, top and sides. Or, if you prefer, they may be basted to it, though this is more trouble. Almost any variety of curtain can be washed by the method given.

Expensive Brussels curtains had better be cleaned by a regular French scourer who understands how to handle real lace.

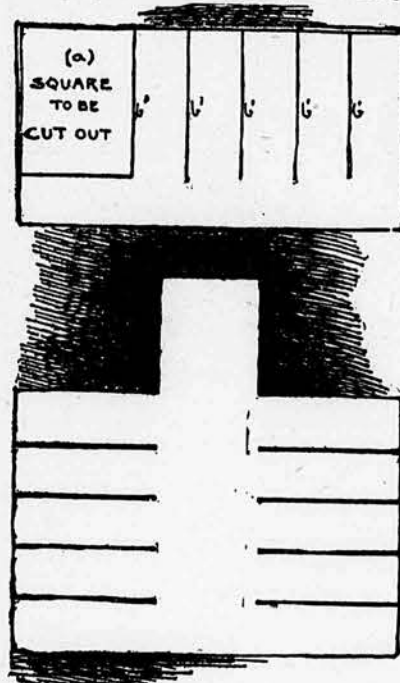
Before touching the curtains make a strong soapsuds of hot water in which a tablespoonful of borax has been dissolved for every gallon of water, and half a bar of soap shaved and melted for every tubful of water. Put the curtains in this water. Souse them up and down and let them soak well covered over night. The next morning examine them, put them through a wringer and throw them into fresh soapsuds. Souse them repeatedly and scald them in a clothes boiler and rinse them as carefully as possible in two or three rinsing waters. If they are white blue them a little, but bleach them, laying them on the frames on the grass. If they are creamy in color dry them in the house, and use a few tablespoonfuls of strong coffee to preserve the yellow tint.—N. Y. Tribune.

BANDAGING A FINGER.

A Simple Operation, But Few Know How to Do It Successfully.

Bandaging a cut finger is probably the simplest of surgical operations, yet not one in a hundred can do it successfully. The bandage ordinarily put on a finger is very unsatisfactory. It is either very clumsy, through the use of a superabundance of material, or it gets loose and slips off. Court plaster is always more or less dangerous; many serious cases of blood poisoning have been produced by its use.

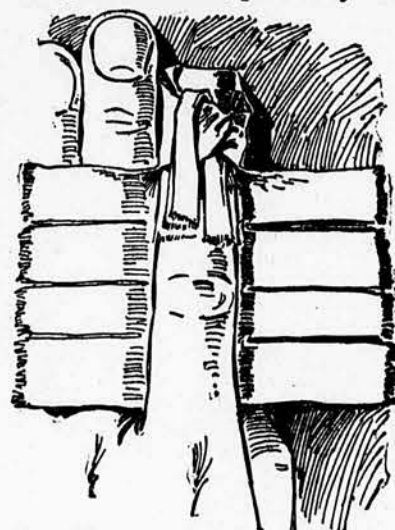
A very simple and effective bandage has been devised by Dr. S. George Hermance, which enables everyone to be his own surgeon. It has many advantages



HOW TO CUT THE BANDAGE.

over commoner kinds of wrapping, or the use of glove fingers. It also works very well in the case of a crushed finger, or a large wound for which plaster would be out of the question. This bandage remains so firmly on the finger, even while the hand is in use, that it enables the patient to return at once to his work or play, even after receiving a rather serious injury.

The bandage is made by measuring off a piece of cloth, preferably soft



HOW THE BANDAGE SHOULD BE FASTENED.

linen, twice the length of the finger to be bandaged, and cutting it square.

This cloth should be folded double, and cut as indicated in the accompanying sketch. The bandage is then opened and placed upon a flat surface—on one's knee, for instance, and the finger to be bandaged laid on it with the palm of the hand down. The upper flap is then turned down, and the first set of tails is tied over it with only one knot, leaving the ends loose. These are in turn covered by the second set of tails. The remaining tails are tied in exactly the same way, except that the last set is tied in a double knot, so as to make the bandage entirely secure. In tying the tails they should be drawn snug but not too tight. This makes a neat, firm and very satisfactory bandage. It has only to be used in order to demonstrate its advantages.

Steam Baths in the Home.

A steam bath in the home is a luxury, but with little expense an arrangement can be made which will furnish this luxury to any home. The most primitive way of making a steam bath, and the method which has been resorted to among the Indian tribes, is to cover the individual in some way with skins, blankets, a tent, or a box. Then a pail of water is placed within the inclosure. A fire is then made near the place, and stones are heated. When the heated stones are dropped into the water it produces a large amount of steam. This can very readily be arranged by taking a chair and placing a pail of water underneath, and pinning blankets in front and behind the patient, to completely cover him except the head. Small stones are heated and placed in the pail one by one until sufficient steam is generated to cause perspiration.—Home Queen.

Ruchés Worn This Season.

The revival of the ruche as a trimming should be hailed with delight by the amateur, so easily is it made, so effective is it. Of its popularity, therefore, there can be no doubt, and already it is much in evidence. A Paris model gown seen the other day had every skirt seam outlined with ruchings, its sleeve-epaulets being adorned in the same manner. These ruchings may be made of glace or saracen silk or even the thinner kinds of ribbon. Sometimes they match, sometimes they contrast with the frock they trim, but of whatever shade or fabric, they give the latest up-to-date touch to any costume.

Making Others Happy.


Every attempt to make others happy, every sin left behind, every temptation trampled under foot, every step forward in the cause of what is good, is a step nearer to Heaven.

Do NOT EXPERIMENT in so important a matter as your health. Purify, enrich and vitalize your blood with Hood's Sarsaparilla and thus keep yourself strong and healthy.

Hood's PILLS are the best after-dinner pill; assist digestion, cure headache. 25 cents.

FREE Cut this out and send to-day for free catalogue. \$2.75 buys natural finish Baby Carriage with plated steel wheels, axle, springs, one piece bent handle. 3 years guarantee. Carriage sent on 10 days FREE TRIAL. BUY FROM FACTORY & SAVE DEALER'S PROFIT. OXFORD MFG. CO., 240 Wabash Ave., CHICAGO.

Forty for \$1.00... For the next 30 days we make this extraordinary offer on our **HIGH-ARM SINGER MACHINES**. On receipt of \$1.00 we will send our No. 3 High Arm on 30 days' trial (price \$12.95), or our No. 1 (price \$18.75). Our machines are the best made; our No. 1 beats the world; 10 years' guarantee with each. Deal with a reliable house; buy at factory prices. H. R. Eagle & Co., 70 Wabash, Chicago.



BRIGHT'S DISEASE

can be cured by using

Dr. J. H. McLEAN'S LIVER AND KIDNEY BALM

The Peerless Remedy

For Sale at Druggists. Price, \$1.00 Per Bottle

THE DR. J. H. McLEAN MEDICINE CO. ST. LOUIS, MO.

The Young Folks.

BLUE VIOLET.

A little Blue Violet,
From a nook by the rill,
Where the breath from the South
With passionate thrill,
Is swaying the forest,
In verdurous gloom,
And twining the peach wands
With chaplets of bloom.

Is there dew on my petals?
No, Snowdrop, a tear
Fell softly upon me
While journeying here,
She mourneth for one.
O'er the waters who sped,
But the sea gives no tidings
To tell of its dead.

Has my breath more perfumes?
'Tis the sigh of a pray'r
That softly went up
On the pure morning air
From the lips of a child
By a young mother's knee,
"Bless, Saviour, this morning,
My mamma and me."

Dear Trailing Arbutus,
On this beautiful day,
The year's fairest daughters,
The delicate May,
With sunlight and music
Our treasures we'll bring
And crown with the violets,
The Queen of the Spring.
—Good Housekeeping.

CHAMPION BOY ATHLETE.

Has a Record for Walking and Running
That Is Unbroken.

All the famous athletes of the present day were heard of when they were but children preparing for the academic course, but none of them has been so prominently heralded as Gilbert White, the eight-year-old son of Dr. White, who conducts the Berkeley school, where young men are prepared for college, and where Gilbert is in attendance.

This athletic youngster, says the New York Recorder, is an excellent example of the muscular young American, and gives promise of being a famous man



CHAMPION 8-YEAR-OLD ATHLETE.

some day. He is possessed of all the characteristics of his father, who is one of the learned men of the day. Little Gilbert is a most ambitious young chap.

Gilbert developed a strong liking for athletics long before he had reached his sixth year, and grasped every opportunity to develop his body. He was particularly fond of running and walking, but, as a matter of fact, he tried his skill at everything. It was not until last year that he was brought before the public, the occasion being the indoor games of the preparatory classes of the Berkeley school, held in the latter's big gymnasium before a large crowd. Master Gilbert was entered in nearly every event and was one of the youngest competitors. He secured first place in the one-quarter-mile walk, defeating boys three years his senior. The latter performance encouraged him, and he trained diligently for the indoor games which were decided recently. At the latter games Gilbert secured two firsts and two seconds. In the one-quarter-mile walk he again met lads much older than himself, and had to be content with second prize. He won the potato race, an event which necessitates a great amount of strategy. The sack race resulted in another win, and in the roller skating race he captured second place.

Gilbert's favorite distance is 100 yards, and next year he hopes to take a conspicuous part in the junior inter-scholastic championship race at that distance. He is a steady runner and has excellent motion; he will be very fast when he is fully matured. Gilbert has recently shown great speed as a bicycle rider, and is also an excellent musician. Last, but not least, he is editor in chief of a children's paper published in the interest of the Meekish home.

TOM WAS FRIGHTENED.

But He Was Too Brave to Tell Little Dot of His Fears.

Tom lived on the bank of the river. His father had a boat in which he could go down to fish. Sometimes he would take Tom with him and let him row.

Tom had a little sister whom they called Dot (because she was so small for her age). One day Tom's mother asked if he would take care of Dot while she went to the city. Tom was very fond of his little sister, and he promised to take good care of her. And this is the way he did it.

Tom thought it would be nice to take Dot down to the river and show her papa's boat. The boat was pulled partly on shore, while the remainder was in the water.

Tom knew if he and Dot got into the boat they could get good motion by his



THE RETURN.

rocking it. So he lifted Dot in and then jumped in himself. Then he began to rock the boat. Dot had never been in a boat before, and she was delighted with the motion.

By and by Dot exclaimed: "O, Tom! the bank's gone and left us." Tom turned to see what Dot meant, and found that the boat had broken from the bank, and they were floating down the stream without any oars. Tom was very much frightened. He remembered his promise to his mother to take good care of Dot; but he was a very brave little fellow, and did not let Dot know of his fear.

"Dot, you'll sit very still, won't you?" asked Tom.

Dot promised. Tom wondered if they would have to stay on the river all night.

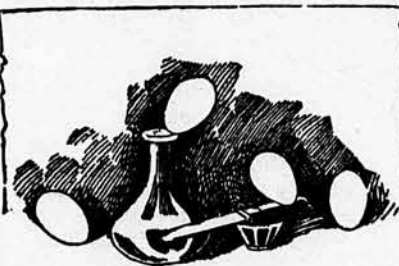
But they did not. A kind fisherman found them, took them into his boat, and rowed them back to their papa and mamma. They were so glad to have them safe in their arms again that they didn't scold Tom. They knew he meant no harm, and Tom's fear was his own punishment. He never ventured into dangerous places with his little sister again.—Katie Kyle, in Our Little Ones.

THE OBEDIENT EGG.

How to Make It Perform Several Very Amusing Tricks.

Let us tell you how you may have a little fun. Puncture the shell of a raw egg with a pin, and through the hole thus made extract the contents. When the shell has become thoroughly dry, pour fine sand through the pin hole until the egg is about one-fourth filled. Then seal the hole with white wax, and your imitation egg will be as natural in appearance as a real egg.

The next time boiled eggs are served at breakfast substitute your sand egg for the one that you take from the dish, and tell your companions that you are going to make the egg obey your slightest wish. You may make it stand on the edge of a knife or on the rim of a



glass, no matter whether you put it sideways or endways.

The only precaution necessary is to tap the egg gently every time you desire to place it in any position, so as to make the sand settle at the bottom, and the weight of the sand will keep it as

you wish it to be. This is called the obedient egg.

Now let us tell you how to make the disobedient egg, with which you may have even more fun than with the obedient one. Make the hole in the shell large enough to allow you to introduce half an ounce of fine shot, together with a little powdered sealing wax.

This done, seal up the hole neatly with white wax, and then warm the egg gently over the fire. This will give you a fixed center of gravity in the egg, and no matter how you may pretend to place it, the weight of the shot, held in a mass by the sealing wax, will drag it away from its position just as soon as you release it.—Philadelphia Times.

FACING A GRIZZLY.

A Brave Boy Kills an Angry Bear with a Blow of an Ax.

It was in September—and the Colorado sun had done its duty and made Phil as brown of face and stout of limb as any of us—that the geology class, consisting of the professor and ten pupils, made an excursion into the range with the object of taking a practical lesson among the limestone beds at the back of Lincoln peak.

Away we went—feeling very hilarious at the idea of making an independent expedition, even with Blinkers for a general—scrambling over rocks and fallen trees, chasing squirrels and chipmunks, throwing stones at birds and rabbits and behaving generally just like what we were—a parcel of schoolboys.

Presently we emerged from the trees and came out upon another little open park-like stretch of ground. Half way across it our attention was suddenly attracted by a stir among the high grass, and out jumped a little, dark-colored, short-legged animal, which looked like a woolly pig—if there be any such thing in nature.

Away it scuttled, and away we all went, with a shout, in pursuit.

Phil happened to be some distance behind at the moment, being busily engaged in digging a tarantula's nest out of the ground with his knife; but as soon as he saw what we were doing, he came racing after us, shouting: "Look out! Look out! It's a—"



PHIL KEPT COMING ON SLOWLY.

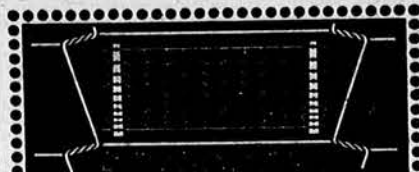
We did not hear what, we were making so much noise ourselves.

But the little animal, whatever it was, was too quick for us and disappeared into some willows while we were still 20 yards behind. The next moment the willows waved and bent and out bounced a great shaggy bear—a grizzly!

With a yell of dismay we all turned and scattering like a flock of sparrows when a cat jumps into the midst of them, fled for the nearest trees. Blinkers, quite forgetting that he was the general of the little expeditionary force, made such use of his long legs that he was safely up a tree before any of the rest of us had reached one.

As for me, I never reached one at all. In turning to run, I tripped over the ax, and though I was up again in an instant, the check made me the last of the fugitives.

The chase was very soon over. In six



Keystone Woven Wire Fence

IS THE BEST FOR FARM USE.

25 and 28-inch for hog lots. 46, 55 and 58-inch for general use.

Send for illustrated catalogue.

KEYSTONE WOVEN WIRE FENCE CO.,

123 Rush St., PEORIA, ILL.

jumps, as it seemed, the great beast caught me, and, with one blow of her paw on the middle of my back, sent me, face downward, to the ground, with every atom of breath driven out of my body.

This last circumstance was a good thing for me; I could not have moved a muscle if I had wished to. Consequently the bear supposed that I was dead, and instead of tearing me up into small pieces, as I expected, she began sniffing me all over and turning me about with her claws.

Suddenly, however, she ceased and began to growl, and I heard Blinkers up in his tree call out: "Go back! You can't do any good. You'll only get yourself killed, too!" From which I concluded that Blinkers and the bear had one thought in common; they both supposed me to be dead.

I was beginning to recover my breath a little by this time, and in my anxiety to see what was going forward, I made a slight movement with one arm, and in an instant the bear had that arm between his teeth. It hurt me so horribly that I fainted, and all that happened afterwards I gathered from the other boys.

Phil, when he saw me knocked down, instead of climbing up a tree like the rest, ran back to where I had dropped the ax, and, picking it up, advanced to my rescue.

It was a mad thing to do, there is no doubt about that; but Phil did it—and without a thought of his own danger. It was in vain that Blinkers called to him to go back; he did not seem to hear, but kept coming on slowly, with his eyes fixed on the bear, and the ax held in readiness to strike.

The bear dropped my arm and advanced a step, standing across my body, growling and turning up her lips until all her great white teeth were exposed; but still Phil came on. At six feet distance he stopped. The bear took a step forward, and then another, and then, with all the strength of his body doubled by the intense excitement of the moment, Phil struck at her with such force and precision that he split her skull clean in two.

But, even in dying, the bear succeeded in doing some mischief.

With a last convulsive effort she struck out, and, with her great claws, tore away the front of Phil's coat, vest and shirt, and made three deep cuts all across his chest from the left shoulder diagonally downward. Another inch and Phil must certainly have been killed. As it was, he stood for a moment swaying to and fro, and then fell forward upon the dead body of the bear.—Sidford F. Hamp, in St. Nicholas.

Washburn College,

TOPEKA, KANSAS.

Progressive Management,
Thorough Courses of Study,
Economical for Students.

Academic and Collegiate departments.
Special teachers of Oratory, Music and Art.
THE FALL TERM begins Wednesday, September 10, 1896.

GEO. M. HERRICK, President.

THE KANSAS CITY VETERINARY COLLEGE

A thorough and practical course of instruction in the Principles and Practice of Veterinary Medicine and Surgery, and

Veterinary Sanitary Science.

The curriculum affords young men an opportunity to qualify themselves to become Veterinary Sanitary Officers for municipal, State or national service, as well as preparing them for the practice of Veterinary Science. Term opens October 1. For prospectus address the Dean.

(Cut this out for future reference.) Dr. S. STEWART, 1408 Holmes St., Kansas City, Mo.

KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Thursday by the

KANSAS FARMER COMPANY.

OFFICE:

No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

An extra copy free fifty-two weeks for a club of six, at \$1.00 each.

Address KANSAS FARMER CO.,
Topeka, Kansas.

ADVERTISING RATES.

Display advertising, 15 cents per line, (fourteen lines to the inch).

Special reading notices, 25 cents per line. Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.

Annual cards in the Breeders' Directory, consisting of four lines or less, for \$15.00 per year, including a copy of KANSAS FARMER free.

Electros must have metal base. Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.

To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.

All advertising intended for the current week should reach this office not later than Monday.

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

Address all orders—
KANSAS FARMER CO., Topeka, Kas.

The top price for hogs at Kansas City last week was about \$2 lower than a year ago.

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

The reported shortage in the corn crop of Texas adds to the interest of Kansas corn growers in the reductions in freight rates south.

The United States Department of Agriculture announces that the apple crop has declined materially within the last few weeks and will be light.

A shortage of corn in old Mexico is reported. A brisk demand for Kansas corn may result. It is expected that the Mexican government will suspend the tariff, as on former occasions. It will be necessary, however, for shippers to look well to the responsibility of parties to whom consignments are made.

Wallace's Farmer, of Des Moines, in a review of the Iowa agricultural report just issued, says it contains matter of much permanent value and that the State Agricultural Society is moving in the right direction, "but has farther to move before it equals in value reports from some other States, notably Kansas."

Any farmer who makes it possible for a Russian thistle, cockle-bur, sand-bur, or bull-nettle to mature seed on his land or the adjacent premises, is doing not only an injury to himself and his property but contributing at the same time to make his farm less valuable and the State less desirable as a place for a home. Now is the time to exterminate such pests, as a month hence, when they have ripened seed, the difficulty is increased an hundred-fold. Outlay for extra help to do such work at the proper time is one of the most judicious investments an owner or occupant of land can make. Its doing is not only profitable but patriotic.

A book of which every Kansan should feel proud, and one of great value to every student of Kansas history, is Vol. 5 of "Kansas Historical Collections," by F. G. Adams, Secretary of the State Historical Society. It contains nearly 700 pages and is compiled with that skill and devotion to the subject which has enabled Judge Adams to build up the State Historical library from nothing to its present magnificent proportions. Beginning with a few shelves in an obscure quarter of the State house the collections of the society have grown to 82,000 volumes, besides numberless other articles of historic value. The library is now a recognized Mecca for seekers after knowledge of the past. The several volumes of the transactions of the society constitute a library of rare value and the pity is that they cannot be placed in every private as well as public library in the State.

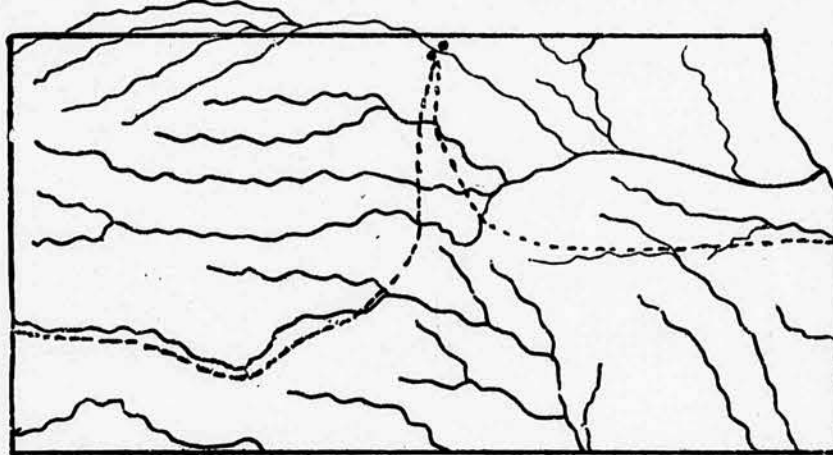
A SORAP OF ANCIENT KANSAS HISTORY.

Kansas history has nearly all been made within the memory of the oldest inhabitants. In a generation this State has been formed on the prairie. But the prairie had a history prior to the earliest white settlements. In 1803 the United States bought Louisiana from France for the sum of \$15,000,000. This purchase included Kansas as far west as the 100th meridian. Beyond that was claimed by Spain. The trade of the Indians was coveted by both the United States and the Spanish colonies. In 1806 Capt. Zebulon M. Pike was sent out with a small command, about twenty-five men, to explore the country and secure the good will of the Indians. A notable event of this expedition was a treaty made with the Indian tribe called the Pawnee Republic. There has been considerable doubt as to the location of the village of the Pawnee Republic. Recently much interest has been aroused in the remains of an extensive Indian village near Republic City, on the Republican river and in Republic county, Kansas.

On the invitation of the Republic County Historical Society the Kansas State Historical Society last winter appointed a commission to inquire into the identity of the Indian village with the Pawnee Republic and the site of Captain Pike's treaty in 1806. Judge F. G. Adams, Secretary of the State Historical Society, Noble Prentiss, editor of the Kansas City Star, and E. B. Cowgill, editor of the KANSAS FARMER,

later taken prisoner by the Spaniards, who deprived him of much of the records he had made. These valuable records have never yet been recovered.

Returning to the work of the Historical Society's commissioners, they found that from the earliest settlement of the country it has been known that there were evidences of an extensive Indian settlement on the high ground on the southwest side of the Republican river, nearly opposite to Republic City. Various relics have been picked up by the curious. The commissioners found many circular excavations, with low banks around them, varying from thirty to fifty feet in diameter. A portion of the site has never been plowed, and on this the circles resemble last year's circus rings. They are overgrown with grass. An embankment is traceable around the village except where it has been obliterated by cultivation. Only one of the circles is outside of this embankment. Rather more than half of the village site has been cultivated for several years. Here the embankments are somewhat obliterated, although some are still distinct. But in plowing many relics have been turned up, such as broken mills—made of stone—pottery, scraps of copper, remnants of hoes, whetstones, flints, undressed flint, pipes of red pipe-stone, some of which are unfinished. A few weeks ago a small copper kettle was plowed up. This had been patched, the piece being riveted on. In plowing through the middle of one of the circles last spring a piece of wood was



GENERAL PIKE'S ROUTE THROUGH KANSAS IN 1806.

The dotted line shows approximately the line of march of Captain, afterwards General, Zebulon M. Pike through Kansas in 1806. The scale of the map is so small that the minor turns in the route cannot easily be shown. Entering on the Osage river and traversing its southern branches he crossed to the Neosho, followed its Cottonwood branch to its head and crossed the divide to the Smoky. Crossed the Saline and the Solomon and reached the Pawnee Republic, on the south side of the Republican. Established his camp on the north side of the Republican. Again crossed the country to the Arkansas and followed that stream into the Rocky mountains. (By an error of the engraver his trail is made to cross the Arkansas just above Great Bend, whereas it pursued the north side almost to the present site of Dodge City.)

constituted the commission. Unfortunately Mr. Prentiss was disabled by an accident and could not visit the field. The other members of the commission took the matter up last week, and, while they have not yet made a formal report, they found from Pike's record that his trip through what is now Kansas was about as shown by the dotted line on the accompanying map.

Leaving St. Louis July 15 Pike and a few companions ascended the Missouri to the Osage, ascended the Osage, entering what is now Kansas on that stream, and pursuing its more southern branches crossed the divide to the Neosho; followed the Cottonwood branch of the Neosho and crossed the divide to the Smoky; crossed the Smoky, the Saline—which he named—and the Solomon and the smaller streams between these and came to the Pawnee Republic, on the Republican river, which stream had taken its name from the tribe.

After making his treaty with the Republic Pike crossed over to the Arkansas, evidently having reached that stream above the mouth of the Walnut and having crossed the Cheyenne bottoms and both branches of the Walnut. From his camp above the mouth of the Walnut, or, probably, near the junction of the two Walnuts, he sent Lieutenant Wilkinson and a few companions down the Arkansas, and himself, with the remainder of his command, proceeded up the Arkansas. It was on this trip that he discovered and measured the height of the great peak which was afterward named for him. He was

struck which, on being dug out, was found to be of oak, about five inches in diameter, and was doubtless the base of a center-pole. The village seems to have been well supplied with corn and to have been destroyed by fire, for the plows continually turn up charred corn. The Indian cemetery has been but little explored and its extent is scarcely conjectured. A few graves have been dug into accidentally and otherwise. They are five feet deep and with the bones are found Indian trinkets. In one was a well-preserved tomahawk. Pike's encampment was on an eminence on the opposite side of the Republican. At a place which corresponds well with the description the present owner, who homesteaded the land, found, a few years ago, a piece of oak wood which had been planted in the earth some three feet deep. The top was rotted away but the lower portion was comparatively well preserved. It has been conjectured that this was the base of Pike's flagstaff.

The Republic County Historical Society has taken a commendable interest in the identification of the location of the Pawnee Republic, and a committee of this society has explored the Republican river for evidence of any other Indian settlement which might correspond with Pike's description. The committee found a favorite crossing further up the river, but no evidence of a permanent settlement.

In view of all the facts in the case the commissioners of the Kansas State Historical Society are of the opinion that the site on section 3, township 2

south, range 5 west, in Republic county, Kansas, is the site of the village of the Pawnee Republic at which Captain Pike, on the part of the United States, induced the Indians to haul down the Spanish flag and fly in its stead the stars and stripes, September 25-30, 1806.

The full report of the commission will be made to the State Historical Society and will contain much interesting information necessarily omitted here for lack of space.

HIS BROAD ACRES.

A fine ride over the Rock Island railroad last week brought the writer to Courtland, Republic county, where he was met by Mr. George Johnson with a team with which no inexperienced driver should venture abroad. The trip to Courtland was essentially through corn fields of magnificent growth which needed only the heavy rains which have since fallen to assure a generous harvest from all save the latest. From Courtland to Mr. Johnson's home, at White Rock, the corn fields were in evidence with greater continuity. It was after dark when we drove between "walls of corn" to an elegant house, the home of the Johnsons. This is in the midst of the 1,000-acre homestead of the host. Judge F. G. Adams, Secretary of the State Historical Society, had preceded the writer by a day on a mission which is shown in another article in this paper and was found enjoying as his seventy-two years and genial temperament make possible the generous hospitality of Mr. and Mrs. Johnson and their daughter.

This farmer of 1,000 acres is not one of the discouraged and always tired kind. He has done well in the past and he expects to prosper in the future. His 450 acres of corn are probably good for 25,000 bushels. How does he do it? By good farming. Having no sons he hires all his help. One man tends eighty acres of corn. It is well tended and clean of weeds. The farm is fenced with miles of hedges. These are allowed to grow tall with the belief that they afford needed protection against blasting winds. No wheat is raised. Corn is the principal crop. Oats and hay follow. A car-load or two of steers and a car-load or two of hogs are fattened each year. But most of the corn is sold. It is not sold when the market is low, but is held—sometimes for three years—until it brings 25 to 50 cents per bushel. Mr. Johnson has not ornamented his farm with a mortgage, otherwise he could scarcely hold his corn.

The orchard interested the writer greatly. The oldest trees have occupied their present positions for twenty-five years and resemble the patriarchs we used to admire in grandfather's orchard in Ohio. When a tree receives an injury causing decay of the bark on the trunk, as is so often the case, here and elsewhere, Mr. Johnson applies a remedy which restores the edges of the bark to a healthy and vigorous growth which eventually closes up the wound. The decayed parts are cut away and the depression is filled with a plaster made of about two parts plaster of Paris and three parts lime. The results are very apparent to even the superficial observer. Trees which would ordinarily have become worthless are vigorous and full of fruit.

The family is not numerous. Mrs. Johnson is as energetic and enthusiastic as her husband. Twenty-two years ago she became convinced that the old Indian village a few miles away was the site of the Pawnee Republic, and she has not ceased to collect the evidence and to advocate her views until the entire community is now ardently of her opinion, and, as will be seen elsewhere in this paper, representatives of the State Historical Society also concur. Her house is elegantly furnished and is a home of hospitality. Books and papers are abundant—even a daily paper—and they are well read. The only daughter, a young lady of culture and refinement, is also a horsewoman whose attainments may well be envied. A wild colt has no terrors for her and very soon learns her voice and language and is glad to obey. A day's observation satisfied the writer that

almost every creature on the place, from the smallest chick to the largest horse, has reason to expect her tender care in every time of distress and would cheerfully do her bidding under all circumstances.

Mr. Johnson was a pioneer in the Republican valley twenty-seven years ago. He was then a bachelor and probably had his fortune to make in more ways than one. Wanting a rocking chair he made one of saplings with buffalo skin for the seat. While superseded by upholstered rivals it still has an honorable place on the porch and is strong enough to serve another quarter of a century. A glance at this old chair discloses the secret of the success of this farmer of 1,000 acres. It is rustic but neatly made and very strong. Where others would have used pegs Mr. Johnson used small bolts. The rounds were cut and seasoned while the pieces to receive them were still standing. The rounds were carefully fitted and when the posts became seasoned the holes closed upon the rounds with a grip which has held for more than a quarter century.

Mr. Johnson is certain that land at present prices is a good investment and would buy were it not that he thinks 1,000 acres furnish care enough for him. The farm certainly affords him a delightful home, an occupation in which the powers of a strong mind find ample employment, an income which averages as well as can be realized from the use of equal capital in any avocation, and is less subject to disastrous reverses than any other investment.

Replying to several inquiries as to obtaining fish with which to stock ponds, we advise correspondents to write to the Kansas Fish Commissioner, El Dorado, Kas. Some obtain catfish from the streams and with these stock their ponds. They are said to do well if the water is changed often. All kinds of fish should be fed. Wheat chop and corn chop make good fish feed.

A bulletin from the Vermont Experiment Station announces that the army worm is in Vermont. It is described as a smooth worm one and a half inches long, dark along the back, narrow black, white and yellow stripes on each side, greenish underneath. It eats leaves of corn, grain and grass. The following remedies are proposed: When possible and practicable, sprinkle with Paris green, one pound in 150 gallons of water; keep well stirred. For barriers between fields set up fence boards edgewise and coat with coal tar. Poison a green strip three feet wide around the field. Plow a deep furrow and put coal tar in the bottom, or forty parts meal or bran and one part Paris green.

Sacaline.

EDITOR KANSAS FARMER:—In KANSAS FARMER of this date I note Prof. Dice McLaren's article on "Drought-Resisting Forage Plants," and am greatly interested in his statements. His subject is certainly one of supreme importance in the vast region known as the semi-arid West. But I write you to ask regarding "Sacaline," sold by A. Blanc & Co., of Philadelphia, to parties all through the West. Do you know of any one's having any success in starting it? I have bought both plants and seed at different times but I cannot get it started. Can you refer me to anybody who has been successful in getting sacaline to grow? If you know of anybody who has had success in starting it in the West, please publish the fact in your paper and oblige.

C. S. LEBARON.

Dwight, Kas., July 9, 1896.

Our correspondent's experience with sacaline is duplicated by that of almost all who have reported to this office. The only exception is that of Mr. Lindsay, of the firm of Cook & Lindsay, of Medicine Lodge, who stated to the writer some months ago that he had succeeded in starting some plants and that they had made a considerable growth. He had offered the leaves to his animals and they had eaten them readily. Mr. Lindsay promised the KANSAS FARMER an account of his experience, and this may serve to remind him that the promise is yet unfulfilled.

Weekly Weather-Crop Bulletin.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending July 21, 1896, prepared by T. B. Jennings, Section Director:

GENERAL CONDITIONS.

Excepting the 14th and 15th temperature has ranged below the normal, the mean for the week averaging about 2° below normal. In the extreme western and northwestern counties the rainfall has been light, with fair rains in Chautauqua, Elk and Montgomery, and fine rains over the rest of the State, culminating in heavy rains from Kingman to Republic, with a fall of over seven inches in Clay and Dickinson.

RESULTS.

EASTERN DIVISION.

The drying weather and wind of the 14th and 15th and the high temperature of the latter date curled corn leaves in many fields, but the damp weather and fine rains of the days following have nearly insured the early corn and have brought the late corn well forward. Pastures and native meadows continue in first-class condition, and the hay crop, which is now being gathered, is excellent. Flax is proving a fair crop.

Brown county.—These rains insure a heavy crop of early corn and put the ground in fine shape for plowing; haying, stacking and threshing in progress; hay fine and heavy.

Cherokee.—A good week on crops; threshing progressing finely; oats almost a total failure on account of rust; wheat fair yield.

Coffey.—Early corn assured, late crop doing fine; threshing and haying

both early and late; early apples are plentiful but winter apples will be scarce, except in some young orchards; millet, cane and Kaffir corn good; native grass and pastures excellent.

MIDDLE DIVISION.

The favorable conditions of the fifteenth week have continued through the sixteenth and all vegetation is in a flourishing state. Corn is in prime condition and in the central and southern counties the early is past the roasting-ear stage, while the late is earing nicely; in the northern counties the early is now in the roasting-ear. Threshing discloses a good quality of wheat though yield is light. Pastures, meadows and gardens excellent.

Barber.—Best growing week of the season; much of the early corn injured by drought and wind in June and first days of July now promises a fair yield; general crop now safe and promises a large yield; range unsurpassed, cattle in excellent condition and farmers in best of spirits.

Barton.—Past week cool and damp except 14th and 15th; regular square soaker after 15th will insure us an immense corn crop, Kaffir corn and hay; with the rain of 17th some kind of little white bugs came down that we never saw before.

Clay.—Wheat and oats about half in stack; considerable threshing done from shock; oats yielding fair though grain is light on account of rust; wheat yielding fair and good quality; corn in excellent condition; grass in fine shape.

Cloud.—Best rain on record; wheat and oats threshed; hay crop excellent; corn clean and in perfect condition; early corn made; everybody happy.

Cowley.—Corn is earing nicely; late Kaffir listed on wheat stubble is growing rapidly.

Dickinson.—The heaviest rain ever known here from Friday evening to

ing splendidly; early corn hardening; too wet for threshing.

WESTERN DIVISION.

Very favorable conditions in the southern, not so favorable in the northern counties, though the extreme western north of Morton have made no report this week. In the southern counties the meteorological conditions the past week were the best in years, and corn, grass and forage crops are in excellent condition. Harvest is over in the central and southern counties and nearly finished in northern.

Clark.—Kaffir corn, sorghum and forage crops doing well.

Ford.—Splendid growing week; corn looks fine; pastures are very good; alfalfa is first-class; the old "Dry Lake," near Spearville, is filled with water for the first time in ten years.

Gove.—Corn all right, the crop is immense; sorghum, Kaffir corn and all forage crops good; wheat harvest over.

Graham.—These fine rains will make lots of corn for us.

Morton.—Hot and dry until 16th; cloudy and cooler, with light showers, mist and fog clouds all day from north-east will revive grass and the sorghums.

Ness.—Fine rains, benefitting everything.

Scott.—Weather very favorable for corn, flax and forage crops; harvest over.

Thomas.—A week with no rain; quite heavy fog morning of 17th; harvest is nearly over; corn needs rain but is holding its own on account of the cloudy and cool weather the last few days; grass getting dry.

Trego.—Drought of the week was broken by rain last of week, catching some fields of late corn in the nick of time; late millet assured; potato crop gone glimmering with wheat, oats, etc.

TIRED OUT.

A Common Condition Among American Women.

Women, especially housekeepers, are subject to a condition of body very fitly expressed as "chronic tired." It is not always because they are overworked, or because they have any distinct disease, nor yet because they do not take proper care of themselves; but doubtless each one of these causes contributes to the result. Some chronic difficulty peculiar to their sex, perhaps not very bad, but just enough to produce a continual nerve waste. This unfits them for the duties of the household which they must attend to. Too tired to eat well, too nervous to sleep well, they get deeper and deeper into the quagmire of discouragement.

Peru-na is the remedy all such people need. It takes only a few doses to convince any woman that she has found exactly the remedy. It soothes the nerves while it strengthens them; it increases the appetite while it improves digestion; it gives tone and elasticity to the circulation. Discouragements vanish, despondency ceases. Thousands are saying: "Peru-na has made a new woman of me." It is only necessary to take Peru-na exactly as directed on the bottle. Such women may have a copy of Dr. Hartman's little book on diseases peculiar to women. Sent free by The Peru-na Drug Manufacturing Company, Columbus, Ohio. This book contains much information entirely new to most people.

Those who prefer to become regular patients of Dr. Hartman should send symptoms, duration of sickness and kind of treatment already received, when the Doctor will send them directions for treatment free of charge. All letters strictly confidential.

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

Low Excursion Rates to the East, via "Burlington Route."

HALF RATES.

National Republican League, Milwaukee, August 25 to 27.

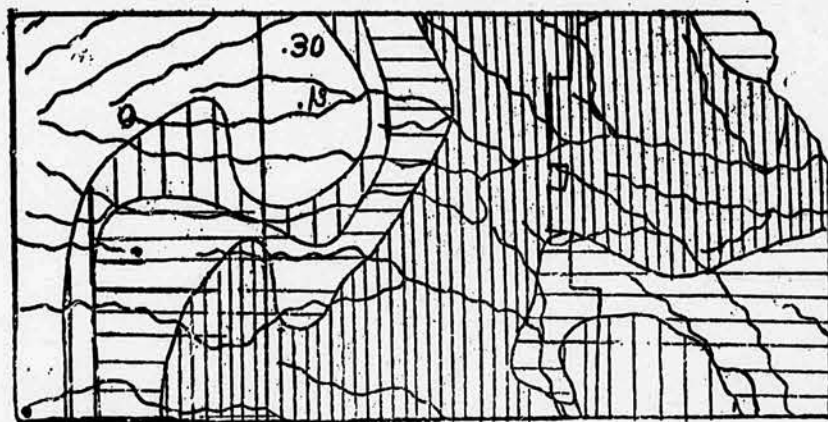
Ask ticket agent for tickets via Vestibuled "Elit" to Chicago, and via Vestibuled Limited to St. Louis.

Both trains supplied with the most modern equipment.

L. W. WAKELEY, Gen'l. Pass. Ag't., St. Louis, Mo.

If You Would Keep Cool

take the "Twin City Special" any evening from Kansas City, Leavenworth or St. Joseph, on the Chicago Great Western Railway (Maple Leaf Route), and spend a few days at the beautiful Minnesota lakes. Summer excursion rates now in effect. Through sleepers, free chair cars and cafe dining cars. Full information as to desirable resorts in the Northwest will be cheerfully furnished by G. W. Lincoln, Traveling Passenger Agent of the Chicago Great Western Railway, 7 West Ninth street, Kansas City, or F. H. Lord, G. P. & T. A., Chicago.



ACTUAL RAINFALL FOR WEEK ENDING JULY 18, 1896.

stopped by rain; weeds doing well; potatoes good but not plenty.

Johnson.—Everything looking fine.

Labette.—Corn doing fairly well; potatoes good; fruit and pastures doing well; plowing for wheat the order of the day; ground in good plight.

Leavenworth.—Corn is growing fine except in low places, where it was too wet; oats very poor, some not worth cutting; wheat turning out fairly well.

Marshall.—Prospect for corn could not be better; oats almost a total failure on account of rust; wheat yield light and quality not first-class; pasture and grass excellent.

Montgomery.—Corn still in good condition; soil moist but not wet; winds have been light, the pollen permitted to mature and fertilization has been nearly perfect.

Osage.—The rains have been beneficial for all crops; corn looking well and growing fast; pastures in fine condition; stock water plenty; hay crop large.

Pottawatomie.—Corn curled badly on the 15th but the rains brought it out all right and now looks splendid; best prospect for years; meadows splendid; pastures good; apples plenty; oats a failure on account of rust; wheat turning out good.

Riley.—The week has been very good; the excessive heat began telling on the corn but the rains changed everything.

Shawnee.—Some oats threshed, yielding fairly; late rain gives a good prospect for the early corn; late corn made a splendid growth last week; early apples getting ripe.

Wilson.—Good week for work, bad on flax and hay; flax about all out and some of it threshed, yield fair; these rains will insure a full crop of corn,

Saturday afternoon, and now we think that under ordinary circumstances we are sure of a large corn crop; most of the corn in roasting-ear.

Harper.—This fine rain almost insures the corn crop; pastures fine; crop conditions never better.

Harvey.—Corn and grass in prime condition; threshing and plowing impeded by too much rain.

Marion.—Good growing week; corn looks splendid; early corn almost made; wheat mostly in stack; oats poor; pasture good; stock doing well.

McPherson.—These rains assure a magnificent corn crop, most of it being in roasting-ears, and late planted well along; threshing progressing and plowing begun.

Mitchell.—The growth of cereals and forage crops has been very satisfactory; the outlook for an abundant crop of corn is fine; gardens are producing abundantly; potatoes generally will be a fair crop.

Osborne.—The week has been very favorable for growing crops; corn could not do better; gardens have suffered some from grasshoppers, especially onions; they are working some on corn but not to damage; harvesting is done and threshing in full blast; wheat turning out better than was expected; oats a poor crop.

Ottawa.—Soil wetter than since July, 1891; wheat threshing and alfalfa haying progressed finely till the rains began; gardens are excellent; tomatoes are beginning to ripen; early corn too hard for roasting-ears; corn, cane and Kaffir corn looking fine; the rain was bad on headed grain in stack.

Pawnee.—Corn doing fine and a great proportion is in roasting-ear; millet and sorghum fine; we feel insured of plenty of feed.

Phillips.—Corn doing finely; pastures fine; alfalfa and tame grasses excellent; grasshoppers seem to be leaving.

Pratt.—Vegetation of all kinds grow-

Horticulture.

APPLE TREE SUN-SCALD.

It is probable that more apple trees that are well located and selected die from sun-scauld in the Southwest than from any other cause, and this loss is entirely preventable. By the term sun-scauld is meant the trouble that shows itself by the trees becoming rotten in the trunk on the south side, which finally so weakens it that it cannot support its top, and consequently breaks down, very likely when loaded with fruit. It is probable that this trouble is generally caused by a part of the bark on the south—or, more commonly, the southwest—side of the tree starting into growth before the rest of the tree, during some warm period in the latter part of winter or early in the spring. Such warm periods are generally followed by a severe freeze, in which case the newly-formed immature cells are ruptured, or the cell contents injured, which results in the bark on the affected side dying and falling off.

PREVENTION OF SUN-SCALD.

1. Sun-scauld may be prevented by anything that will shade the trunk and limbs; even a few branches furnish sufficient shade. If the top of the tree is kept inclined to the southwest until it is firmly established, it will shade the trunk sufficiently to prevent sun-scauld. There is a tendency in this section for all trees to incline to the northeast, due largely to the fact that the prevailing winds are from the southwest during the growing season and while the ground is soft. Trees that incline to the northeast receive the rays of the sun directly upon the trunk, and are most liable to sun-scauld. In order to keep the tops of trees inclined to the southwest, they must be planted with a decided slant in that direction, though not so much so as to disfigure the trees. Even when this is done the trees will need annual attention to keep them in that position. One large and successful apple-grower goes so far as to tie each tree to a small stake to hold it in position. If the trees are planted in quincunx fashion, so that the rows run southwest and northeast, as well as north and south, they will largely shade one another when of bearing size.

2. Protection by means of a screen of laths and wire woven together and wrapped around the trees is advocated, and has been extensively and successfully used. It is cheaply made and easily applied, but it does not fit the trunk well if the trees are crooked, and it should be supplemented by some material for shading the crotches, which are the weak spots of many kinds of apple trees. On straight trees it affords excellent protection to the trunks, and it is easily supplemented each autumn by stuffing the crotch with hay.

3. Thin veneers of wood are manufactured which, when soaked with water, may be easily wrapped around the trunks and held in place by two wires. These have recently come into use, and are received with considerable favor by apple-growers. They are open to the same objection as the lath screen, but are easily supplemented in the same way, and are very desirable.

4. Wire screen, such as is used for mosquito netting, has its advocates as protection against sun-scauld. It has the merit of being more flexible than those mentioned before, and it easily conforms to the shape of the trunk. It is, however, necessary to supplement it with some material for protecting the crotches.

5. Flexible materials, such as burlap and building paper, is excellent for this purpose. They should, however, be taken off in summer and the burlap, when thus cared for, may be used for several years.

6. An excellent method of protection is that given by wrapping the trunk of the tree with a hay rope or by tying cornstalks on the south half of the tree on the approach of winter. These should extend up far enough to protect the crotches and lower branches as well as the trunk.

7. The planting of a shrub, such as barberry bush, an *Artemisia abrotans*, or similar hardy plant, on the south side of apple trees, has been recommended

and to some extent practiced for the prevention of sun-scauld.

8. Protection by boards has been followed to a considerable extent. This is effected by standing up a six-inch board on the south side of the tree so as to keep the sun's rays off from the trunk. Sometimes two boards are nailed together, so as to partly inclose the trunk. This is an excellent method of protection. An objection to it is that unless the boards are very carefully placed the bark on the branches may be injured by them.

9. Protection by boxing the trunks of trees and filling the boxes with soil has come into use within a few years. This is probably the safest and most complete method known. It protects the trunk against sudden changes in temperature, as well as against sun-scauld, and the adoption of this method of protection will undoubtedly make it practicable to grow the hardiest apple trees much farther north than it was heretofore believed possible. This practice is especially adapted to the purposes of protection of the few trees so desirable in the farmer's garden, and is worthy of very general use under such conditions. The expense for material is very little, and generally the necessary material for use in a small way can be had without any appreciable cost whatever. The question of removing the earth from the boxes in summer has been considerably discussed. The boxes filled with earth have been allowed to remain around a large number of the trees for three years and no harm has resulted from the practice. Judging from this experience I am of the opinion that no harm can result from the practice of allowing the boxes to remain on all the year round. However, if at any time the boxes were dispensed with, I should be very much afraid of removing them on the approach of winter; but if removed in the spring I do not think that their having been used would increase the susceptibility of the trees to injury from sun-scauld. This method of protection, however, does not cover the crotches of the trees, and these should be protected as previously recommended.

The methods of protection suggested here as being such as should be left on all the year round (referred to in paragraphs 2, 3, 4, 5 and 9), to protect from all injury from mice, and, to a large extent, from all injury from rabbits, and on this account alone, in many sections, will be worth all they cost. While all varieties of apples are liable to sun-scauld, some are much more subject to this injury than others. The extent of sun-scauld is much greater in this section than is commonly thought. Besides the apple, the peach, plum and cherry are occasionally thus injured, while sun injuries are very common on black walnut, and occasionally almost any of our deciduous trees are so affected.—*Samuel B. Green, in Southwest Farm and Orchard.*

The Cottonwood Tree.

EDITOR KANSAS FARMER:—The cottonwood tree has been of untold benefit to Kansas, and yet there are many who despise it because of the cotton, and wish that all were dead. If that was so, Kansas would look bare and desolate in many a place that is now shady and delightful.

The cottonwood tree has many redeeming features, the greatest of which is its quick growth. You don't have to wait until you are dead for a shade. Life is too short to wait for a shade from most other trees. It may be well enough, in planting, to alternate some of the slower growth trees with the cottonwood, and if you happen to live long enough, you can cut out the cottonwoods by and by. But what I started out to say was, I have heard that if you cut twigs from the trees that do not bear cotton (and at least half of them do not) and use them for cuttings, you can have the trees without the cotton. Now, if that is true, the fact should be known, and nurserymen could soon furnish us all the trees that we want, free from the cotton nuisance. If any one knows anything on this subject, please let us have the facts through the KANSAS FARMER.

Wichita, Kas.

H. FELLOWS.

Small Fruit Culture for Market.

Extracts from an article by William A. Taylor, Assistant Pomologist, United States Department of Agriculture, in the Yearbook of the United States Department of Agriculture for 1895.

The growing of small fruits requires a comparatively large investment of capital per acre, and also a better soil than is necessary for the production of most of the tree fruits. It is therefore better suited to the small farm, under the direct supervision of the owner, than to the large estate, whose proprietor cultivates by proxy. To balance the comparatively large capital required we have the fact that, aside from the value of the land and permanent improvements, the chief outlay is for labor, which may be done by the grower and his immediate family, while the returns are much quicker than from the tree fruits or the grape. In a few sections, so situated that large markets, either near or remote, are accessible, the culture of one or another of the small fruits may be profitably undertaken on a large scale, but these instances only serve to emphasize the fact that small fruit culture is primarily a homestead pursuit. The narrow bed or garden border of fifty years ago, enriched, dug and weeded by hand, has developed into the field, fertilized, plowed and cultivated by horse power, yet the requirements of the various species remain much the same, the methods of accomplishing the desired results alone differing. As practiced by the advanced growers of the United States, the methods followed in the culture of small fruits are peculiarly of American development; while with the exception of the currant, the varieties extensively grown are of American origin.

Some of the methods suggested may need modification to meet the needs of the individual grower, but it is believed that such changes as may be necessary will suggest themselves to the thinking cultivator who carefully considers his particular location and surroundings.

The fruits to be considered are the strawberry, blackberry, raspberry, currant and gooseberry.

CHOICE OF LOCATION.

No small fruit plantation is likely to be profitable if located far from a market or convenient shipping point. In selecting a location special attention should be paid to the character of the roads, if the fruit must be hauled by wagon for any considerable distance. If railroad or steamboat transportation is to be depended on, the efficiency and enterprise of existing lines should be investigated, as the character of the service will be of great importance when fruit shipments begin.

In any given locality the most important consideration should be the selection of a site reasonably safe from killing frosts in spring. Away from the influence of bodies of water such sites are usually found on small plateaus or gentle slopes terminating in abrupt ravines or valleys where prompt and thorough cold-air drainage exists. Flat land, remote from open water and unbroken by ravines or hills, should always be regarded with suspicion, particularly if underlaid by a cold and badly drained subsoil. Bottom lands, in which admirable soil for small fruits is often found, are usually too uncertain in their fruit production, owing to frequent frost injury.

The soil requirements of the different species vary considerably, but all thrive in a moderately deep loamy soil that holds moisture well at all times without becoming soggy during protracted rainfall.

The exposure to be sought varies with the latitude, the climate and the aim of the grower. If earliness is requisite to secure profitable prices, and the locality one in which late frosts are infrequent, a southern slope is preferable; if, on the other hand, a uniform and regular demand exists, regardless of a few days difference in time of ripening, a gentle northern or northeastern exposure should be selected. In most localities, however, the matter of slope is of much less importance than that of comparative elevation of the site. It should lie higher than the adjacent land without being bleak, and should furnish a soil of at least fair fertility.

FARMERS

DO YOU WANT TO BETTER YOUR CONDITION? If you do, call on or address: The Pacific Northwest Immigration Board, Portland, Oregon.

PREPARATION OF SOIL.

The selection of the proper preparatory crop is a matter of much importance. In general some hoed crop should precede the planting of any of the small fruits. With the strawberry at least two years of cultivation should intervene between well-established sod and the planting of berries in sections where the white grub abounds. Corn or potatoes, well manured and kept free from weeds throughout the season by thorough cultivation, are good preparatory crops. In trucking regions almost any of the annual vegetables will do to precede small fruits.

The objects to be attained are (1) to free the ground from seeds of annual weeds; (2) to eradicate established perennials of every sort, including grasses; (3) to get rid of noxious insect larvae, and (4) to leave the soil in that lively and mellow condition which the grower characterizes as "good tilth." If any portion of the field remains wet long after rains during any portion of the year it should be drained before planting. In most soils and locations tile underdrains are preferable, though boards, poles or stones are sometimes used to good advantage. If all of these are impracticable, land naturally wet can sometimes be made to yield fairly good crops by planting on ridges thrown up with the plow and depending on open ditches to remove surface water.

Stumps, loose roots, and stones large enough to interfere with the cultivator should all be removed before the final plowing. The grower should bear in mind that thorough preparation of the soil will materially increase the probability of securing a good stand of plants on the one hand, while it greatly decreases the amount of hand-work necessary in hoeing and weeding, on the other. This is particularly true on new ground and on all soils of a clayey or tenacious character.

The preparatory plowing should be as carefully done as for a garden crop, and in most soils it should be as deep as possible without turning up much of the subsoil. Surface soils less than eight inches deep should be plowed to their full depth. Where a compact or retentive subsoil is found its stirring with a subsoiler will benefit the crop in most regions by affording prompt drainage and promoting deeper root growth. If the planting is not done until spring, most soils suitable for small fruits will be benefited by a deep fall plowing, followed by a shallower cross-plowing as early in the spring as the land is workable, or by thorough and repeated working with one of the numerous forms of disc or spading harrows now in use.

This should be followed by a lighter pulverizer or smoothing harrow before the soil becomes lumpy. The roller or plank clod-crusher can sometimes be used to advantage, but if the soil be taken at the proper stage of dryness the treatment noted above will rarely fail to accomplish the desired result. Too much attention can hardly be bestowed upon this matter of soil preparation, yet it is often slighted by small fruit planters. Errors in fertilizing,

KANSAS HOME NURSERY now offers choice berries and orchard fruits of all kinds in their season. Fresh shipments daily by express. Prices to applicants. A. H. Griesa, Box J, Lawrence, Kas.

Garnan's Tree Wash and Insect Destroyer

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

CIDER MACHINERY
Hydraulic, Knuckle Joint and Sorew Presses, Graters, Elevators, Pumps, etc. Send for Catalogue.
BOOMER & BOSCHERT
PRESS CO.
399 W. Water St., Syracuse, N. Y.
When you write mention Kansas Farmer.

cultivating or pruning can sometimes be corrected by subsequent good treatment, but deficient preparation cannot be overcome during the existence of the crop.

EDITOR KANSAS FARMER:—I want to ask advice about my onions. They are clean and have been worked plenty. There have been terribly heavy rains here, and the onions are very large in tops and not one in twenty has a bulb or a round onion. They are almost as thick above the ground as under. Some are in too deep with wash, but they don't seem to be different from those that are partly washed out. Can I do anything to make them form and grow onions, and not all tops? They are the same where they are scattering in the row as where they are more thick.

Perry, Okla.

J. H. SNYDER.

EDITOR KANSAS FARMER:—In answer to above, the seed was perhaps largely to blame. The wet weather naturally causes the onions to continue growing. Those covered with "wash" should be uncovered, as onions for bulbs do best on the surface. He requires patience. There is no great reason to complain of their condition unless it continues until August 10th or 15th. Do not try rolling or crushing the tops down.

WILLIAM H. BARNES,

Acting Secretary Kansas State Horticultural Society.

Cannery.

EDITOR KANSAS FARMER:—Wednesday of last week I met the Franklin County Horticultural Society, at the beautiful home of Mr. V. N. Lester, six miles south of Ottawa. After an elegant picnic dinner, the society was called to order by President A. Willis. Reports were called for, and the estimate of the apple crop was put at one-fourth to one-third of a crop, but quality would average better than in 1895, Jenneing best. Grape rot on Concord and Worden reported. The main question being the establishment of a cannery at Ottawa, I presented statistics, letters, original and copied matter, showing the present condition of this industry, and it was decided that no cannery would be erected this year, owing to the unfavorable conditions. Music and elocution was interlarded and a very pleasant and instructive session was held.

WILLIAM H. BARNES,

Acting Secretary Kansas State Horticultural Society.

Sheep in the Orchard.

EDITOR KANSAS FARMER:—I see in recent issue of KANSAS FARMER a letter from C. J. Norton, entitled "Sheep in the Orchard."

I always let my sheep in my orchard and corn fields the latter part of summer and fall. They will not gnaw the trees so long as there is grass and weeds and you do not confine too many in a small space.

As to my sheep fence, I have a machine that weaves a great many different styles of fence out of smooth wire. I have it woven around my pasture, two feet high, at a cost of 13 cents per rod. It is made of three sizes of wire (No. 9, No. 12 and No. 15). I have two barb wires above this, that makes a good, durable fence for all kinds of stock. I also have it around my house and garden, four feet high. As to the comparative cost of barb wire, I think it is much cheaper and better, as it is made of the best galvanized steel wire and will not rust.

I hope to hear from other sheepmen.
Shaw, Kas. ELWOOD RUSH.

"Have tried others, but like Ayer's best" is the statement made over and over again by those who testify to the benefit derived from the use of Ayer's Sarsaparilla. Disease never had a greater enemy than this powerful blood-purifier. It makes the weak strong.

To Chicago, St. Louis and the East via Burlington Route.

The traveling public is sure to find the best fast vestibuled trains from the Missouri river to the East via the "Burlington Route." Elaborate compartment sleepers (same rate as standard sleepers); free chair cars of luxurious pattern to St. Louis; standard sleepers, free chair cars, and dining cars to Chicago.

Ask ticket agent for tickets via Vestibuled Eli to Chicago, and via the Vestibuled Limited to St. Louis.

L. W. WAKELY, Gen. Pass. Agt.,
St. Louis, Mo.

In the Dairy.

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

Selecting Cows.

In selecting cows for dairy purposes care should be taken to get them of a uniform type if possible. The head small and lean, eyes full and mild, neck full and thin, backbone prominent and open between joints, hips wide, legs short and fine-boned, barrel well rounded and large, deep through behind the shoulders to give plenty of room for heart and lungs, udder large, running well forward and back, teats rather short but thick and wide apart. Select those whose udders show a tendency to collapse after being milked. Such cows are usually large milkers. The skin should be soft and mellow to the touch, covered with thick, soft hair. Do not mistake size for constitution. A cow weighing 900 pounds is large enough.

Cheese and Courtship.

"Aristocracies in different places and ages have prided themselves on many different things," says the London Daily News. "One of the queerest, perhaps, is the aristocracy according to cheeses, which, according to the *Neue Zürcher Zeitung*, prevails among the patricians of Zermatt. The aristocracy of family is valued by the number and age of the cheeses they possess. There are families who possess cheeses made at the time of the French revolution. When a child is born a cheese is manufactured, which is then called by the name of the child. It is partly eaten when its namesake gets married, each wedding guest tasting a portion. The cheese is then put away again, and finally cut into and finished at the funeral of the person whose name it bears. When a young man woos a maiden, he begs to be allowed to dine with her family on Sunday. His offer being accepted, the lovers wait anxiously to see whether the girl's father will cause the cheese to be set on the table. At the end of the long meal, if all goes well, the master of the house solemnly fetches the cheese bearing the would-be bride's name, sets it on the table, cuts it, and gives a piece to the young couple. When they have eaten it, they are a betrothed pair. The others at table partake of the cheese and drink to the eternal friendship of the two families."

How I Made Prize Cheese.

"The cheese which took the first prize at the South Dakota State fair, held at Sioux Falls, in September last, was made," says [H. B. Booth, of Canby, "as we aim to make all of our cheese, from first-class material. This we aim to get by having our patrons handle their cows properly, giving them pure food and water, driving to and from pasture so as not to worry or overheat, using care not to excite the cow while milking, and seeing to it that no dirt from the cow or barn finds its way into the milk pail. If these rules are observed strictly the result will be that a good quality of milk to commence the manufacture with is secured. While thus far all may be well, the favorable conditions may be spoiled either by negligence or ignorance of either the patron or the cheese-maker. If the patron should place this same milk, which has come from properly handled and milked cows, into cans which are not thoroughly cleansed, so as to remove all acids, or should not aerate and cool the milk down to about 50°, the result may be sour or tainted milk. Such milk cannot be manufactured into a prize cheese by the best expert. I have heard some cheese-makers claim that they could make cheese out of sour or tainted milk; so can butter be made from sour, rotten cream. While this is true, so far as manufacture is concerned, it is not true that it will be a prize article in either case. If the manufacturer fails to detect taint or the souring in milk when it is delivered at the factory, or if he does detect it and has not the sand to send it back, he is certainly making a mistake and one that he will feel like kicking him-

self or his patrons for before the cheese made from such milk gets on the market. I have not much to offer from this point on the curing process. I used the best salt I could obtain and used full milk, no part of the cream being taken out. I heated to 84° before adding the rennet and cooked the curd to 98° to 100°, according to the temperature. I handled the curd by the granular process. My curing room is made so as to exclude wind. When the temperature of the room falls below 70° I use a fire to raise it to 70°. If such cheese is held after six days old, place it in a dry cellar during July and August."

Duties of Creamery Patrons.

Paper by J. K. Forney, of Abilene, read at annual Dairy meeting, at Newton, Kas.

MR. PRESIDENT, LADIES AND GENTLEMEN:—Duties is a subject that all should well consider and study, not only patrons of creameries but those of all other kinds of business and occupations. As I have had the experience of a creamery patron and also as manager of creameries, and while it is assigned me to bring out the duties of creamery patrons, I will speak on that subject. There are so many points that I hardly know where to begin, but what I shall say will be to their interests, and what is to theirs is also to the interest of the creameries.

First, we will point out a few duties as to the care of the cow. She should be kindly treated, for from her we derive our profits. An ill-tempered person will not get good results from his cow, because milk is drawn gently from the udder and not kicked or pounded out with a club. He should give the cow the cleanest and best of food and pure water to drink. He should not feed any moldy hay, fodder, weeds, leaves of trees, garlic or onions. Some will say that has nothing to do with the butter. There is where the flavor comes from, and if butter has an "off" flavor it will very soon knock off a few cents on the price. In such cases the creamery can't pay the top price for milk, so this is one of his chief interests. Milking should be done at regular hours. Irregular milking and not getting all the strippings will make a large variation in the quality of the milk.

I had one of our patrons come to the office to see the test record, stating he thought there might have been a mistake in the test taken in the month of May. His statement showed an average test for the month of 3.91; the first half of the month was 4.3, the second half 3.6. When he saw the large variation he said: "The first half of the month mine frau and I did the milking and we milked clean; then my boys came home from school and they did the milking." This made all plain to him.

Secondly, we refer to the care of the milk. After milking the milk should be cooled. Morning's milk should not be mixed with the evening's milk before it is cooled off. Cans should not be closed with a tight lid until all the animal heat is out. Care should also be taken that milk is kept where it will not freeze and kept in a clean, airy place. Cellars where potatoes and cabbage are stored is not a proper place to keep milk. If milk is kept in such a place it will be impossible for the butter-maker to make butter that will bring the top price; and, as I said before, that will be against the interests of the patrons. The most successful patron will start early in the morning with his milk to the factory and will not put it off as a secondary matter, thinking I will get there some time today. He should bring his milk just as it comes from the cow. The patron should never tamper with his milk. Where milk is sold by the test he will not gain anything but rather be a loser and dissatisfaction to him will be the result.

I have now mentioned a few of the duties, but there is one that I will mention which may be the most important one. All patrons should read some good dairy paper and educate themselves to facts in dairying and not base themselves so much on ideas of the own, or some that were planted them by their grandmother, as in most cases will lead them



KENDALL'S SPAVIN CURE

THE MOST SUCCESSFUL REMEDY

FOR MAN OR BEAST.

Certain in its effects and never blisters.

Read proofs below:

KENDALL'S SPAVIN CURE

SHELBY, MICH., Dec. 16, '93.

DR. B. J. KENDALL CO.

Sirs:—I have used your Kendall's Spavin Cure with good success for curbs on two horses and it is the best Liniment I have ever used.

Yours truly, AUGUST FREDRICK.

For Sale by all Druggists, or address
Dr. B. J. KENDALL COMPANY,
ENOSBURGH FALLS, VT.

wrong way. For we are at an age now that we must have all the latest and best machinery, and why not get the best knowledge of what the cow is worth in profits? And then I am sure you will treat the cow as a friend, for she is bringing you a good income.

IRRITATION OF THE THROAT AND HOARSENESS are immediately relieved by "Brown's Bronchial Troches." Have them always ready.

Union Pacific Route.

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

Jack Needs a Vacation.

All work makes Jack a dull boy. He should leave the office a while this summer, take Jill along, and go to Colorado.

An illustrated book describing summer tourist resorts in the Rocky mountains of Colorado, will be mailed free on application to G. T. Nicholson, G. P. A., A., T. & S. F. railroad, Chicago.

Tourist tickets now on sale at reduced rates to Pueblo, Colorado Springs, Manitou and Denver, over the picturesque line, Santa Fe Route.

To St. Paul and Minneapolis via "Burlington Route."

Two splendid through trains each day from Missouri River points to the north via the old established "Burlington Route" and Sioux City Line. Day Train has handsome observation vestibule Sleepers, free Chair Cars and Dining Cars (north of Council Bluffs). Night Train has handsome Sleepers to Omaha, Council Bluffs and Sioux City, and Parlor Cars Sioux City north. Consult ticket agent.

L. W. WAKELY, Gen. Pass. Agt.,
St. Louis, Mo.

No Room for Doubt.

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

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

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

Ask your nearest agent for tickets via this route.

Gen. Pass.

Popular Low-Priced

The Santa Fe

weekly excursions

edly popular

price of rate

compared

The im-

parties

necess-

each

com-

Gossip About Stock.

K. N. Friesen, of Alta, Kas., has recently shipped to Hon. J. B. McAfee, Topeka, Kas., a very fine Poland-China pig. Mr. Friesen writes that his stock of thoroughbred swine is in better condition now than ever and that he is prepared to send surplus stock to any locality from which he may receive orders.

Farmers who are troubled with rats should read Dr. W. H. Richards' advertisement of fox terriers on page 16. His stock is of imported English terriers, which are considered the best rat catchers known, and he offers them at reasonable rates. Write him for prices and description. Address him at Emporia, Kas.

Bannerman's Phenyle, advertised by the Anglo-American Stock Food Co., of Chicago, is a dead shot for the pestiferous horn-fly, lice, and in fact any insect troublesome to stock. Any stockman who has trouble with his stock of any sort whatever, should write this advertiser, and whatever they claim for the "phenyle" our readers will find that it will be done. They successfully cure hog cholera under a positive guarantee. Their old customers stay with them all the time and among their regular patrons are a large number of our best improved stock breeders.

E. Liston, of Virgil City, Mo., a breeder of Large English Berkshire swine, in his catalogue of stock gives advice from many years' experience, as follows: "Get the best thoroughbred stock you can find. Keep straight at it. Don't quit on account of low prices, high prices will come again. Keep your hogs in better shape than any of your neighbors and you can make money, pay off mortgages and do good for your neighborhood and all those about you." Mr. Liston knows whereof he speaks and his advice is worth following. He is now offering choice animals at living prices. Write him for his catalogue.

SOME POINTERS ABOUT THE CLOVER LEAF HERD OF POLAND-CHINAS.

Three miles northeast of Fort Scott the reader, if interested in high-class, pure-bred Poland-Chinas, will find the 1,080 acre farm known as the Clover Leaf farm, where Mr. Grant Hornaday has for twenty years been engaged in breeding and feeding cattle and swine. Last year he set out to establish one of the best swine herds ever founded in the West, and at this time the visitor finds a royally-bred aggregation of about sixty head presided over by J. H. Sanders Jr. 14953 S., that was farrowed June 29, 1894, bred by Ohio's noted breeders, Shellenberger & Co., and for eighteen months the leading harem king of Sunny Slope farm, in Kansas. He was sired by the greatest of winners at the World's Fair, J. H. Sanders 27319 O., that won first in class boar 3 years or over, first in herd boar and three sows over 1 year, first boar and three sows bred by exhibitor and sweepstakes boar any age bred by exhibitor. The dam of Sanders Jr. was the noted World's Fair winner, Graceful F. 63408 O., by A. A. 19695 O. and out of Black Flora 34086 O. She won first, having first place in herd of boar and three sows over 1 year. Such was the great breeding and individuality of Sanders Jr. that he was secured by the Sunny Slope farm, of Emporia, Kas., in 1894, when in his six months form, and used until the dispersion of that noted herd last March, when he was secured by Messrs. Hornaday & Co. to do first honors at the Clover Leaf farm. Up to the time of the dispersion sale his get brought over \$2,700, and at the sale three of his get brought \$365, and those of his sons and daughters in the sale made an average of over \$200, outranking the record of any boar in the history of the Poland-China breed. In his conformation he scores right along close to 84 points, the highest scoring point reached by the father of the score-card in the scale of the best individual ever scored by him. In good breeding condition he weighs about 700 pounds, has extra good length, the sure-enough Sanders back that if once seen is sure to be recognized as the Sanders blood in any herd. The fourteen brood sows are a specially selected lot and among them is the grand harem queen Black Queen U. S. Corwin 29801 S., a half sister to Faultless Queen Corwin, that sold for \$750. This sow was one of the choicest things at the record-breaking Sunny Slope sale and now has a litter by Clay D. 14676 S., he by What's Wanted Jr. 10026 S. and out of Fannie Ann 20831 S. As an individual this great sow ranks up in the final short list of a half score of the best sows in all the West. Close up in her company is Miss Short Stop 30844 S., by Royal Short Stop 10887 S. and out of Black Quality 2d 9659 S. She has great quality, long body, deep, extra good in heart, fine head and ear, wide, thick hams, heavy bone, well up on toe, and is an almost perfect type of the Short Stop family. She is raising a litter of four—two sons and two daughters—by the noted \$555 boar, Hadley Jr. 18888 S. All four are finely finished and none of the promise of all the merits of the sire. The eye of the well-bred sow is almost sure to catch next to her the eye of the old sow Sil-

ver Bar U. S. 30884 S., by the World's Fair first-prize winner, Longfellow 29795 O., that was exhibited by Cook, of Wichita, who in the main held up and preserved Kansas in the American history of Poland-Chinas at the Columbian, the greatest exhibit of swine known in the world's history. The dam of Silver Bar U. S. was Lady U. S. 23568 S., by King Joe 10117 S. and out of Spot H. 23566 S. From the score-card point of view she scores right up among the Poland aristocracy, and her litter of five February gilts by Sir Charles Corwin 33095 O. having proved a very successful nick she has since been sent to the Elm Beach Stock farm, at Wichita, to be again bred to the harem master there. The visitor in quest of good things from good things, and who believes in "like begets like," will find Black Queen Hadley 1st 36574 S., by Hadley Jr. 18314 S. and out of Black Queen U. S. Corwin 29801 S., an exemplification of the modern saying that it pays to breed the best. She is an individual of much Poland character and is raising a litter of seven by Victor E. Jr. 15677 S., he by Victor E. 15013 S. and out of Lady of the Slope 36914 S. In the way of variety of blood one finds the long yearling, Annie Black Stop 38631 S., by the Tower Hill herd harem master, Black Stop 10550 S., he by Short Stop 6938 S., that won in class, won in herd boar and three sows over 1 year and first money four swine the get of same boar bred by exhibitor. Every breeder will at once recognize that the proof of the pudding, etc., is in what the boar does, hence the value set on this highly bred female. Her dam was Minnie Wilkes 24523 S., she by Tecumseh Wilkes 8153 S. and out of Annette 18646 S. Her litter of five, all good ones, too, is by U. S. Butler 13888 S., he by Last Look 2d 13880 S. and out of Bess Butler 31475 S. Space at this time forbids further notes on the make-up of the females at Clover Leaf herd, yet we think that enough has been given to assure the breeder or general stock hog raiser that Grant Hornaday & Co. have started right and are right in their advancement of the Poland-Chinas.

Bannerman's Phenyle Tested.

As the season of the year is approaching when swine plague, commonly called hog cholera, commences to devastate and destroy herds of swine, it should be known to all breeders who are interested in preventing this dread and fatal disease, that wipes out of existence every year its millions of victims, that Bannerman's Phenyle has been tested by a large number of the leading and prominent breeders of the United States, who to-day would not be without it while raising hogs; it has received their hearty and unqualified endorsement for doing just what is claimed for it. It is used at many experiment stations to destroy disease germs. Boards of Health all over the country are using it in hospitals and pest houses and other places for the protection of human lives from disease. There is a demand for a disinfectant that will actually disinfect and kill the germs. Bannerman's Phenyle meets that demand. It has been approved by State and County Boards of Agriculture, who give it a good name. Its use by the sheep-growers for destroying sheep ticks and maggots has caused quite a furor, and it is likely to supplant the sheep dips that are now used for that purpose to a very large extent. Incidentally it was discovered by a sheep breeder that it cures and prevents scab. Another breeder in dusting the sheep found that when they breathed and snuffed up the dust in their nostrils it caused a sneezing that brought out the grubs. The poultry-men have found it a most effective remedy for lice, and it is a positive death for lice on hogs, as has been many times proven. It is not expensive—a 100-pound barrel will last an ordinary herd six months or more. It is always ready for use and preserves its strength by only keeping it dry; is easily used, being in proper form to apply at any time. Many of the prominent breeders dust with this phenyle every pig after he is crated for shipment for preventing disease on the way.

For particulars in full for this highly-endorsed disinfectant, and how to apply it economically, write the undersigned, mentioning this paper, for farmers' prices.

ANGLO-AMERICAN STOCK FOOD CO.,
113 Adams St., Chicago.

Thos. Slater has a message for every man on page 15.

"Among the Ozarks."

"The Land of Big Red Apples," is an attractive and interesting book, handsomely illustrated with views of South Missouri scenery, including the famous Olden fruit farm of 3,000 acres in Howell county. It pertains to fruit-raising in that great fruit belt of America, the southern slope of the Ozarks, and will prove of great value, not only to fruit-growers but to every farmer and home-seeker looking for a farm and a home. Mailed free. Address,

J. E. LOCKWOOD,
Kansas City, Mo.

Free to Every Subscriber.....

That grand semi-monthly, 20-page ladies' journal, **LADIES HOME COMPANION**, whose subscribers now number nearly 200,000; and this number is increasing rapidly. If you have seen some of the recent issues of this beautiful journal, and noted the many and decided improvements that have been made, you will not be at all surprised at this rapid growth.

WOMAN IS QUEEN,
and Home is Her Realm.



We have at last succeeded in completing arrangements whereby we are enabled to present our readers with this charming periodical free of all cost.

Who Has Not Heard of the

....Ladies Home Companion?

Hundreds of thousands are familiar with this magnificent publication, and its beautiful colored covers, containing a new and attractive design for each issue. Issued twice a month; its twenty or more pages are filled with illustrations, stories, sketches, poems and practical suggestions of the most absorbing interest to every member of the household.

The various departments, each under the direct supervision of writers especially adapted to them, are as follows:

Housekeeping This department is full of valuable suggestions on domestic economy and preparation of the daily meals.

Fancy Work The numerous illustrations and practical instructions of this department will delight all lovers of this dainty art.

Decorations, Etc. This department is invaluable to those wishing to furnish apartments according to modern taste.

Fashions Under this head are the prevailing fads and fancies which count for so much in my lady's toilet.

Flowers Lovers of flowers will find this department, ably edited by Geo. W. Park, B.Sc., of absorbing interest.

Literary The delightful stories, interesting articles and charming poems afford ample evidence of the care bestowed on this department. Many of the most popular writers in the country are regular contributors.

In addition to the above there is "Children's Corner," "Mothers' Chat," "Knotty Points," "Knick-Knacks," and "Miscellaneous."

OUR OFFER! In order to secure this Magazine free, send us two subscriptions for KANSAS FARMER and \$2, and we will order *Ladies' Home Companion* sent to your address one year, free to you. Or, send us your own subscription and \$1.35, and it will pay for KANSAS FARMER and *Ladies' Home Companion* one year. Add 10c. if "Modern Cook Book" is desired.

Address

KANSAS FARMER CO., Topeka, Kas.

TAKE THEM BOTH!

Perhaps you will prosper better and be happier and more thoroughly informed when you take both the KANSAS FARMER and the

Semi-Weekly Capital

When you can get both for little more than the price of one. *The Semi-Weekly Capital* is issued twice each week, Tuesday and Friday—eight pages, fifty-six columns of choice reading matter every issue. It contains the full report of the United States Press and contains, besides a large amount of bright, spicy and interesting miscellaneous reading matter of every description. The KANSAS FARMER CO. has made arrangements with the publishers whereby it can offer *The Semi-Weekly Capital* and KANSAS FARMER for the very low price of \$1.00. Address Kansas Year Book Co., Topeka, Kas.

The Veterinarian.

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

LICE ON HOGS.—My hogs are lousy. Please give me a remedy. A. H. Monument, Kas.

Answer.—Make a mixture of one part kerosene and three parts strong soap-suds and wash or spray the hogs thoroughly once a week for a few weeks. Also clean up and burn all old litter about their pens.

LUMPS ON SOW.—I have a sow that has two lumps on the side of her neck, about the size of a walnut, and they look as if they might break. Hunnewell, Kas. W. W. W.

Answer.—Either let the lumps break or cut them open and then fill the cavities full of powdered blue vitriol and then let them alone.

THUMPS IN HOGS.—Our hogs have what we call the thumps. What can we do for them? MRS. T. J. W. Ponca City, Kas.

Answer.—Give to each hog, once a day, from four to six tablespoonfuls of castor oil and from one to two tablespoonfuls of turpentine, and turn them out where they can have plenty of exercise and green food.

BLOODY MILK.—I have a cow that calved about four months ago and has been all right till this evening, when she gave bloody milk from one teat. Newkirk, Okla. E. H. L.

Answer.—Shower the udder twice a day with cold water after milking, and give the cow a tablespoonful of salt-petre in feed or water twice a day.

RUBBING MANE.—I have a mare that keeps her mane rubbed off. What will make it grow long and keep it there? E. L. G. Lawrence, Kas.

Answer.—Make a thin paste by mixing sulphur and castor oil together and rub into the roots of the hair twice a week after washing thoroughly each time with warm water and soap.

Gypsum for Alkali.

Robert H. Forbes, chemist of the Arizona Experiment Station, makes the following statement in Bulletin 18 of that station, respecting the use of gypsum on alkali land:

1. The cost of gypsum depends largely upon freight rates. It may be gotten as low as 2 cents a pound. Arizona contains undeveloped supplies of gypsum.

2. It is said that a surface dressing of gypsum will enable tender plants to make a start in alkaline soils. When the crop is large enough to shade the ground evaporation and rise of alkali is retarded and the crop may be safely matured.

3. In the case of fruit trees, as with annual plants, injury most usually results from the corrosive action of the alkali just at the surface of the ground. The soil, however, and its bottom waters, may be so salty as to injure the tree through its roots.

4. Gypsum improves the tilth of alkaline soils by acting upon and changing the sodium carbonate to which the lumpy character of these soils is largely due.

5. The water of Salt river contains small amounts of gypsum in solution. The use of this water for irrigation ought, therefore, to result in a disappearance of black alkali wherever it is applied.

6. Wood ashes contain a considerable amount of potassium carbonate, a substance having properties similar to those of sodium carbonate. The use of ashes on land already afflicted with alkali is therefore not advisable.

Many of KANSAS FARMER readers are familiar with the New York Tribune, the paper upon which Horace Greely expended the best labors of a lifetime. We have perfected arrangements by which we can furnish one year's subscription to KANSAS FARMER and New York Weekly Tribune for \$1.25, received at this office.

Publishers' Paragraphs.

A business education is an absolute demand of the times in every avocation, and yet is inexpensive. The Gem City Business college, of Quincy, Ill., is one of the well-established institutions of America, and the writer unhesitatingly recommends any of our readers desiring a thorough business training to communicate with this college, which has no superior anywhere.

Once more the threshing season is here and the farmers are again considering how they can best thresh their grain, most conveniently and at the least cost. The past few years there has been a growing demand among the farmers for a light machine that could be operated by a small force of men and reasonable amount of power. The increasing demand for the small Columbia Threshing Machine, manufactured by the Belle City Manufacturing Co., of Racine, Wis., is proof of the success of these machines, and we again want to recommend them to our readers as a machine well adapted for the sections where threshing jobs are small and where the expense connected with running a large outfit is so great that some who would like to cultivate grain in a reasonable degree cannot afford to do it on account of the great cost and inconvenience of threshing. We recommend any who are interested to write to the Belle City Manufacturing Co., Racine, Wis., for their printed matter on these small machines and powers for the same. See illustration on page 5.

It pays to push the animal for slaughter, says a writer, for it makes the cheapest meat; extra time requires extra "food of support;" there is no profit from the food which is required to keep the animal alive or to repair the waste of the system. This is also true of the extra labor in feeding.

Ho! for Cripple Creek.

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

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

Two all rail routes from Colorado Springs are offered you. One by the Midland railway up Ute Pass, via Summit, to Cripple Creek. Another over the Denver & Rio Grande, via Pueblo and Florence, to Cripple Creek. Take the great Rock Island Route to this wonderful gold mining camp. Maps, folders and rates on application. Address

JNO. SEBASTIAN, Gen'l. Pass. Ag't., Chicago.

List of Kansas Fairs for 1896.

Following is a list of fairs to be held in Kansas during the present year, their dates, locations and Secretaries, as reported to the State Board of Agriculture and furnished by Secretary F. D. Coburn:

Allen County Agricultural Society—H. L. Henderson, Secretary, Iola; September 8-12.
Brown County Exposition Association—E. Hove, Secretary, Hiawatha; September 15-19.
Chase County Agricultural Association—H. F. Gillett, Secretary, Cottonwood Falls; September 15-18.
Cloud County—Concordia Fair Association—Homer Kennett, Secretary, Concordia; September 29-October 2.
Coffee County Fair Association—J. E. Woodford, Secretary, Burlington; September 15-19.
Douglas County—Sibley Agricultural Association—Wm. Bowman, Secretary, Sibley; September 10-18.
Finney County Agricultural Society—D. A. Mims, Secretary, Garden City; October 6-9.
Franklin County Agricultural Society—Chas. H. Ridgway, Secretary, Ottawa; September 22-25.
Greeley County Horticultural and Fair Association—L. H. Newman, Secretary, Tribune; September 8-9.
Jackson County Agricultural and Fair Association—S. B. McGrew, Secretary, Holton; September 14-18.
Johnson County Co-operative Fair Association—C. M. Dickson, Secretary, Edgerton; September 15-18.
Johnson County Fair Association—W. T. Pugh, Secretary, Olathe; August 25-28.
Linn County Fair Association—Ed. R. Smith, Secretary, Mound City; October 6-10.
Miami County Agricultural and Mechanical Association—Geo. P. Leavitt, Secretary, Paola; September 29-October 3.
Montgomery County—Southeast Kansas District Fair Association—D. W. Kingsley, Secretary, Independence; October 13-16.
Morris County Exposition Company—E. J. Dill, Secretary, Council Grove; September 22-25.
Nemaha Fair Association—John Stowell, Secretary, Seneca; September 8-11.
Neosho County Agricultural Society—H. Lodge, Secretary, Erie; September 8-11.
Neosho County—The Chanute Agricultural, Fair, Park and Driving Association—R. O. Rawlings, Secretary, Chanute; September 1-5.
Ness County Fair Association—Sam G. Sheaffer, Secretary, Ness City; September 17-19.
Osage County Fair Association—G. W. Doty, Secretary, Burlingame; September 1-4.
Osborne County Fair Association—F. P. Wells, Secretary, Osborne; September 15-18.
Riley County Agricultural Society—R. O. Chappell, Secretary, Riley; September 15-18.
Rooks County Fair Association—David B. Smyth, Secretary, Stockton; September 8-11.
Saline County Agricultural, Horticultural and Mechanical Association—H. B. Wallace, Secretary, Salina; October 7, 8, 9.
Sedgwick County—Kansas "State Fair"—C. S. Smith, Secretary, Wichita; September 22-26.
Wilson County—Fredonia Agricultural Association—J. H. Edwards, Secretary, Fredonia; August 25-28.

WHAT WE KNOW

About the Wool Commission Business may be of service to you. If so it is at your disposal. We have had 80 years continuous experience and have gained a few essential facts. One of these enables us to deal direct with the manufacturer. Your wool goes direct from our hands to the man who weaves it into cloth. We charge smallest commission consistent with good business. We make liberal advances on consignments. We keep you posted on the conditions of the market through our circular letter. We furnish free use of sacks to our patrons. We refer you to any bank or reputable business house in Chicago.

SILBERMAN BROTHERS,

122-128 Michigan St., CHICAGO, ILL.

MARKET REPORTS.

Kansas City Live Stock.

KANSAS CITY, July 20.—Cattle—Receipts since Saturday, 4,926; calves, 250; shipped Saturday, 804 cattle; 4 calves. The market was strong and 10c higher in exceptional cases. The following are representative sales:

| SHIPPING AND DRESSED BEEF STEERS | | | |
|----------------------------------|--------------|----------|--------------|
| No. | Ave. Price | No. | Ave. Price |
| 21..... | 1,499 \$4.15 | 112..... | 1,288 \$4.10 |
| 21..... | 1,379 4.00 | 20..... | 1,378 3.95 |
| 21..... | 1,109 3.80 | 41..... | 1,254 3.70 |
| 21..... | 1,048 3.50 | 2..... | 1,420 3.25 |

| TEXAS AND INDIAN STEERS | | | |
|-------------------------|--------------|----------|--------------|
| No. | Ave. Price | No. | Ave. Price |
| 2..... | 1,485 \$3.40 | 70..... | 1,188 \$3.85 |
| 196..... | 1,118 3.00 | 22..... | 1,128 3.00 |
| 1..... | 1,030 2.65 | 129..... | 931 2.60 |
| 20..... | 883 2.45 | 3..... | 836 2.40 |

| COWS AND HEIFERS | | | |
|------------------|--------------|--------|--------------|
| No. | Ave. Price | No. | Ave. Price |
| 1..... | 1,120 \$3.15 | 2..... | 1,025 \$3.50 |
| 20..... | 900 2.65 | 2..... | 660 2.65 |
| 1..... | 1,000 2.50 | 2..... | 1,170 2.50 |
| 1..... | 1,193 2.10 | 2..... | 1,205 2.00 |

| STOCKERS AND FEEDERS | | | |
|----------------------|--------------|--------|------------|
| No. | Ave. Price | No. | Ave. Price |
| 18..... | 1,253 \$3.40 | 1..... | 800 \$3.35 |
| 7..... | 662 3.15 | 1..... | 540 3.00 |
| 10..... | 590 3.00 | 2..... | 745 2.60 |
| 1..... | 600 2.25 | 1..... | 470 2.00 |

Hogs—Receipts, since Saturday, 1,807; shipped Saturday, 835. The market was steady. Following are representative sales:

| | | | | | |
|---------|------------|---------|-------------|---------|-------------|
| 38..... | 161 \$3.20 | 19..... | 147 \$3.17½ | 88..... | 198 \$3.17½ |
| 54..... | 185 3.15 | 77..... | 181 3.15 | 60..... | 189 3.15 |
| 75..... | 203 3.12½ | 76..... | 198 3.12½ | 75..... | 170 3.10 |
| 55..... | 204 3.10 | 43..... | 213 3.07½ | 31..... | 182 3.07½ |
| 56..... | 225 3.05 | 73..... | 217 3.05 | 54..... | 248 3.05 |
| 72..... | 214 3.05 | 34..... | 262 3.05 | 43..... | 227 3.05 |
| 54..... | 217 3.05 | 35..... | 264 3.02½ | 58..... | 236 3.02½ |
| 15..... | 226 3.02½ | 62..... | 254 3.00 | 79..... | 245 3.00 |
| 53..... | 321 3.00 | 19..... | 227 3.00 | 64..... | 278 3.00 |
| 2..... | 275 3.00 | 71..... | 216 3.00 | 60..... | 307 2.95 |
| 10..... | 317 2.95 | 28..... | 330 2.95 | 17..... | 314 2.95 |
| 18..... | 342 2.95 | 11..... | 300 2.95 | 29..... | 342 2.95 |
| 3..... | 310 2.90 | 11..... | 280 2.90 | 13..... | 333 2.90 |
| 1..... | 330 2.85 | 5..... | 390 2.85 | 1..... | 430 2.75 |
| 2..... | 440 2.75 | 2..... | 215 2.25 | | |

Sheep—Receipts since Saturday, 2,119; shipped Saturday, none. The market was steady to 5c lower. Following are representative sales:

| | | | |
|----------------|-----------|---------------|-----------|
| 39 sw. lambs. | 64 \$3.90 | 45 sw. lambs. | 66 \$3.75 |
| 43 nat. sh.... | 95 3.00 | 39 sw. sh.... | 93 3.00 |

Chicago Live Stock.

CHICAGO, July 20.—Cattle—Receipts, 14,500; market steady to stronger; fair to best beefs, \$3.30-\$4.50; stockers and feeders, \$2.25-\$3.65; mixed cows and bulls, \$1.10-\$3.50; Texas, \$2.40-\$3.70.

Hogs—Receipts, 34,000; heavy 5c lower, light steady; light, \$3.30-\$3.60; rough packing, \$2.80-\$2.85; mixed and butchers, \$3.10-\$3.50; heavy packing and shipping, \$3.00-\$3.30; pigs, \$3.50-\$3.60.

Sheep—Receipts, 10,000; market 10 to 15c lower; native, \$2.00-\$2.25; Texas, \$2.00-\$2.00; western, 2.25-\$3.00; lambs, \$3.00-\$3.25.

Chicago Grain and Provisions.

| | July 20. | Opened | High'st | Low'st | Closing |
|---------------|----------|--------|---------|--------|---------|
| Wht.—July.... | 55½ | 55½ | 55½ | 55½ | 55½ |
| Sept.... | 56¼ | 56¼ | 56¼ | 56¼ | 56¼ |
| Dec.... | 58½ | 58½ | 58½ | 58½ | 58½ |
| Corn—July.... | 20½ | 20½ | 20½ | 20½ | 20½ |
| Sept.... | 20½ | 20½ | 20½ | 20½ | 20½ |
| May.... | 22½ | 22½ | 22½ | 22½ | 22½ |
| Oats—July.... | 17½ | 17½ | 17½ | 17½ | 17½ |
| Sept.... | 18½ | 18½ | 18½ | 18½ | 18½ |
| May.... | 19½ | 19½ | 19½ | 19½ | 19½ |
| Pork—July.... | 6 35 | 6 47½ | 6 30 | 6 40 | 6 35 |
| Sept.... | 7 20 | 7 22½ | 7 10 | 7 10 | 7 10 |
| Lard—July.... | 3 47½ | 3 50 | 3 42½ | 3 42½ | 3 42½ |
| Sept.... | 3 90 | 3 90 | 3 82½ | 3 80 | 3 80 |
| Ribs—July.... | 3 47½ | 3 47½ | 3 37½ | 3 37½ | 3 37½ |
| Sept.... | 3 62½ | 3 62½ | 3 52½ | 3 50 | 3 50 |

Kansas City Grain.

KANSAS CITY, July 20.—Receipts of wheat here to-day were fairly large, and there was a brisk demand for everything, except low grade soft wheat. Prices were not notably higher. Receipts of wheat here to-day, 101 cars; a year ago, 43 cars.

Sales were as follows on track: Hard, No. 2, 2 cars 49½c, 3 cars 49½c; 1 car 49c, 10,000 bushels 52c river; No. 3, 4 cars 48c, 11 cars 47½c, 10 cars 47c, 2 cars 46½c; No. 4, 1 car very choice 46c, 4 cars 45½c, 3 cars 45c, 3 cars 44c, 2 cars 43c, 2 cars 42c; rejected, 1 car 42c; no grade, nominally 30¢-35¢. Soft, No. 2 red, 2 cars fancy 52c; 6 cars 52½c; No. 3 red, 1 car 51c, 2 cars 50c, 1 car 49c; No. 4 red, 5 cars 45c; rejected, 1 car 41c; no grade, 1 car 38c.

Spot corn on track here was lower. There were few sales on that basis. Country offerings were very large, and they all sold, delivered at Mississippi river, the price ranging from 24½¢-25½¢. Total sales amounted to over 1,000,000 bushels. White corn was steady.

Receipts of corn here to-day, 78 cars; a year ago, 40 cars.

Sales by sample on track: No. 2 mixed, 2 cars 23½c, 2 cars 23c, No. 3 mixed, 1 car 21½c, 1 car

21c; No. 4 mixed, nominally 20c; no grade, nominally 18¢-19¢; white, No. 2, 6 car 23c, 5-000 bushels 23½c; No. 3, 1 car 23½c; No. 4, nominally 21c.

Oats were scarce, and somewhat higher as a rule, with a good demand.

Receipts of oats to-day, 6 cars; a year ago, 18 cars.

Sales by sample on track: No. 2 mixed, nominally 16c; No. 3, 1 car 15c, 1 car 15½c; No. 4, nominally 12c; no grade, nominally 11c; No. 2 white, 2 cars 19c, 3 cars 19½c, 1 car 20c; No. 3 white, 2 cars 18c, 1 car 19c.

Hay—Receipts, 48 cars; market dull. Choice timothy, \$3.50-\$7.00; No. 1 \$5.75-\$6.25; No. 2, \$5.00; No. 3 new timothy, \$4.00-\$4.50; prairie, choice new, \$4.50-\$5.00; No. 1 new, \$4.00-\$4.50; No. 2, new, \$3.00-\$3.50; No. 3, new, \$2.00-\$2.50.

Kansas City Produce.

KANSAS CITY, July 20.—Butter—Creamery, extra fancy separator, 13c; firsts, 12c; dairy, fancy, 12c; fair, 10c; store packed, fresh, 7¢-8¢; packing stock, 7c.

Eggs—Strictly candled stock, 6½c per doz.; southern, 5c.

Poultry—Hens, 5½c; roosters, 15c each; springs, 8½c per lb.; turkeys, hens, 6c; gobblers, 5c; old, 4½c; spring ducks, 8c; old, 6c; spring geese, 7c; pigeons, \$1.00 per doz.

Fruits—Peaches, 40¢-50¢ per ½ bu. box; common and inferior, 20¢-30¢; olives, 20¢-30¢ per peck basket; 4-basket crates, 40¢-60¢, 6-basket crate 75¢ (\$1.00); home grown, 30¢-35¢ per peck basket. Apples, home grown, 6¢-7¢ per bu.; fancy stand stock will sell at 8¢; choice, 50¢; common to good, 35¢-40¢ per bu. Grapes, Arkansas, \$1.50-\$1.75 per crate; Concord, \$1.00; home grown Concord, 70¢ per peck basket.

Potatoes—Home grown, 20c per bushel in a small way; 15c in wagon loads. Sweet potatoes, 50¢-75¢ in a small way.

Tomatoes—Choice to fancy, 50¢-60¢ per bushel; inferior and common, 25¢-40¢ per bushel; peck baskets, 20¢-25¢; Missouri and Kansas stock, 30¢-35¢ per ½ bu. basket.

ROBT. C. WHITE, Pres. W. R. MUNGER, Sec.-Treas.

ROBT. C. WHITE

Live Stock Commission Company

KANSAS CITY STOCK YARDS.

Money loaned to responsible parties for feeding purposes. Market reports free upon application. Consignments and correspondence solicited. Stockers and feeders bought on order.

Wm. A. Rogers. Robt. E. Cox. Fred W. Bishop.

Rogers Commission Co.

Live Stock Commission Merchants.

Rooms 235 and 266 Live Stock Exchange Building, Kansas City, Mo.

John Moffett, Manager. L. B. Andrews, Office. T. S. Moffett, W. C. Lorimer, Cattle Salesmen. H. M. Baker, Hog and Sheep Salesman. W. A. Morton, Solicitor.

MOFFETT BROS. & ANDREWS

Live Stock Commission Merchants.

Feeders and stockers purchased on orders. Personal attention given to all consignments. Correspondence invited. Market reports furnished. References:—National Bank of Commerce, Kansas City, Mo.; Citizens' State Bank, Harper, Kas.; Bank of Kiowa, Kiowa, Kas.

Rooms 67-68 Live Stock Exchange, Kansas City, Mo.

GROWERS OF AND DEALERS IN

Cattle, Hogs and Sheep

MAKE YOUR CONSIGNMENTS TO

Ben. L. Welch & Co.

COMMISSION MERCHANTS,

STOCK YARDS, KANSAS CITY, MO. And EAST ST. LOUIS, ILL.

Stockers and feeders bought on order. Liberal advances to the trade. Write for market reports and special information.

When you write mention Kansas Farmer.

The Apiary.

Feeding Bees for Profit.

Many beekeepers must change their location, go to the flowers, or change their methods of management. The beekeeping public says at present, and perhaps always will say, that sugar-honey must not be produced, but there is no objection to bees living on 4 cent sugar instead of 15-cent honey. It has been estimated, and we think fairly, that a colony of bees consumes 60 or 70 pounds of honey during the year. If a good portion of this can be cheap sugar instead of high-priced honey, it may make all the difference between a fair profit and a serious loss. A change to a better location is preferable, if a change can be made, as there is more profit in plenty of honey from natural sources than in exchanging sugar for honey in a poor locality.—Southern Cultivator.

The Control of Swarming.

To control swarming, remove one of the prime factors. Brood is the only factor we can remove and not defeat our object—honey. The removal of brood, instead of decreasing the honey yield, rather increases it. We may remove the brood by direct confiscation, or we can do it more gradually by the removal of the queen. The first method would be better where the flow is very short and profuse, the second better where the flows lasts 40 to 60 or more days. The cause of swarming is instinct; its control, broodlessness. Other methods at times seem effective, but the only method of controlling swarming that is at all times a success, is broodlessness.—Southern Cultivator.

Bees in a New Line.

The busy little bee has been forced into a new business, that of manufacture of medicated honey, in a variety of flavors, for as many kinds of diseases. It is a "French scientist," of course, that has brought this valuable addition to the pharmacopeia. He keeps the bees in a large conservatory, or at any rate under glass, so that they can only pasture upon flowers specially provided and chosen for special medicinal properties. In this manner ready-made physic of the most delicious kind is garnered. In this way influenza, coughs and colds, indigestion, asthma and many other ills are said to be readily if indirectly reached, and while the palate of the weakened invalid and the stubborn child is tickled he is being surreptitiously cured.

HINTS FOR BEEKEEPERS.

Bees gorged with honey never volunteer an attack.

Queenless colonies, unless supplied with a queen, will soon dwindle away.

One of the best paints for the hive is made by mixing white lead and white zinc with raw oil.

If a colony winters badly it influences the working qualities of the queen. The colony pulls up slowly.

The formation of new colonies should be confined to the season when bees are accumulating honey.

Where bees and poultry constitute minor industries of the farm, some buckwheat should be grown.

It is a mistake to make a practice of extracting honey before it is ripe. It can be refined artificially, but the natural way is best.

The general prosperity of bees in the spring depends upon proper care, favorable weather and plenty to eat, the latter condition being absolutely indispensable.

Having decided that certain colonies are to be united, the first thing to know is which has the best queen. This ascertained, hunt out the poorest one and kill her before uniting.

As soon in the spring as the bees begin to fly the entrance of the strongest colonies should be contracted to an inch or two, and the weaker ones so that only a bee or two can enter at a time.

On the strength of the colonies depends the honey crop. If the colonies are weak, double them up until a strong colony is formed, saving the best queen and destroying the rest. More brood will be reared in one good, strong colony than in several weak ones.—St. Louis Republic.

NOTES FOR BEEKEEPERS.

Spring is the best time to invest money in bees.

Strong colonies protect themselves against robbers.

All excess of drone comb should be removed from the hive.

Bees hatched in the fall will live through winter until spring.

When a considerable number of hives are kept, seven feet each way is far enough to place them.

The space around the entrance to the hives should be kept so clean that dead bees can readily be seen.

If you have a lot of empty comb in the hives where the bees have died, save it until the working season, when it can be used.

Pure Italian bees, as a rule, are the easiest handled. Not only do they sting less, but they keep their places on the combs better.

If you deprive the colony of its queen the bees will set to work to raise another, so long as they have any worker larvae in the hive with which to do it.

In selecting brood for queen rearing, be sure to have no drone larvae, for the bees will often build queen cells over them, resulting usually in nothing but a dead drone.

If you do not find any queen and see eggs scattered around promiscuously, some in drone and some in worker cells, some in one cell and none in the next, you may be sure you have a fertile worker.—St. Louis Republic.

How's This!

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Props., Toledo, O. We, the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O. WARDING, KINMAN & MARVIN, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price, 75 cents per bottle. Sold by all Druggists. Testimonials free.

A Look Through South Missouri for Four Cents.

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

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

To Colorado, Montana, Black Hills, Puget Sound and Pacific Coast via "Burlington Route."

Take the shortest line with best through train service from Missouri river cities to the far West. Daily train leaves Kansas City 10:40 a. m., arrives Billings, Mont., 1,050 miles distant, 5:40 next afternoon; free reclining chair car from Kansas City to Billings; sleeper Lincoln, Neb., to Billings, connects with Northern Pacific transcontinental train to Montana and Puget Sound; time from ten to twenty-five hours shorter than any other line from Kansas City.

Sleepers and chair cars Kansas City to Denver, Rio Grande scenic line beyond for Colorado, Utah and California.

Ask agent for tickets over the established lines of the Burlington Route.

L. W. WAKELEY, Gen. Pass. Agt., St. Louis, Mo.

Every man should read the advertisement of Thos. Slater on page 15 of this paper.

DEAD • EASY!

The Great Disinfectant Insecticide KILLS HEN LICE

By simply painting roosts and dropping-boards. Kills Mites and Lice, cures Colds and Cholera, also kills Hog Cholera germs. If your grocer or druggist does not keep it, have them send for it.

THOS. W. SOUTHARD, General Agent, 1411 Main St., Kansas City, Mo.

J.I.C. DRIVING BIT Still King
THE BIT OF BITS.
Will control the most vicious horse.
Sells Greater Than Ever.
Sample mailed XC for Nickel, \$1.00.
Station Bits 50 cts. extra.
RACINE MALLEABLE IRON CO., RACINE, WIS.
When you write mention Kansas Farmer.

ARMSTRONG & McKELVY Pittsburgh.
BEYMER-BAUMAN Pittsburgh.
DAVIS-CHAMBERS Pittsburgh.
FAHNESTOCK Pittsburgh.
ANCHOR Cincinnati.
EOKSTEIN
ATLANTIC
BRADLEY
BROOKLYN New York.
JEWETT
ULSTER
UNION
SOUTHERN Chicago.
SHIPMAN
COLLIER
MISSOURI St. Louis.
RED SEAL
SOUTHERN
JOHN T. LEWIS & BROS. CO. Philadelphia.
MORLEY Cleveland.
SALEM Salem, Mass.
CORNELL Buffalo.
KENTUCKY Louisville.

WHY IS IT that practical painters everywhere use and recommend Pure White Lead and Pure Linseed Oil? Simply because they know their business, have a reputation to maintain, and cannot afford to use or recommend anything else. To be sure of getting

Pure White Lead

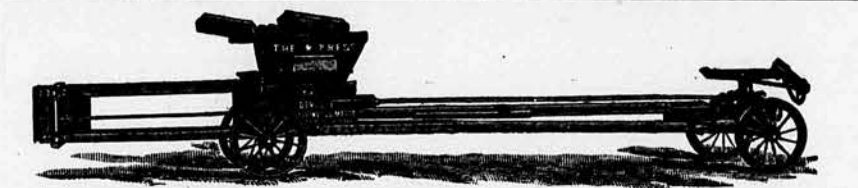
examine the brand (see list genuine brands). Any shade or color is readily obtained by using NATIONAL LEAD CO.'s brands of Pure White Lead Tinting Colors.

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

NATIONAL LEAD CO.,
1 Broadway, New York.

BUGGIES, PHAETONS, SURRIES, WAGONS, CARTS, HARNESS, SADDLES, BICYCLES, &c.
At factory prices. Our record for the past eight years is the best guarantee that we turn out the finest, strongest and lowest priced vehicles in the world, for the money. All work guaranteed. Send for our beautifully illustrated Catalog for 1896. Prices in plain figures. Offices, sales-rooms, factories: Court St. Alliance Carriage Co. Cincinnati, O. "A" Grade \$44. Style, Finish. Durability.

LIGHTNING HAY PRESS.
IT IS THE BEST. Our Catalog tells why. Kansas City Hay Press Co., 174 Mill St. Kansas City, Mo.



STAR and FARMER'S HAY PRESSES combine the features of perfect tension, great power, ease of draft, well made and handsomely finished. Fully warranted equal to any in the market and to press one ton of hay per hour if properly operated. Write for circulars and full information as to price, etc. (Mention this paper.) KINGMAN-MOORE IMPLEMENT CO., Kansas City, Mo.

CRIPPLE CREEK

The Santa Fe Route is the most direct and only through broad-gauge line from Chicago and Kansas City to the celebrated Cripple Creek gold mining district. Luxurious Pullmans, free chair cars, fastest time, and low rates.

GOLD! GOLD!!

Address G. T. Nicholson, G.P.A., A., T. & S.F. Ry., Monadnock Bldg., Chicago, or W. J. Black, A. G. P. A., Topeka, Kas., and ask for free copy of profusely illustrated book descriptive of Cripple Creek. It is well worth reading.

SANTA FE ROUTE

THE GREAT ROCK ISLAND RY.

THE FAVORITE ROUTE TO THE East, West, North, South.

Through cars to Chicago, St. Louis, Colorado, Texas and California.

Half Rates to Texas Points! LOW RATES TO ALL POINTS.

Especially California, Texas and Southeast on Points. If you are going to the Midwinter Fair at San Francisco, if you are going to Texas, if you are going East on business or pleasure—in fact, if you intend to do any traveling, be sure to consult one of the agents of the

Great Rock Island System

JOHN SEBASTIAN, General Ticket and Passenger Agent, CHICAGO.
T. J. ANDERSON, Assistant Gen'l Ticket and Pass. Agent, TOPEKA.

To Cripple Creek

VIA COLORADO SPRINGS

The Chicago, Rock Island & Pacific Railway is

4 hours quicker

To Cripple Creek than any other line.

Full particulars by addressing JOHN SEBASTIAN, G. P. A., Chicago.

Stack Covers Cheap!

Also Awnings, Tents and everything made of cotton duck. Every farmer should have a stack cover. Address best house in the country for these goods. C. J. Baker, 104 W. Third St., Kansas City, Mo.

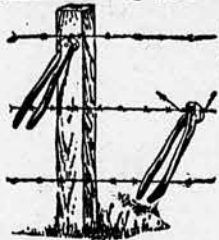
A WIND MILL
THAT YOU CAN RELY UPON for all the purposes is the GOODHUE PUMP AND POWER MILL.
IT IS NOT LIKE OTHERS—IT IS BETTER.
We also make a full line of grinding mills, wood saws, shal-lers, fodder and ensilage cutters, &c. Catalogue sent FREE.
Our famous Successor I HORSE TREAD POWER is a Marvel. Adapted to all uses requiring a moderate power.
19 FARGO ST. APPLETON MFG. CO. Batavia, Ill.



Instantly and positively prevents flies, gnats and insects of every description from annoying horses and cattle. It improves the appearance of the coat, dispenses with fly-nets. Applied to cows it will give them perfect rest, thereby increasing the quantity of milk. It is also a positive insecticide for plants. We guarantee it pure, harmless and effective. Recommended by thousands using it. One gallon lasts four head an entire season. Price, including brush, quart cans, \$1.00; half-gallon, \$1.75; and one gallon, \$2.50. Beware of imitations. Made only by The Crescent Manufacturing Co., 2109 Indiana Avenue, Philadelphia.

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

RUSSELL'S STAPLE PULLER



AND WIRE SPLICER

Drives and pulls staples, cuts and splices wire. Its special use is in building and repairing wire fences, but may be used for many different purposes about a farm. Saves its cost in one day's work. You can't afford to be without it.

Price \$1.25.

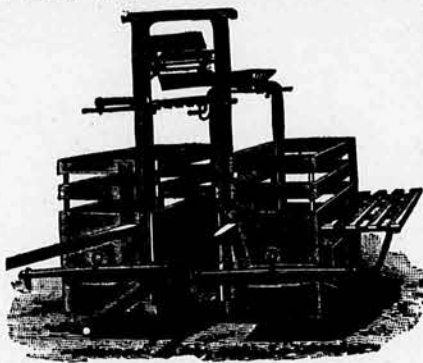
Ask your hardware merchant for it.

Russell Hardware & Implement Manuf'g Co.,
 Kansas City, Mo.



The Baldridge Transplanter.
 Made of steel and iron. Earlier and larger crops.
 Pull, roots and plants taken up together, preventing stunting or injury. Vegetables, flowers, strawberries, tobacco, small nursery trees, etc., can be moved at all seasons. Invaluable for filling vacancies. Transplanter with blade 2 inches in diameter, \$1.25; same with 3-inch blade, \$1.50. **SPECIAL PRICE** with KANSAS FARMER: By a special arrangement with the manufacturers we are able to offer the Transplanter and KANSAS FARMER one year for price of Transplanter alone. Send \$1.25 and we will mail KANSAS FARMER to you and send you the Transplanter by express. Or call at FARMER office and get the Transplanter and save 25c. express charges.
 Address
KANSAS FARMER CO., Topeka, Kas.

IDEAL FARM IMPLEMENT CO.



MANUFACTURERS OF

Eureka Kaffir Corn and Sorghum Header,
 Climax Corn Cutter and Shocker,
 Alliance Combined Hay Rake and Loader.
 Cor. Vine & Water St., FT. MADISON, IOWA.

WIND MILLS AND PUMPS

Gem and Halladay Mills

FOR IRRIGATION OR
 ANY OTHER USE.



Wooden and Steel Tanks,
 Iron and Wooden Pumps,
 Engines and Boilers,
 Gasoline Engines,
 Belting, Hose and Packing,
 Pipe, Fittings, Drive Points.

WRITE FOR
 CATALOGUE.

U. S. WATER & STEAM SUPPLY COMPANY,
 KANSAS CITY, MO.

IRRIGATE or IMMIGRATE!!

THE

IDEAL
IRRIGATOR

WIND MILL

makes it possible to stay where you are and live in peace and plenty—the Ideal Irrigator is the only mill on the market made especially for irrigation work, all others offer you their regular farm style, entirely too light and cannot stand continuous heavy duty—the best is the cheapest for this kind of pumping. Ask your dealer for the **IDEAL IRRIGATOR** and take no other. If he does not have it, send for our catalogue and prices.

STOVER MFG. CO.,
 535 River St., FREEPORT, ILL.

**WE SELL
 DIRECT TO
 FARMERS.**



Write for Our Hay Catalogue.

Sections, Sickles, Guards, etc., for YOUR Mower or any Mower manufactured. **DON'T PAY DEALERS' PRICES.** **THE KANSAS CITY MACHINERY CO.,** 1006 Hickory St., Kansas City, Mo.

THE STORY

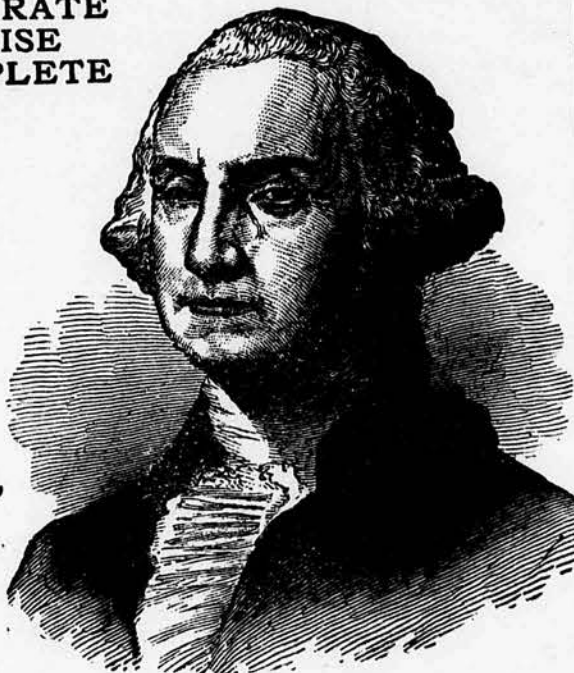
.....OF THE.....

AMERICAN PEOPLE

The Latest and Most Complete HISTORY OF THE UNITED STATES

Now on the market at the price, being a strictly correct narrative of the events in our history, beginning with the first voyage of Columbus; then follow accounts of the explorations of the English, French and Spaniards; the Mound-builders and the American Indians; the Struggle for Independence; the Wars of 1812, 1848 and 1861-5, and the numerous wars with the Indians; the great Political Crises; the great Inventors and their Inventions—the Locomotive, Telegraph, Cotton-gin, Sewing-machine, etc.—and a chapter on the more recent but none the less wonderful inventions.

**IT IS ACCURATE
 CONCISE
 COMPLETE**



Arthur Gilman, M.A.,
 Professor of History at
 Harvard University,

AND

Francis W. Shepardson, Ph.D.,
 Professor of History at
 University of Chicago,

Are such well-known educators and historical authorities that they are a sufficient guarantee that the work is of the highest order of excellence.

Over 600 Pages and 240 Illustrations.

The pictures include portraits of each President; of the prominent men and women of to-day, as, McKinley, Crisp, Reed, Hill, Edison, Parkhurst, Susan B. Anthony, Frances E. Willard and many others. Tersely stated, the book is

Up-to-date, Complete, Reliable, Low-priced

It is a vast storehouse of information always at hand. Its exhaustive index makes it an easy matter to find anything you want, and in order to get it into the hands of everyone of our readers, we offer it, until further notice,

FREE TO EVERY SUBSCRIBER

Who will comply with the following **OFFER!** Send us \$2 for two years' subscription for yourself—or one year for yourself and one year for another—and we will mail you the Book as a premium. Or, send \$1.25, and we will send you KANSAS FARMER one year and the book, also, to any address.

Address

KANSAS FARMER CO., Topeka, Kas.

**Burlington
 Route**

SOLID THROUGH VESTIBULED TRAINS

**Kansas City, St. Joseph,
 Leavenworth, Atchison,**

TO

**ST. LOUIS, CHICAGO, OMAHA,
 PEORIA, ST. PAUL & MINNEAPOLIS.**

WITH

**Dining Cars, Sleepers
 and Chair Cars (Seats Free).**

CONNECTIONS MADE AT

St. Louis, Chicago & Peoria

FOR

All Points East, South & Southeast.

L. W. Wakeley, G. P. A.,
ST. LOUIS, MO.

Howard Elliott, Gen. Mgr.,
ST. JOSEPH, MO.

H. D. Dutton, T. P. A.,
ST. JOSEPH, MO.

H. C. Orr, A. G. P. A.,
KANSAS CITY, MO.



Vitality **IN** Restored.

Falling Sexual Strength in old or young men can be quickly and permanently cured by me to a healthy vigorous state. Sufferers from.....

**NERVOUS DEBILITY,
 WEAKNESS, VARICOCELE,**

AND ALL WASTING DISEASES should write to me for advice. I have been a close student for many years of the subject of weakness in men, the fact is, I was a sufferer myself. Too bashful to seek the aid of older men or reputable physicians I investigated the subject deeply and discovered a simple but most remarkably successful remedy that completely cured me. I want every young or old man to know about it. I take a personal interest in such cases and no one need hesitate to write me as all communications are held strictly confidential. I send the recipe of this remedy absolutely free of cost. Do not put it off but write me fully at once, you will always bless the day you did so. Address

THOMAS SLATER, Box 960,
 Shipper of Famous Kalamazoo Celery.
 KALAMAZOO, MICH.

**HENRY W. ROBY, M. D.,
 SURGEON.**

Office 118 Sixth Ave. West, TOPEKA, KAS.

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

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

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time, will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it!

SPECIAL:—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with the order. Stamps taken.

FOR SALE OR TRADE—121-acre fruit farm, seventy acres in cultivation, three-room house, good barn, good well and pond, 2,300 apple trees and plenty of other fruits. Will exchange for central or eastern Kansas land. J. W. Ford, Mason Valley, Benton Co., Ark.

FOR SALE—A handsome six-year-old mammoth Kentucky jack. Cost \$500 at 2 years old. Can be had at a bargain. Write H. C. Bowman, 116 West Sixth St., Topeka.

FOR SALE—Farms in Morris, Osage, Lyon, Bourbon, Cherokee, Labette, Neosho, Anderson, Montgomery, Coffey, Woodson and many other counties for sale on eight years' time. No interest asked or added in. Write for new circulars with descriptions and prices. Hal W. Neiswanger & Co., Topeka, Kas.

GREAT BOAR, ROYAL PERFECTION 13159 S. A son of King Perfection 11815 S. and out of Teumseh Model 90895 S. for sale. King Perfection was a first-prize winner State fairs and won sweepstakes at St. Louis fair in 1894. Was afterwards sold for \$1,000. Royal Perfection is a sure breeder, his get good ones. Can't be used longer in our herd. Will sell him at hard-times prices. T. E. Martin & Bro., Fort Scott, Kas.

FOX TERRIERS FOR SALE—I have, at the Emporia Kennels, a fine lot of pups on hand now, from imported stock, and will sell them at half price if ordered soon. Address W. H. Richards, V. S., Emporia, Kas.

FOR SALE AT SPECIAL PRICES—Hay outfits, carriers, forks, etc. Inquire at the store of P. W. Griggs & Co., 208 W. Sixth St., Topeka, Kas.

WANTED—Horses to pasture. Good pasture and plenty of water. Address Stevens & Hammond, Dover, Kas.

FOR SALE—High-grade Merino ewes and lambs; also registered buck. John F. Crabbe, Macksville, Kas.

FOR SALE OR TRADE—A complete steam outfit for threshing, hay pressing or corn-shelling. Outfit in splendid condition. Address Frank Chaland, 812 Morris Ave., Topeka, Kas.

FOR SALE—A new, solid rubber tire bicycle, for only \$15. Good for service anywhere. No fear of puncture. A bargain for some farmer boy. Call and see it at KANSAS FARMER office.

JERSEY HEIFER FOR SALE—Solid fawn with black points. Breeding the best. Address Professor Georgeson, Manhattan, Kas.

STRAWBERRY PLANTS FOR SALE—Mitchell's Early, Crescent, Sharpless, Kentucky, Warfield, \$2.25 per 1,000. Remit with order. Address John E. Hardin, Foreman Eglantine Orchards, Koshkonong, Mo.

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

SHORT-HORN BULLS FOR SALE—Cruckshanks and Bates breeding. Sired by Valley Champion 110477. Address C. Chambers, Mont Ida, Anderson Co., Kas.

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

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

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

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

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

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

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

FOR SALE—One of the best stock ranches in Wabasha county; 2,300 acres; well watered, excellent improvements. Can be bought at a bargain. Noble & Merriam, Topeka, Kas.

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

SPECIAL WANT COLUMN—CONTINUED.

DISEASES OF YOUNG AND OLD MEN—Private and skin diseases a specialty. Wm. H. Richter, P. O. M. D., 308 Kansas Ave., Topeka, Kas. Correspondence solicited.

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

LADIES To sell toiletsoaps, etc. Outfit free. Send two references from business men. The Menteaux Soap Co., Cincinnati, Ohio.

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

THE STRAY LIST.

HOW TO POST A STRAY.
THE FEES, FINES AND PENALTIES FOR NOT POSTING.

BY AN ACT of the Legislature, approved February 27, 1888, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker-up, to the KANSAS FARMER, together with the sum of 50 cents for each animal contained in said notice. And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper, free of cost, to every County Clerk in the State, to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5 to \$50 is affixed to any failure of a Justice of the Peace, County Clerk, or proprietors of FARMER for a violation of this law.

Broken animals can be taken up at any time in the year.
Unbroken animals can only be taken up between the first day of November and the first day of April, except when found in the lawful enclosure of the taker-up.
No persons, except citizens and householders, can take up a stray.

If an animal liable to be taken up, shall come upon the premises of any person, and he falls for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same. Any person taking up an stray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of each stray, and he must at the same time deliver a copy of said notice to the County Clerk of his office, who shall post the same on a bill-board in his office thirty days.

If such stray is not proven up at the expiration of ten days, the taker-up shall go before any Justice of the Peace of the township, and file an affidavit stating that such stray was taken up on his premises, that he did not drive nor cause it to be driven there, that he has advertised it for ten days, that the marks and brands have not been altered; also he shall give a full description of the same and its cash value. He shall also give a bond to the State of double the value of such stray.

The Justice of the Peace shall within twenty days from the time such stray was taken up (ten days after posting) make out and return to the County Clerk, a certified copy of the description and value of such stray.

If such stray shall be valued at more than \$10, it shall be advertised in the KANSAS FARMER in three successive numbers.

The owner of any stray may, within twelve months from the time of taking up, prove the same by evidence before any Justice of the Peace of the township, having first notified the taker-up of the time when, and the Justice before whom proof will be offered. The stray shall be delivered to the owner, on the order of the Justice, and upon the payment of all charges and costs.

If the owner of a stray fails to prove ownership within twelve months after the time of taking up, a complete title shall vest in the taker-up.

At the end of a year after a stray is taken up, the Justice of the Peace shall issue a summons to three householders to appear and appraise said stray, summons to be served by the taker-up; said appraisers, or two of them, shall in all respects describe and truly value said stray, and make a sworn return of the same to the Justice.

They shall also determine the cost of keeping, and the benefits the taker-up may have had, and report the same on their appraisal.

In all cases where the title vests in the taker-up, he shall pay into the County Treasury, deducting all costs of taking up, posting and taking care of the stray, one-half of the remainder of the value of such stray.

Any person who shall sell or dispose of a stray, or take the same out of the State before the title shall have vested in him, shall be guilty of a misdemeanor and shall forfeit double the value of such stray and be subject to a fine of \$20.

FOR WEEK ENDING JULY 9, 1896.

Anderson county—C. C. Young, clerk.

HORSE—Taken up by P. F. Triplett, in Reeder tp., June 15, 1896, one sorrel horse, 4 or 5 years old, two hind feet white; valued at \$15.

MARE—By same, one brown mare, 5 or 6 years old, scar across breast; valued at \$15.

THREE CATTLE—Taken up by Sol Kelley, in Washington tp., two red steers and one red and white heifer, aged 5 months, end of ears cut off and

J. G. Peppard

1400-2 Union Avenue,
KANSAS CITY, MO.

MILLET
CANE
CLOVERS
TIMOTHY
GRASS SEEDS.

SEEDS

ELM BEACH FARM POLAND-CHINA SWINE



The home of the great breeding boar, SIR CHARLES CORWIN 33095. Our 1896 crop of pigs are by six different boars and out of fashionably bred sows, including such grand individuals as the prize-winning \$500 Lady Longfellow 34099 (S.), that has eight pigs by the prize boar, King Hadley. **STOCK FOR SALE** at all times and at very reasonable prices. We also breed Short-horn cattle. Write or come and see us.

IRWIN & DUNCAN, Wichita, Sedgwick Co., Kas.

WE MAKE WHEELS, TOO!

We make them easy-running, durable, satisfactory, and the finish is far beyond any other you have ever seen.

Our Catalogue gives you a full description. If you want one we will send it, if you will drop us a line.

National Sewing Machine Co., Belvidere, Ill.

The Kansas City Stock Yards

are the most complete and commodious in the West, and second largest in the world! The entire railroad system of the West and Southwest centering at Kansas City has direct rail connection with these yards, with ample facilities for receiving and reshipping stock.

| | Cattle and calves. | Hogs. | Sheep. | Horses and mules. | Cars. |
|--------------------------------------|--------------------|-----------|---------|-------------------|---------|
| Official Receipts for 1895..... | 1,689,652 | 2,457,697 | 864,713 | 52,607 | 103,368 |
| Slaughtered in Kansas City..... | 323,167 | 2,170,827 | 567,016 | | |
| Sold to feeders..... | 392,921 | 1,876 | 111,445 | | |
| Sold to shippers..... | 218,566 | 273,999 | 69,784 | | |
| Total Sold in Kansas City, 1895..... | 1,533,234 | 2,446,203 | 748,244 | 41,588 | |

CHARGES: YARDAGE, Cattle, 25 cents per head; Hogs, 8 cents per head; Sheep, 5 cents per head. HAY, \$1 per 100 lbs.; BRAN, \$1 per 100 lbs.; CORN, \$1 per bushel.

NO YARDAGE CHARGED UNLESS THE STOCK IS SOLD OR WEIGHED.

C. F. MORSE, E. E. RICHARDSON, H. P. CHILD, EUGENE RUST,
V. Pres. and Gen. Manager, Secretary and Treasurer, Assistant Gen. Manager, Gen. Superintendent.
W. S. TOUGH & SON, Managers HORSE AND MULE DEPARTMENT.

slit and switch of tail cut off; value of steers \$6 each and heifer \$3.

Osage county—E. C. Murphy, clerk.

HORSE—Taken up by A. L. Brady, of Quenemo, May 9, 1896, one gray horse, five feet nine inches high, had leather halter on when taken up; valued at \$20.

FOR WEEK ENDING JULY 16, 1896.

Sherman county—E. D. Adams, clerk.

HORSE—Taken up by J. W. German, of Lamborn, June 22, 1896, one gray horse, scar on left hind foot, end of tail clipped, short rope around neck.

Pottawatomie county—Frank Davis, clerk.

HORSE—Taken up by G. C. Kirby, in Lincoln tp., June 15, 1896, one horse, 9 years old, white spot in forehead, left hind foot white, four feet eight inches high; valued at \$20.

Montgomery county—J. W. Glass, clerk.

MULE—Taken up in Caney tp., one bay mare mule, harness marks, fourteen hands high, 6 years old.

MULE—By same, one brown horse mule, fifteen hands high, harness marks, 9 years old.

FOR WEEK ENDING JULY 23, 1896.

Shawnee county—Chas. T. McCabe, clerk.

HORSE—Taken up by James Graham, in Silver Lake tp. (P. O. Swinburn), one three-year-old iron gray horse.

FARMERS, SPAY YOUR SOWS

Mares, cows and gip dogs with Howsley's Spaying Mixture. No knife, no no deaths. Easy to use and absolutely sure. Price: Large bottle, \$3—spays twenty cows; sample bottle, \$1—spays twenty sows. Write us for testimonials and particulars. Address

THE HOWSLEY SPAYING CO.,
Room 217 Stock Yards, Kansas City, Mo.

LIVE STOCK AUCTIONEERS.

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

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

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

VETERINARY SURGEON.

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

DOGS.

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

When writing to advertisers please mention KANSAS FARMER.

SUNNY SLOPE FARM

***** EMPORIA, KANSAS, *****

Hereford Cattle Headquarters

Sunny Slope Farm is one of the largest breeding establishments in the United States. Three sweepstakes bulls in service—Wild Tom 51592, Climax 60942, Archibald VI. 60921, also the great breeding bull, Archibald V. 54433, who was the sire of two sweepstakes animals (Archibald VI., sweepstakes under one year of age, and Miss Wellington 5th, sweepstakes heifer over all beef breeds when twelve months and twenty days old. We have thirteen serviceable bulls for sale, ranging from eight to twenty months old. We also have forty bulls for sale, ranging from five to eight months old. Also a choice lot of heifers and cows. We combine the blood of Anxiety, Lord Wilton and Grove 3d. Breeders are invited to inspect our herd.

C. S. CROSS,

H. L. LEIBFRIED, Manager.

EMPORIA, KANSAS.

WILD TOM 51592.

Sweepstakes bull Wild Tom 51592. Weight when thirty-four months old 2,205 pounds in show condition. He is the best living son of Beau Real 11055. Dam Wild Mary 21238. Winnings:—Iowa State Fair, 1895, first in class, first in special, first in sweepstakes, and Silver Medal; Kansas State Fair, first in class, first and special at head of herd, first bull and four of his get.

FARM—Two and a half miles northwest of city. We furnish transportation to and from the farm if notified.