

KANSAS FARMER

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TABLE OF CONTENTS.

PAGE 34—THE STOCK INTEREST.—Kansas Improved Stock Breeders.

PAGE 35—AGRICULTURAL MATTERS.—Crop Rotation and Other Matters. Sorghum for Forage. Twelve Months' Work. First Alfalfa in the United States. Wanting Information. Let Us Hear From the Subsoilers.

PAGE 36—IRRIGATION.—Irrigating a 500-Acre Orchard.

PAGE 37—IRRIGATION.—Irrigating a 500-Acre Orchard (continued).

PAGE 38—THE HOME CIRCLE.—A Monoplist's Wants (poem). Regarding Umbrellas. Inferior Motives. Law and Engagement Rings. Useful Little Basket. Timely Health Hints.

PAGE 39—THE YOUNG FOLKS.—The Two Words (poem). After New Year (poem). The Alamo Mission. Walking Without Legs. Negro Head-Dresses. A Ring With a History. Said Grace to the Duchess.

PAGE 40—EDITORIAL.—Annual Meeting of the State Board of Agriculture. An Object Lesson in Irrigation. To Prevent Horns.

PAGE 41—EDITORIAL.—Missouri State Swine Breeders' Meeting. Inter-State Swine Breeders. Gossip About Stock. Publishers' Paragraphs.

PAGE 42—HORTICULTURE.—Windbreaks, Orchards, Gardens. The San Jose Scale in Ohio.

PAGE 43—IN THE DAIRY.—A Good Jersey Cow. To Avoid Loss of Butter Fat in Churning. An "Old Bach" Butter-Maker. Dairy Notes.

PAGE 44—Kansas State Swine Breeders' Meeting.

PAGE 45—THE VETERINARIAN.—Market Reports.

PAGE 46—THE POULTRY YARD.—Chickens and Garden. Poultry and Bees. Perches. Skim-Milk and Bran for Hens. Selling Eggs at High Prices.

BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the Breeder's Directory for \$15 per year or \$5.00 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.

JOSEPH FUHRMAN, NORTH WICHITA, KAS.—Breeder of French Coach and Percheron horses. Pure-bred young stock, of both sexes, for sale; also, grade animals. Prices as low as same quality of stock can be had elsewhere. Time given if desired. Inspection invited. Letters promptly answered. Mention this paper.

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.

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

ENGLISH RED POLLED CATTLE AND COTSWOLD SHEEP.—Young stock for sale, pure-bloods and grades. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo.

SWINE.

MAPLE GROVE HERD OF FANCY BRED POLAND-CHINA SWINE. Also Light Brahma fowls. Owned by Wm. Plummer & Co., Osage City, Kas. Stock of all ages for sale at reasonable rates.

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

OHIO IMPROVED CHESTER SWINE.—Pure-bred and registered. Stock of all ages and both sexes for sale by H. S. Day, Dwight, Morris Co., Kas.

DIETRICH & GENTRY, RICHMOND, KAS., (formerly Ottawa) have several fine, growthy young boars at very reasonable prices. Young sows can be bred to High Ideal 12115 s. A fine crop of fall pigs very cheap. Write. Mention KANSAS 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, Liberty, Kas.

SWINE.

D. TROTT, Abilene, Kas.—Pedigreed Poland-Chinas and Duroc-Jerseys. Also M. B. Turkeys, Light Brahma, Plymouth Rock, S. Wyandotte chickens and R. Pekin ducks. Eggs. Of the best. Cheap.

TOPEKA HERD OF BERKSHIRES.—Strong-framed, mellow and prolific. State fair prize-winners and their produce for sale. Also, Pekin ducks of enormous size. H. B. COWLES, Topeka, Kas.

FOR SALE CHEAP.—Choice Poland-China boar pigs, Cotswold and Merino bucks, fifteen varieties of pure bred poultry. Prize-winners. No catalogue. Address with stamp, H. H. Hague & Son, Walton, Kas.

A. W. THEMANNSON, WATHENA, KAS.—Poland-China boars. Glits bred to Graceful F. Sanders; he is by J. H. Sanders 27219 and out of Graceful F. 634/8, by A. A., by Black U. S. sire and dam both first-prize winners at World's Fair and descendants of Black U. S.

CATTLE AND SWINE.

PEDIGREED Poland-Chinas J. H. TAYLOR, Pearl, Short-horns, Kas.

ASHLAND STOCK FARM HERD OF THOROUGHbred Poland-China hogs, Short-horn cattle and Plymouth Rock chickens. Boars in service, Admiral Chip No. 7919 and Abbottford No. 23351, 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, Muscatoh, Atchison Co., Kas.

POULTRY.

A. B. DILLE & SONS, EDGERTON, KAS., breeders of choice B. P. Rocks, S. L. Wyandottes, Light Brahmans and M. B. turkeys. Chicken eggs \$1 to \$2 per 15; turkey eggs \$3 per 11. Satisfaction guaranteed.

EUREKA POULTRY YARDS.—L. E. Pixley, Emporia, Kas., breeder of Plymouth Rocks, S. Wyandottes, Buff Cochins, B. and White Leghorns, B. Langshans, M. B. Turkeys and Pekin ducks. Chicks at all times. Eggs in season.

SWINE.

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.

S. McCULLOUGH, Ottawa, Kansas. Breeder of Pure-bred BERKSHIRE SWINE. Stock for sale at all times. Satisfaction guaranteed. Write for what you want.

SELECT HERD OF BERKSHIRES

Have for sale pigs from State fair winners. Can fill classes for show. Boars for fall service. A few choice sows bred. Address

G. W. BERRY, Berryton, Shawnee Co., Kas.

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.

THE WOOD DALE BERKSHIRES

Champions of Two World's Fairs. New Orleans, 1885, best herd, largest hog any breed. At Columbian, Chicago, won ten out of eighteen first prizes, the other eight being bred at or by descendants of Wood Dale. New blood by an 1894 importation of 21 head from England. For catalogue

Address **N. H. GENTRY, SEDALIA, MO.**

JAMES QUORLO, KEARNEY, MO. Breeder and shipper of prize-winning Large Berkshire Swine. S. C. Brown Leghorns and Bronze Turkeys. Headed by King Lee II. 29801, Mephistopheles 32412.

BOURBON COUNTY HERD, English o Berkshire o Swine.

J. S. MAGERS, Prop., Arcadia, Kas. Imported and prize-winning American sows headed by Imp. Western Prince 3202. All selected and bred to head herds and to supply those wanting none but the best. Fall litters now can't be topped. Write or come visit me and see the herd.

GEORGE TOPPING, Cedar Point, Kas. (CLASE CO.) Importer, breeder and shipper of

LARGE ENGLISH BERKSHIRE SWINE of best families and breeding. Choice pigs for sale at low prices. Also Single-combed Brown Leghorns and Mammoth Bronze turkeys. Eggs in season. Farm 6 miles south of Cedar Point. Mention K. F.

SWINE.

JOHN KEMP, North Topeka, Kas., breeder of Improved Chester White Swine. Some fine young boars fit for service for sale. Correspondence invited.

MAINS' HERD OF POLAND-CHINAS.

JAS. MAINS, Oskaloosa, Kas. (Jefferson County.) A grand lot of sows bred to Monroe's Model, Excel, McWilkes Jr. and Storm Cloud 2d. Also all other classes and ages of stock for sale. I guarantee safe arrival and stock as represented or money refunded. Breeding stock recorded in Ohio P. C. R.

A. E. STALEY, Ottawa, Kansas. CHESTER WHITES AND POLAND-CHINAS. Light Brahma cockerels, \$1.50.

PLEASANT VIEW STOCK FARM.

J. A. WORLEY, Sabetha, Brown Co., Kas. REGISTERED POLAND-CHINA SWINE Short-horn Cattle and Light Brahmans. 100 Polands, headed by Anxiety 20251 A. Combination U. S. (Vol. 9), America's Equat 12279 S. and a son of Bolivar 2477. Eggs in season, \$1.50 per setting of 15. Inspection and correspondence invited.

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

BROWN COUNTY HERD, PEDIGREED POLAND-CHINAS.

ELI ZIMMERMAN, Hiawatha, Kas. 46 brood sows in herd, headed by Black U. S. Nemo (Vol. 9), Model Wilkes (Vol. 9), Sunset Chip (Vol. 9) and Billy Bundy (Vol. 9). Female lines: All Right, Short Stop, King I. X. L. Wilkes, Free Trade, Wana-maker. Aged sows, bred gilts and fall pigs for sale.

P. A. PEARSON, Kinsley, Kansas. Breeder of Poland-China Swine. All ages for sale. Herd headed by Dandy Jim Jr. and Royalty Medium, a son of Free Trade.

TOWER HILL HERD, PEDIGREED POLAND-CHINAS.

B. R. ADAMSON, Prop., Ft. Scott, Kas. 25 highly-bred brood sows of best strains, headed by Black Dandy 8809 S., Black Stop 10550 S. and Joker Wilkes 12682 S. About 100 selected individuals sold this season. 25 youngsters coming on now for choice. Write or come and visit my herd.

R. S. COOK, Wichita, Kas., Breeder of Poland - Chinas. Won seven prizes at World's Fair—more than any single breeder west of Ohio.

BLACK U. S. AND WILKES

300 head, registered or eligible. Boars in service. Modest Duke 12653 S., Wilkes Tecumseh 11760 A., White Face 12081 O. and Osgood Dandy Wilkes 12709 S. 60 young boars; 80 gilts. **J. R. CAMPBELL & SON, Avilla, Jasper Co., Mo.**

PRAIRIE COTTAGE FARM

Home of the Chester White Hogs. **C. J. HUGGINS, Louisville and Wamego, Kansas.** Have for sale brood sows, two boars, also a nice lot of spring pigs of both sexes, the get of my herd boars, Ben Buster 6189 and Jerry Simpson 6161. Correspondence and inspection invited. Prices reasonable.

STANDARD POLAND-CHINA HERD.

CHAS. A. CANNON, Proprietor, HARRISONVILLE, CASS COUNTY, MISSOURI. Breeder and shipper of registered Poland-China swine of the best strains. Herd headed by Chow Chow 5903 S., assisted by a Black U. S. son of Imitation 27185 O., also a son of Tecumseh Jr. 10207 O. 220 head in herd. Young boars and gilts yet on farm. Write or come and visit me.

ELM BEACH STOCK FARM

IRWIN & DUNCAN, Wichita, - Kansas, Sedgwick Co. Breed and have for sale Bates and Bates-topped Short-horns—Waterloo, Kirklevington and other fashionable families. Also breed and have for sale the best thoroughbred Poland-Chinas that can be obtained. Write or come and see.

CATTLE.

SUNNY SLOPE FARM, C. S. CROSS, Proprietor, Emporia, Kas.

Breeder of PURE-BRED HEREFORD CATTLE. Herd headed by Wild Tom 51592, a son of Bean Real 11055 and assisted by sons of Cherry Boy 20475, Archibald 1st 39258 and Washington 22815. 200 head, all ages, in herd. Strong in the blood of Lord Wilton, Anxiety and Horace. A choice lot of young heifers, fit for any company. Bulls all sold. Correspondence solicited, or, better still, a personal inspection invited.

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 Waterloo Duke of Shannon Hill No. 89879 and Winsome Duke 11th 115,137 at head of herd. Choice young bulls for sale now. Visitors welcome. Address **W. L. CHAFFEE, Manager.**

CLOVER LAWN HERD POLAND-CHINAS. Young sows and boars and spring pigs for sale. Prices reasonable. Stock first-class. **W. N. D. BIRD, Emporia, Kas.**

"Wildwood" Herd Poland-Chinas.

For Sale Now! My two breeding boars, George Free Trade 21054A, by Free Trade 4420 S.; also Gen. Wilkes 1613, grandson of George Wilkes 6930 S. Both boars are 2 years old and good individuals. Can use them no longer. **L. N. KENNEDY, Nevada, Mo.**

J. R. KILLOUGH & SONS, Richmond, Kansas, Breeders of POLAND-CHINA SWINE. The very best strains. Nothing but first-class stock will be shipped to any. Come and see us or write.

Evergreen Herd Poland-Chinas. J. F. & P. C. Winterscheidt, Horton, Kas. 150 in herd. Boars in service: Admiral Chip 7919 S., George Wilkes Jr. 11893 S., Corbett 11839 S. and Winterscheidt's Victor (Vol. 9). 45 sows bred for coming pig crop. 10 young boars and 40 gilts ready to go. Write or come. Third annual sale, February 13, 1895.

W. E. GRESHAM, Burrton, Kansas, Breeder of POLAND - CHINAS. Won six prizes, including first blue ribbon west of Mississippi at World's Fair. Stock all ages for sale.

HOLSTEIN-FRIESIANS Careme 2d's Jacob Prince of Twist 404 heads herd, backed with butter record of over 35 lbs. in 7 days. Young bulls for sale. Red pigs in pairs, heavy bone, good color, dams often farrowing 14 pigs. Males **DUROC JERSEY REDS** ready for service. Poland-China males ready for use. Pigs of all ages in pairs not related. Young gilts, either bred, bred if desired. Pigs shipped at my risk. Pedigrees furnished. **M. H. ALBERTY, Cherokee, Crawford Co., Kas. Mention FARMER, AND POLAND-CHINAS.**

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Short-horn cattle and Poland-China hogs, bred by C. C. KEYS, VERDON, NEB. Aberdeen King 10148, a pure Cruickshank, heads the herd. Stock for sale at all times. One lot of young male pigs for sale. **Verdon, Nebraska.**

FEISENHEIMER, and-China Swine. Brown Co., Kas. 20 brood sows, a Let Us L. Tecumseh Free Trade 10783 S., a Benton's Last 8827 S. Some of BUTLER'S DARK, Black U. S. and a Victor M. Jr. (Vol. 9) Correspondence and inspection invited.

D. W. HAYES' HERD REGISTERED POLAND-CHINAS.

250 head headed by the Tecumseh 10229 S., by L's Tecumseh 11413 and Billy Wilkes 1319 S., by George Wilkes 5950 S. at a public entrance sale on Thursday, February 1, 1895, of 75 sows bred to these and other noted boars. Inspection invited.

RIVERSIDE HERD Poland-China Swine.

For sale sows bred to farrow in September and October. Also young stock at reasonable figures at all times. Satisfaction guaranteed. Correspondence as well as inspection invited. **J. V. HANDEL, Emporia, Kas. Established 1868.**

(Breeder's Directory continued on page 16.)

The Stock Int

THOROUGHbred STOCK

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

- FEBRUARY 7—W. H. Wren, Marion, Polaris.
- FEBRUARY 13—J. F. & P. C. Winterscheider, ton, and M. C. Vansell, Muscotah, Polaris.
- FEBRUARY 14—Dan W. Evans, Fairview, Spee.
- FEBRUARY 28—Jno. A. Dowell, Robinson, Poland-China swine.

KANSAS IMPROVED STOCK BREEDERS' ASSOCIATION.

The fifth annual session of the Kansas Improved Stock Breeders' Association met as per call, at the Hotel Throop club rooms, Topeka, January 8. The meeting was called to order by Vice President M. S. Babcock, of Nortonville, after which President W. B. Sutton appeared before the convention and was duly arraigned for neglecting the association; a committee was appointed to escort him to the chair to explain his absence. Mr. Sutton proceeded in a most contrite manner to beg the forgiveness of the association for going into politics and becoming a member of the Legislature, but assured those present that he would never do so again, and should endeavor to make amends for his neglect by securing such legislation as was demanded by the breeders and farmers of the State.

President Sutton then proceeded to make a brief annual address, and in substance said that the Kansas breeders had to share the usual depression of the past two years, as well as other lines of business. According to the United States Department of Agriculture, our live stock interests have depressed in value to the amount of \$22,000,000. There is a falling off of 50,000 head of horses, representing from \$15,000,000 to \$18,000,000. In cattle the decline has not been so marked, while sheep and swine seem to have about held their own.

"There are two things," he said, "in connection with stock-raising—the raising of stock, and the selling of it—important things for the consideration of this association, as the profits of the business depend upon the success achieved in these two directions."

The first paper presented was by Col. J. F. True, Newman, Kas., on the subject, "The Man Without a Breed." This paper, which was quite exhaustive, seemed to show up the weak points of the breeders of pure-bred stock, and especially in regard to pedigrees without individuality. The pure-bred scrub was the most vigorously assailed, and Prof. Sanborn's bulletin regarding natives and thoroughbred cattle was also reviewed in the paper.

The discussion which followed this paper was quite spirited. Mr. T. A. Hubbard regarded the review of Prof. Sanborn's ideas as a rank heresy, and he had no sort of patience with this advocate of the Utah scrub. While he was quite willing to accept Mr. True's idea, there was nothing that would convince him that the scrub was as good an animal as the thoroughbred. No sane man can afford to feed high-priced corn to anything but an improved steer.

Ex-Governor Glick was of the opinion that if breeders had the courage to steer every male that did not show quality and good individuality, there would not be any reason for such attacks. Pedigree did not make the animal. The animal itself should be the pedigree, or not be classed as pure-bred, but should be sent with the herd at once.

The next topic of cattle bred by the Farmer," which was opened by V. B. Howey, of Topeka.

In the discussion which followed this paper, the advocates of the Berkshires and Poland-Chinas had quite a warm discussion as to the respective merits of these two breeds. Mr. Hubbard stated that he had sold more Berkshires to cross on grade herds than Poland-Chinas, and especially was the demand for Berkshires strong in the South and West. The Berkshire men claimed that their breed, being more

active, was the better suited to run with other stock in feeding, consequently the best animal for the farm. Mr. Mains and other Poland-China breeders claimed that their breed made more pork in less time from the same amount of feed, and that no cross with any other breed could improve them. In view of so many good points being brought out about the respective breeds, it was suggested by some members that it would be a good idea to cross the breeds and get a combination of all the good points. But this idea was thoroughly assailed by both Berkshire and Poland-China breeders, and many experiments in this direction were adduced to prove the fact. Mr. Updegraff stated that he had no prejudice in favor of any breed, but, like Mr. Huggins, the Chester White breeder, was in the business for the money there was in it, and that he had observed that where the Berkshire is deficient in good points the Poland-China seemed to be good, and vice versa; and, therefore, it was for this reason that many farmers were disposed to cross breeds in hopes of improving on either. Mr. McAfee stated that he had tried cross-breeding for a number of years, but had found it unsatisfactory and had abandoned the practice altogether.

In the discussion of "Sheep Husbandry" there were three very excellent papers presented, after which a spirited discussion took place, which occupied the remainder of the session. Two very interesting and practical communications on the subject were read by the Secretary, one from H. M. Kirkpatrick, of Kansas City, who is, probably, the largest owner of pure-bred mutton breeds in the State, his flock being located in Leavenworth county. The other was from the well-known Merino breeder, Mr. E. D. King, of Burlington, Kas.

Ex-Governor Glick presented an exhaustive paper on the subject, in which he proceeded to explode many fallacies regarding the tariff, and also advocated the idea of farm flock more of the mutton type, where mutton is the leading object, instead of wool, as heretofore.

In the discussion which followed these papers, C. E. Westbrook, of Peabody, first told of the experience of feeding sheep on wheat, which could be fed to them whole, without any other preparation, and was one of the finest feeds for producing mutton. He also recited the drawbacks to raising sheep—the fact that they had to be corralled every night to protect them from the wolves, and that the losses were ten times as great by ravages of wolves as by dogs. Mr. L. M. Pickering, of Garden City, made the following prophecy regarding western Kansas, saying that very early in 1900 that part of the State would become quite prosperous because of the "big four"—irrigation, alfalfa, sorghum and sheep.

EVENING SESSION.

At this session there was a very large attendance, the rooms being crowded, and the first topic under consideration was "Pure Breeds for the General Farmer." The topic was opened for discussion by two very able papers, one by Vice President M. S. Babcock, of Nortonville, and another by A. E. Jones, dairy editor of the KANSAS FARMER. There was also a communication from A. G. Eyth, President of the Kansas Dairy Association, which was as follows:

"Not being able to be present at the meeting of the Improved Stock Breeders' Association this week, I would request you to kindly represent me and tell them that I regret very much not to be in shape to come.

"Improvement in everything is the road to success, and I am very sorry not to be able to meet with a body of men who spend their time and money for the betterment and advancement of human and animal existence.

"I hope you will not forget in your talk the improvement we are looking after, namely, the protection we want for the 'improved cow' and the improved methods in dairying, in the way of getting the help of the leading stockmen to see that we get an honest and just anti-oleo law passed at this next session of the Legislature, as well

as the appropriation of sufficient money for the establishment of a dairy school in the State. I hope we will meet with success, and thank you for your zeal in the work."

These papers received a general discussion, showing that nearly everybody felt considerable interest in the success of the dairy industry of Kansas.

Under the topic of "The Horse Industry," two very excellent papers were presented, one from the point of the standard-bred, by O. P. Updegraff, of Topeka, and the draft interests were ably represented by one of the best-prepared papers at this meeting, by F. H. Avery, of Wakefield, Kas. In the lively discussion which followed these papers, it was clearly shown that the representatives of the horse industry were not quite so prosperous as those representing other breeds of stock, yet their faith was sublime as to the future and there was not much of a disposition to abandon the industry, but to get it on such a basis as to make it as profitable as possible. The talks made by President Sutton, C. E. Westbrook and J. V. Randolph were highly entertaining and well received.

The balance of the evening session was devoted to short addresses by representatives of the different associations. The first was by Theo. Hewes, of Missouri, the expert judge of the Kansas State Poultry Association. In his remarks he set forth the prosperity which was general among poultry-raisers, and stated that in Missouri it ranked as the third industry. He was followed by M. L. Wortman, Winfield, President of the Kansas Poultry Association, who was quite enthusiastic about the present prosperous condition of all those in the poultry business throughout the State.

The Kansas State Dairy Association was represented by Mr. A. E. Jones, of Topeka, who reviewed the comparative importance of this industry in the State, and also made a good plea for favoring an anti-oleo law, also the establishment of a dairy school.

The State Board of Agriculture was represented by its able Secretary, who made the following short address:

"I am gratified to meet you here on any such occasion, because to me you represent the old guard who have kept the faith and fought the good fight; who have kept full high the advanced standard of live stock improvement, through evil and through good report, in shadow and in shining; the men who have transformed the wild prairies from a range for the shiftless savage, the bucking broncho, the bounding buffalo, the Cherokee cow-critter and agile antelope, to the abode of civilization, of comfort; the nursery of the magnificent Percheron, the stylish roadster, the lordly Short-horn and Hereford, the gentle Jersey and the Holstein, the world-beating Poland-China, the Berkshire and the golden-fleeced Merino.

"I am not unmindful that you are advocates of blood, but it is in the sense of bettering the condition of the community and the commonwealth in which you live; not the blood of destruction and death, but blood that makes for progress and prosperity; for human advancement; for comfort, contentment and happiness to men and women; better, greater opportunities for boys and girls.

"It is significant that you are here; it is suggestive that you are men of blood.

"That 'blood will tell' all thoughtful men agree, but whether good or bad the story be which thus is told, depends entirely upon the blood itself—its quality. If bad the blood, the story bad will be, if good the blood the story good we see.

"I am, as said before, glad to greet you at these yearly meetings, for to me you are the living embodiment, the incarnation of what with me is a deep-seated conviction, that—

"It is not wealth, nor rank, nor state, but get up and hustle that makes men great."

WEDNESDAY MORNING.

The first paper presented in the morning session was by Mr. S. C. Orr, of Manhattan, on the subject, "The Digestive Apparatus of the Horse—Some of Its Diseases and Their Treatment." This was a very thorough and practical paper, entirely devoid of technical terms, and as such was appreciated by all present, and a great

many questions regarding common ailments and manner of handling them were asked of the Doctor.

This was followed by a discussion of the topic which was passed the day before, entitled, "Beef Breeds—Their Importance and Value to the Farmers," and, like the swine discussion of the day previous, brought about a considerable discussion between the Hereford and Short-horn people. Mr. H. L. Leibfried, of Emporia, manager of the Sunny Slope farm, advocated the Hereford interests and made the claim that a two-year-old Hereford steer would feed out better than that of any other breed. Mr. J. F. True, of Jefferson county, said that he had fed all the beef breeds, and found nothing to surpass them. While the majority who discussed the subject felt that there was no material difference as to the respective merits of these two breeds, yet from the points made in the discussion it was quite evident that no other breed surpassed the Herefords, although they might equal them in all respects. A great many points in feeding, management and pedigree were brought out in the general and lengthy discussions which followed.

Before adjournment of the session Mr. O. P. Updegraff offered the following resolutions regarding the old Secretary, William P. Popenoe, Jr., who was stricken down with the yellow fever last summer while in Mexico, which resolutions were unanimously adopted:

Whereas, an all-wise Providence has removed from our midst our esteemed member and co-worker, William P. Popenoe Jr., our Secretary and one of the originators of this association, therefore, be it

Resolved, By this association, that we deeply mourn the loss of one of our most valued members. That the memory of him will be cherished by us for his noble qualities and the zeal which he manifested toward the accomplishment of the objects of this organization. That we recognize in this memory of the man that lives, and while "his dust may unto dust return," his spirit will always abide with us to encourage us in our work. And be it further

Resolved, That we sympathize deeply with the bereaved family and friends and extend to them our heartfelt condolence. That a copy of these resolutions be spread upon our minutes and also sent to his parents, at Berryton, Kas.

EVENING SESSION.

The first business of the session was a brief informal discussion of root crops, which all agreed were desirable and valuable as an economic feed for all classes of stock.

"Needed Legislation" being the next topic for informal discussion, it was stated by some one that it was understood that there would be an effort made this winter to do away with the Kansas Live Stock Sanitary Commission, and as Mr. T. J. White, of Ottawa, a member of that board, was present, he was called on. In an extended address he showed the necessity and importance of continuing our present system, which was the best of any of the Western States, and afforded ample protection to the live stock interests at a small cost. As a result of the discussion, the following resolution was adopted:

Resolved, That we, the Kansas Improved Stock Breeders' Association, endorse the State Sanitary Commission as being a necessary adjunct to the economic government of our State, and that we recognize in its provisions a necessity to proper protection of the stock interest of our State, and that we recommend reasonable and sufficient appropriation for its maintenance.

The next thing on program was the election of officers, which resulted as follows: President, T. A. Hubbard, Rome, Sumner county; Vice President, M. S. Babcock, Nortonville, Jefferson county; Secretary-Treasurer, H. A. Heath, Topeka; Directors, Samuel Detwiler, Hiawatha, Brown county; O. P. Updegraff, Topeka; Jas. Mains, Oskaloosa; F. H. Avery, Wakefield, and G. W. Berry, Berryton, Shawnee county.

The meeting then adjourned, and the Executive committee, consisting of the officers and Directors, held a meeting and prepared for the next year's business, the result of which will appear a little later.

Where Crops Never Fail.
Good irrigable farms in Colorado never fail to produce big crops. We have them for sale from \$10 per acre up. First year's crop will pay for farm. Home market.
Address THE CENTRAL TRUST CO Denver, Col.

Agricultural Matters.

CROP ROTATION AND OTHER MATTERS.

EDITOR KANSAS FARMER:—I received a letter this week, from a member of a commission firm in Kansas City, whose name is familiar to the readers of this paper, as they have been heavy advertisers for several years. After some remarks about my articles on the Early Kansas potato, he says: "I have 175 acres of clover bottom land, twelve miles from Kansas City and one-fourth of a mile from a station, that if I know anything about it, is an ideal potato ground. Can you recommend to me a practical potato-grower to go in with me, and make potato-raising a business? If you know of any such a man, will you please mention it to me?"

What a chance for the right kind of a man, and what a financial failure a poor kind of a one would be. How wonderfully particular I would be about hiring such a man. It would be very hard to please me, yet if the man did everything as it ought to be done, it would be very simple to please me. Now, suppose one was to have his own way on this farm, what would one do? Opinions differ; circumstances alter cases and one is sometimes wise to change one's mind.

As I now feel, I think if I had the chance to go ahead and crop this land, I would seek to follow T. B. Terry's plan of potato-growing, as near as possible, except I believe I would use a four years' rotation, instead of three, and follow potatoes with fall plowing and then corn, cut the corn and sow wheat and clover, and then potatoes again, working one-fourth of the whole farm in potatoes each year. This would give one 43 acres potatoes, 86 clover and 43 corn the first year; the same the next, except instead of 86 clover, it would be 43 wheat and 43 clover, and our rotation would be established, of potatoes, corn, wheat and clover.

Now, this farm would take lots of work. There ought to be two three-horse teams and machinery to put in the forty-three acres of corn, so as to make quick work of it. One of these teams of two horses would be kept busy on the corn and the other two teams of two horses each could attend to the "murphies." One would require considerable capital to purchase all the necessary machinery. Let us see: Two good three-horse plows, two good steel harrows, one good check-row corn-planter, one good two-horse corn cultivator, corn-cutter and three good farm wagons, for the corn. Potato planter, two Planet Jr. special twelve-tooth harrows, cultivator and pulverizer, a good potato-digger and about 500 to 1,000 "all slatted bushel boxes," and a first-class cellar. Haying tools for the clover, and harvesting machinery for the wheat, and three good strong men to run them.

With such a start as this, I would not give my chance for all the offices in the State. Just think of it!—only one-fourth mile from station, school, church and store, and only twelve miles from one of the most flourishing cities in the world.

How can this land-owner content himself to be cooped up in a great city, and in the commission business, depending on the whims and fancies of shippers for a living? I was born and raised in a large city, and how glad I am to be away "far from the maddening crowd."

I am unable to recommend a practical potato-grower, as a man for such a position is not to be found at once, and when once found should be held on to.

I trust our friend will let us know through the FARMER how he gets along. There is a chance for lots of work on such a farm, and a chance for lots of money. I do not believe potatoes have averaged less than 40 cents per bushel by the carload in Kansas City for several years, and such land would produce them so that at 25 cents per bushel there would be a profit. If I wasn't "in it" myself, how I would like such a chance. I would rather have a

share of the crop than wages, and this plan would be the safest for the owner. With this agreement, and supposing both the owner and the tenant are men of equal knowledge in the business, both of them should consult each other as regards crops and rotation, in fact, the owner needs a man that is just as interested as he is himself. The other help can be hired, but I would give \$3 per month more for a good hand than for a common one.

An Indiana consumptive school teacher once asked me for a job. I looked him over and decided he was born tired and had never yet got over it. I asked him if he could show me any recommendations, and that surprised look he gave me was wondrous to see. He thought any one could make a hand on a farm.

I hire some work done, and I know of one man that can stack hay better than I can myself, and I always was a good man at stacking. Now a recommendation from me, recommending him as a hay-stacker, is of great value to him as a hay hand, but he knows nothing about potatoes and other things. Another hand I hire often is a good workman at most anything, and possesses the wonderfully rare quality of doing everything just exactly as you tell him to. I will say: "Now, Pete, I would not trust any one but you to do this job in my place," and I am very particular to give minute directions, and he is sure to do the job just as I wish. He can go into my shop and shoe a horse, or mend an iron, but is rather slow about it. Can butcher a beef or mutton, and do a good job; in fact, is a wonderfully good hand to have around, but is of no earthly account to work for himself or to support his family. Such is life, and brains and muscle combined will always command a premium.

CLARENCE J. NORTON.

Morantown, Kas.

Sorghum for Forage.

EDITOR KANSAS FARMER:—You take a great interest in the introduction of alfalfa clover for hay and fodder, which is right, in my estimation. But you lose sight of the most valuable hay or fodder plant for the average farmer to raise as a sure crop for feed in winter, and that is the old, time-tried sorghum cane plant. No farmer can afford to raise anything else for a feed crop. Millet or Hungarian is nowhere to cane, neither in value as feed nor in quantity of tons per acre, nor to stand drought or chinch bugs. There are many of our upland farmers, who, if they had sown four or five acres of cane for feed last year, could have done well. The cane would have made all the feed they wanted for their stock and they could have sold their wild or prairie hay that they now have to feed, and could have made a good profit in doing so. But they depend on corn fodder to too great an extent, and at times like the past season has been, it makes it too expensive, when sorghum can be raised so cheaply and without any care, simply by plowing the ground well in May or June and sowing the seed and harrowing in, or, better, drill same as wheat, and you are done till time to mow for hay. Do not cut too soon. Let it head out but not get too ripe. It is the best when in blossom. Cut and let dry and rake in windrows and take a hay-gatherer and put it in large shocks and let it stand until wanted. Put one ton or more in shock. It will keep all winter in fine condition, and the stock will eat it and get fat on it if given all they want. But if fed as I have seen stock fed, by putting a few straws to them once a day, and then have the protection of the north side of a three-strand barb wire fence, they will not do for export beef the next spring. A man might as well think of keeping warm with the thermometer at 10° below zero by lighting a match once or twice a day. This would be as much sense as some men use in feeding stock. The farmer who will feed and care for stock well is the farmer who will succeed in the end.

Sorghum cane is the best feed for a substitute for hay that I know of to-day. I have tried Kaffir corn and millo maize and they don't take the place of sorghum. They are non-saccharine, and sweet is what produces

fat. Sour is anti-fat. There is no kind of stock that will not eat cane if it is put in the right shape. Some cut it too soon. If you cut it before it heads it is watery and rank and stock don't like it. It is the same as green corn before it gets in tassel. I would advise farmers to sow largely of cane and secure the seed early this year, as seed is scarce, as the seed crop is light and there is a combine or trust trying to corner all of the cane seed in this State. The seed crop of last year was short 40,000 bushels and seed will be high. There will be a rush in the spring to get seed. The man that gets his seed early is the lucky man this year.

SUBSCRIBER.

Shawnee Co.

Twelve Months' Work.

Secretary Coburn, in his report to the State Board of Agriculture, gave a brief outline of the labor done in the office of the board during the past twelve months, with a few suggestions as to its future. The most important publications of the board were the three reports on "The Russian Thistle," "Wheat Feeding to Farm Animals," and "Alfalfa-Growing."

Of the wheat feeding report, Secretary Coburn says that it has been in great demand "from Atchison to the antipodes," by farmers, stockmen, millers, grain dealers, boards of trade, colleges, experiment stations and scientists. The supply was quickly exhausted. For the alfalfa book the demand at once became so clamorous that the edition was exhausted within one week of its completion by the printer, and almost hundreds of requests have come for it daily from all parts of the Union. The report says that an edition of 50,000 of these books could be circulated with great profit to Kansas.

The work now most pressing for attention upon the Secretary's office is the printing and distribution of the biennial report for 1893-94, now ready for the printer (for which provision will undoubtedly be made at once by the Legislature), and the preliminary work for and compilation of the regular decennial State census, the last one of which was taken under the direction of Secretary Wm. Sims, in 1885.

In explanation of the lamentable fact that the board does not and cannot mail its publications to everybody, even in Kansas, who might desire or be benefited by them, it is suggested that an edition of 10,000 copies of any report—about the maximum number the printing and postage funds will admit of—affords, if none were sent outside the State, but one copy to each thirty voters, or, say, to each 125 or 150 of Kansas' population; and that an edition of 3,500 copies, as was published of the last biennial, would, if all of them were kept carefully corralled within the State, give one copy to about each eighty-six voters, or, say, each 400 of population.

The Secretary suggests that the forthcoming report for the quarter ending March 31, should include "the addresses and discussions at this meeting, and the cream of the best information we can gather in reference to irrigation and the water supply, that will be at once available and useful to the many thousands of people who need and are entitled to it. These and other thousands, not only in Kansas but all over the Union, are likewise going to be grievously disappointed if this board does not early furnish another large edition of the report on 'Alfalfa-Growing,' and also on 'Feeding Wheat to Farm Animals.' If, as the newspapers and people here and elsewhere charge, the Kansas board stands at the head in its line of work, and desires to continue there, it must expect to pay the penalty attaching to such a reputation by furnishing to all comers the sort of information they seem naturally to expect from this board, and somehow are never quite able to obtain anywhere else. The granting or withholding of suitable provision for doing these various lines of work rests, of course, with the Legislature. The board is powerless to do more than the equipment provided makes possible."

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Hartford, Conn.

First Alfalfa in the United States.

Secretary Coburn has kindly permitted us to copy the following interesting letter from Geo. F. Thompson, formerly of our Agricultural college, now of Washington, D. C.:

"I thank you for the report on 'Alfalfa-Growing,' which you kindly sent me. I have read it all with much interest. The subject is one of utmost importance to farmers everywhere in the United States. The development of India, Russia, Australia and the Argentine Republic is giving us the keenest competition; and it seems to me that the farming class should not alone consider who is to legislate in Congress, but they are forced by the condition of things to find some way to produce at less cost. To do this requires the consideration of many economic problems, among which alfalfa-growing is prominent and important.

"I have before me now a bound volume of letters, being those received at the Patent office in 1853. Under date of February 15, 1853, there is a letter from Warren & Son, seedsmen, of San Francisco, stating that they had received from Chile a grass known as alfalfa, and prophesying results that have since been verified. This firm also inclosed a clipping from the San Francisco Herald, stating that this importation was the first for alfalfa into the United States. Warren & Son sent some to the Patent office on the above date, but what became of it I am yet unable to ascertain. This appears to be the beginning of the alfalfa history of our country."

Wanting Information.

EDITOR KANSAS FARMER:—Will some of the readers of the KANSAS FARMER give their experience, through its columns, with English blue grass? What is the average yield of seed and hay per acre? How many pounds of seed should be sown per acre, etc.? If any have seed to sell, will they not make it known through the advertising columns of the FARMER?

SUBSCRIBER.

Let Us Hear From the Subsoilers.

EDITOR KANSAS FARMER:—I am anxious to hear the experience of more who have tried subsoiling their land. While, no doubt, irrigation should have considerable attention, the fact still remains that but a very small portion of the State can be brought under any system of irrigation, and it may be a question, in my mind, whether or not deep subsoiling is not the solution of a problem of greatest benefit to the majority of farmers of the State.

JESSE HESSELTINE.

Berwick, Kas.

Hundreds of young people are going to attend the Wichita Commercial college this fall. Y. M. C. A. building.

Irrigation.

IRRIGATING A 500-ACRE ORCHARD.

By Geo. M. Munger, of Greenwood county, read before the State Board of Agriculture, at Topeka, January 10, 1895.

In any irrigation scheme, the first thing to consider is the water supply; the next, the ways and means to get it to the point of delivery, and the third, the application of water to soils. The orchards under consideration which are to be irrigated are located on high rolling prairie, between two small creeks that are some four miles or more apart, and no such thing as an irrigating stream of enough capacity to even do this work, in the entire county. There were, therefore, many difficult problems to solve.

A residence of nine years and a moderately thorough course of weather observations continued during that period, gave convincing proof of the proposition that our water supply during the year was usually ample for crop purposes, but owing to its irregularity in falling was not fully available. In these nine years there has been produced in Greenwood county but one full crop, which was in 1889. The climatic conditions that make such a poor crop showing were the occasion of a similar unsatisfactory and unprofitable condition of tree growth. Having planted 500 acres of orchards, and a quarter section of forest trees, the outlook was unpromising.

This lack of thrift on uplands is commonly charged to lack of fertility in the soils of the uplands, and the remark is a common one that fruit trees on uplands seem to starve out. A careful survey of the soil conditions, coupled with the fact that in 1889 the crops of corn on the uplands were about as good as on the bottoms, and in some cases even better, caused the conclusion, a few years since, that the fault was not the lack of fertility in the soil, but rather the lack of proper mechanical condition. Following this theory two orchards, one of forty and the other of 200 acres, were subsoiled; the smaller one thoroughly, the larger one but partially.

Results were expected to show promptly, but after three years of patient waiting and careful cultivation, the desired results have not shown up to this date. Waiting and working, year after year, without results is tiresome, expensive and unendurable. Therefore, it was with some surprise that my eyes saw the word, irrigation, for the first time with a proper appreciation of its meaning. Views of irrigated farms had been presented to my eyes numberless times during the past twenty-five years, but the idea as connected with my work was new.

It was after considerable study of irrigation reports issued by our national government, and such other sources of printed information as were obtainable, together with a new inspection of irrigated farms and orchards in Colorado, that it was decided to adopt the plan if such a thing was found to be possible and feasible.

There is a draw running diagonally through the farm, the course of which is about a mile and a half long in a direct line. This draw has easy, gentle slopes, and requires a dam of considerable length to get sufficient depth to the water to furnish the required quantity. Observation had taught that whether the supply was enough or not, the water that run off to the sea down this draw was very considerable.

After more study on this point the conclusion was reached that, with the usual amount of rainfall, the run-off from an acre of sod land would be sufficient to complete the irrigation of another acre of cultivated land in any of our ordinary crops. Later and more careful observation has led to an extension of this proposition, and it is now offered as my opinion that it will be found nearly, if not quite, sufficient for double that duty. Please make note that these remarks are applied to Greenwood county and its conditions. The water-shed that sends its surplus waters down this draw is about 800 acres in extent. The survey calls for a dam that, when completed, shall be 2,5x2 feet long, 192 feet broad at the broadest point of the base, and a trifle less than forty feet high above the lowest point of the valley. The estimated area of water at high point is 160 acres, and the estimated capacity of the reservoir 1,600 feet (acre.) It is estimated that it will require two years of average run-off to fill the reservoir, and that such supply will be ample for six years use on present acreage. While the area of water-shed has seemed to be too limited for this reservoir, observations of last September

rains, together with the knowledge of previous ordinary rainy spells, would indicate that it is sufficient and even better than a larger one. The September rains referred to began with a light shower on the 1st, rains on the 2d, 3d and 4th, followed by a heavy rainfall on the 6th, which was variously estimated at from five to seven inches. On that day the water area of the pond was estimated at nine acres and the dam had then been carried to a point where it would hold seven feet additional in depth, which increased the area to thirty-five acres by survey. The rain set in at 8:30 in the evening and at 11 o'clock the water was running over the spill-way heavily.

With re-enforcements from other lighter rains which followed during the month and up to the first day of October, the run-off continued to the 10th of October. At its maximum, the stream going over the spill-way was twenty-five feet wide, with an average depth of about two feet. It may be considered a safe proposition that the run-off during the period named would have filled the pond had its capacity been a half dozen times as great as it was.

Loss of water by evaporation from reservoirs is and has been considerable of a bugbear, and on that account it may be well to relate the experience of this dry year. Our only run-off rains during the spring time were in March, and there were two of these, but the pond was already full from the melting snows, so that we saved none of that water. The next rain that furnished any run-off was that of June 25, and run-off from that rain was very little—not worth considering. The next run-off rain was on August 1, and although three and a quarter inches fell the run-off was slight, but enough to more than make up for previous evaporation. Suffice it to say that after having lost the run-off of March, when the September rains set in there was more water in the pond than in the early spring.

In the construction of the dam, which is being built exclusively of earth, the sod was entirely removed and placed at what will be the rear face of the dam when completed. The old water channel was thoroughly cleansed of the washed-in gravel, and the work began with clean earth. The soil is a heavy clay, with the usual variations, including, probably, a full supply of gumbo and alkali.

While it is recommended by the authorities on construction of earthen dams that the earth be specially selected for the face, and a puddle trench placed in the heart of the work, it seemed difficult to formulate a scheme for so doing that did not involve too great expense, and the earth was used as it came in the borrow-pits, and was used as deep in each successive pit as we could get it. All earth so far has been taken from inside the work, and will be up to the point where it cannot be had without too long a haul.

Several smaller dams had been previously constructed on the place, and in each and every place there was a seepage along the toe of the dam, but in no case had it been sufficient to endanger the stability of the work. This last summer developed in this work the same fault, and, on account of the magnitude of this dam, it was deemed expedient to correct it. This was accomplished by running a permanent stone drain along the toe of the dam, grading it to the lowest point possible, and running laterals to every seepy spot that showed. The result was very satisfactory, there having been a small stream running from the drain constantly since its construction, but now it has reduced materially in volume. It is hoped and supposed that in time, that with the added weight yet to go on the dam, this seepage will be entirely closed up. Ponds for stock purposes are numerous in our county, and occasionally a dam goes out in flood-time, but repeated and extended inquiry has failed to discover an instance of one having gone out except where the water has been allowed to run over the top, and this is necessarily fatal.

The tools on this work were in the first part of it ordinary stirring plows and slip scrapers of an estimated capacity, by the sellers, of seven cubic feet each. Probably this is too much by two feet. With such tools and a varying gang of men and teams, about 10,000 yards of earth were placed last fall and early winter. Work was resumed on April 23 and continued till June 23, in which time we put in about 12,000 yards additional, though no measurements were recorded. The prosecution of other parts of the work prevented working on the dam during the summer and early fall, but work

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was again resumed on October 12 and continued up to the night before Christmas. During this latter period we estimate the amount of earth placed at 14,000 yards, and that it will still require 7,000 yards to complete a raise of eight feet, which was aimed at this fall, but not quite completed, as stated. This raise of eight feet, when completed, will give an estimated area of from eighty to eighty-five acres, and an estimated capacity of 540 acre feet of water. The estimated annual consumption of water for the present is 250 acre feet, so that this eight-foot raise spoken of should furnish an ample supply for present uses, together with a liberal margin for errors in judgment.

The past season the tools used on the work were Columbus wheel scrapers No. 3, capacity seventeen feet, and for stirring the dirt in the pit an extra heavy contractor's plow. The gang of men and teams that has been found to work to the best advantage has been composed of fifteen men and twelve teams; of tools, eight scrapers and one plow. These are distributed as follows: One man on the dump, eight men with scrapers and a team to each scraper, two men and two teams at the plow and four men and two teams in the pit to do the loading.

In the pits each snatch team with driver and loader loads its own gang of four scrapers. When the haul is short this gang puts dirt in rapidly and will keep the man on the dump from getting sleepy, but at the longer parts of the haul there is time for him to do whatever may be necessary to complete the grading, though it is the aim to do the great bulk of the grading by team power.

In answer to a common neighborhood criticism that this work is unnecessarily large, would say that the farm contains a considerable quantity of unimproved land that should be made productive, and that it was necessary to carry the dam to the point aimed at for the sake of getting a location for a fully competent spill-way, which could not be found lower down the slope. The valley shows water marks at extreme high floods of about 300 feet in width, while the place selected for the spill-way shows a breadth of about 1,000 feet, with a variation from the level of but eight inches, and that over a very easy rolling ridge of unbroken prairie sod. Experience has shown this to be the best as well as the cheapest possible spill-way under these conditions. Remember, in this connection, that no stream runs through this draw except purely flood streams.

The computation of the earth contents of the dam, when completed as per survey, shows about 100,000 cubic yards; but judging from the experience of this last year the work will of necessity be heavier than planned, as the result of the action of the elements.

Thus, on the face of the dam, it matters not at what grade the dirt is placed, the water will bring it to the proper grade in spite of you, as far as up to the water level, and no rip-rap will stop it. If the rip-rap is placed in position before this grading is done by the water it will settle with the supporting embankment and the work will be lost to that extent. There is no use for nor necessity of rip-rap below water level, and high water level at that.

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After the earth work on this dam is completed and the grade established, it is the plan to rip-rap the face of it to prevent the further loss of earth by wave action. In the construction of earthen dams each person must study the local conditions and be governed by them, but in the clay formations of eastern Kansas there will usually be found but few serious obstacles in the way of success.

The pumping plant was erected and completed during the summer by Messrs. Fairbanks, Morse & Co., of Kansas City, and consists of two compound, duplex, direct-acting, steam, piston pumps, of a maximum daily capacity of something in excess of 4,000,000 gallons. Power to drive the pumps is provided by two horizontal return tubular boilers, flange steel of 60,000 pounds tensile strength. Each boiler contains thirty American lap-welded tubes, each three and a half inches in diameter and twelve feet long. The boilers have full flush fronts

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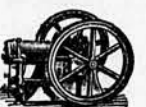
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and are set in battery with independent furnaces, and the smoke-stack carried to one side to an iron stack located upon a stone pedestal. The boiler house is of sufficient size to give free access to all parts of the boilers and settings, and entirely independent of the walls of the building. The boilers and pumps are so connected that either boiler can furnish steam to either or both pumps; that is to say, the plant is a complete duplicate in every respect. A boiler feed pump and an injector make the feeding of the boilers also a duplicate. This arrangement provides for contingencies, such as accidents to either boilers or pumps, and is to that extent an insurance of a water supply. It is supposed that the named amount of water is excessive for present wants, but experience only with water on these lands and under these conditions can fully demonstrate the fact. The pumps each weigh 8,000 pounds and were hauled from the nearest railroad station, a distance of five miles, over rough roads, on a heavy farm wagon.

These pumps are located in a pit ten feet below the level of the ground. This is for the purpose of saving them that much of the suction. The action of pushing water is easier and more positive than that of pulling it. The suction and discharge pipes inside the building are of heavy cast-iron and connected directly outside the building with the vitrified clay pipes, which will be spoken of later. The building containing this machinery is of native stone, roofed with iron, is absolutely fire-proof and was erected after the machinery was placed.

The reasons for using this kind of a pumping outfit were that the lift, being about sixty-five feet at low water, was deemed excessive for any known form of centrifugal pump. The latter, driven by gasoline engine power, is probably the cheaper combination where the lift will admit of its use. In the selection and adoption of this pumping plant the judgment of the engineer for Fairbanks, Morse & Co. was deferred to in nearly all matters of detail, a course that has been found wise by a wide experience in the use of steam plants for various purposes and extended over a period of thirty years last past. The very successful working of this plant under the tests we have made has fully demonstrated the wisdom of this course.

This pumping plant is located at what will be the water's edge when the dam is finished and the pond filled, and twenty feet from the south end of the dam. Owing to the easy slopes of the land, the distance from the pumps to the water while work is under way is considerable, and it was necessary in this case to run a line of suction pipe 634 feet long. The lower part of the work was accomplished by canalling up a convenient draw until we could go no farther because we encountered a strata of hard rock, and to quarry that was more expensive than to lay the pipe. At the terminus of the canal a well was walled up, with the upper four feet laid in cement to make it rigid and to resist any twisting motion possible in the suction.

In this well the foot-valve is placed on a rock pier laid in cement, and to that the line of piping is attached. The piping used is vitrified sewer pipe, made by the W. S. Dickey Clay Co., of Kansas City. The suction pipe was very carefully laid in best quality Portland cement, mixed with clean, sharp sand, in proportions of one of sand to two of cement. Extra pains was taken that each joint should be so fitted and bedded to its place, before cemented, that there could be no movement after being laid. However, with all the pains taken, the storms caught us while at it and disturbed our work, causing some leaks. As soon as all was ready the boilers were fired and pumps started, with the result of total failure of vacuum.

The pipe line was uncovered, and, after several false starts, was finally made air and water-tight, and we were fully successful in pumping water with very little difficulty in priming. At the stage of water from which we were pumping the lift was about twelve feet vertical. The pumps being placed in a pit ten feet below the high-water line makes it seem probable that after the entire work is finished the suction pipe described will be superfluous, though it must remain in place. The size of the suction pipe is eighteen inches inside diameter, and the discharge pipe fifteen inches inside diameter.

The test was not a test of the discharge pipe, as not enough was laid to make the test of any value. It was hoped and expected that the entire line would be ready for a test by

Christmas day, but in this we were disappointed, and it will still require three or four days after the weather opens to get all ready. This pipe line is carried to the highest point of line on the farm, from where the water will be distributed by gravity. There are quite a number of interesting problems to be solved in this part of the work, but not having reached them, theories will not be offered.

The letter from your Secretary, asking for this paper for this occasion included a request for observations up to date. These will be suggested by a series of pertinent questions, which each one of you will be at liberty to answer for himself.

Have not the champions of irrigation in Kansas great reason for congratulating themselves at the action of this board in devoting so much of its time to the discussion of this subject? In view of the fact, as stated by a United States Consul resident in the kingdom of Slam, that in that country, where the average rainfall is sixty-seven inches per annum, three-fourths of the agriculture is carried on with irrigation, and in view of the fact that in numerous other countries where the rainfall is equal to, or greater than ours, notably England, France, Spain, Lombardy in Italy and others, irrigation is practiced extensively and has been for hundreds of years, is there any longer a necessity for confining remarks on irrigation in Kansas to western Kansas?

Which needs irrigation the most to-day, eastern Kansas or western Kansas? Is not the population, and are not the farms and homes of Kansas to-day practically in the eastern half of the State?

Does not the whole need something to increase production, and is not that something irrigation? Who would be the beneficiaries of a general irrigation of the eastern half of the State, the farmers and homeowners, or the investors and speculators?

Who would be the beneficiaries of a general irrigation of the western half of the State, the farmers and homeowners or the investors and speculators?

Is it not for the people of the whole State that we seek benefits?

Have you not, each one of you, observed that in nearly every year of your residence in the State, vast quantities of water have run off your own farms to the sea, unused?

If you have, has it ever occurred to you how much you would need that same water in a July drought to save your corn crop?

Can there be a farmer present who has not seen, each and every year, enough of such unused water run off his own farm to have saved the crop that he afterwards lost for want of it?

Is there a cultivated farm in Kansas which will not yield the most bountiful crops when the rainfall is just right?

Does not irrigation accomplish the same result? Can you afford to do business five or ten years at a stretch for the sake of getting a single crop?

Which is to be the practical way to obtain a supply of water for irrigation in Kansas, individual or combined effort?

Is it not a matter for congratulation that the larger part of the farms of the State must be irrigated, if at all, with water obtained on the spot?

What does irrigation imply? Does it not imply that besides the simple pouring of water on the thirsty land the cultivation must be constant and thorough?

Does it not mean to Kansas either a greatly reduced acreage or a greatly increased population to do the additional work inevitable?

Does it not mean the growing of food products for humanity in place of food for the brute creation?

Does it not involve a change from a pastoral to an agricultural condition? Does it not mean more homes and less renters, and better homes and better furnishings, and more schools and colleges, and in every way a higher and better civilization?

Much has been said and is being said about State and national legislation to further the interests of the arid and semi-arid States of the West, but has not the general government been legislating for several years on the subject, and have you taken any advantage of the vast fund of information that is already provided?

Do you know that geological and topographical surveys of this State and other Western States have been in process for long terms of years, and that extensive and voluminous reports thereof have been published? And

have you seen them, or studied them, and if your answer is yes, will you not please let me know what benefits you have received from them regarding your own irrigation scheme?

Do you want to wait another twenty-five years before beginning your own work?

Do you know definitely what you would like to have the general government or the State government do?

Is not the best help the man can have, information that will show him how he can help himself?

Is not a campaign of irrigation education for the people of Kansas the best thing that can be done now?

Gentlemen, this is a broad question, a large field, and one that cannot be covered in one day's work, but you have done well to make this beginning, and may you persevere in the study of this most important subject until you have replaced want with plenty, misery with happiness, prairie schooners with homes, long and dolorous visages with smiling happy faces; discontent with prosperity and thrift, and a restless, dissatisfied, unhappy people with a smiling, happy, prosperous and greatly increased population.

"Kansas!
"The very weeds are beautiful; thy waste
"More rich than other climes' fertility."

Forestry Notice.

Those wishing to receive a share of the free distribution of seedling forest trees by the State Forestry Department can make application at any time previous to March 1 1895. The report of this department is now in the hands of the State Printer and will be furnished applicants as soon as printed. Owing to a lack of sufficient printing fund they may not be finished before the last of January. County papers please copy.

E. D. WHEELER,
Commissioner of Forestry.
Ogallah, Kas.

Hundreds of young people are going to attend the Wichita Commercial college this fall. Y. M. C. A. building.

THE STRAY LIST.

FOR WEEK ENDING JANUARY 2, 1895.

Chautauqua county—G. W. Arnold, clerk.

STEER—Taken up by J. B. Kincaid, in Little Caney tp., one pale red steer, 4 years old, under-slope in each ear, indelible brands on both sides.

Chase county—M. K. Harman, clerk.

MARE—Taken up by W. M. Kendall, in Toledo tp., P. O. Cottonwood Falls, December 10, 1894, one bay mare, black legs, no visible marks or brands; valued at \$20.

Ottawa county—J. S. Richmond, clerk.

STEER—Taken up by Peter H. Gabbart, in Durham tp., P. O. Oak Hill, November 13, 1894, one brown two-year-old Western steer, branded with two parallel semi-circles on each shoulder and letter H on left hip; valued at \$14.

FOR WEEK ENDING JAN. 9, 1895.

Sumner county—Chas. Sadler, clerk.

MARE—Taken up by H. S. Jerome, in South Haven tp., P. O. South Haven, December 22, 1894, one mare, 12 years old, sixteen and one-half hands high, dark brown, little white in forehead.

MARE—Taken up by L. D. Hilbert, in Gove tp., December 10, 1894, P. O. Mulvane, one mare, 9 years old, sorrel, bald face, white stripe on each side of neck, white on left side and hip, four white feet; valued at \$20.

Cherokee county—P. M. Humphrey, clerk.

THREE MARES—Taken up by I. Riesling, three mares, one black, fourteen hands high, and one dun; no marks; valued at \$10 each.

Chautauqua county—G. W. Arnold, clerk.

TWO HORSES—Taken up by T. Gregory, in Belleville tp., P. O. Chautauqua, December 22, 1894, one bay horse, 5 years old, and one gray horse, 7 years old; no marks or brands.

Smith county—A. C. Smith, clerk.

HORSE—Taken up by A. J. Bass, in Lane tp., P. O. Athol, December 18, 1894, one horse, 900 pounds, 3 years old, bright bay, white star in forehead; valued at \$15.

Lyon county—C. W. Wilhite, clerk.

STEER—Taken up by John A. Williams, in Emporia tp., November 24, 1894, one three-year-old red steer, no marks or brands visible; valued at \$15.

Greenwood county—J. F. Hoffman, clerk.

STEER—Taken up by Mrs. W. T. Prather, in Bachelor tp., December 11, 1894, one red steer, 2 years old, branded W on left hip, both ears cropped; valued at \$20.

Thomas county—Jas. M. Stewardson, clerk.

SIX HORSES AND TWO MULES—Taken up by I. Shallenberger, in Hale tp., P. O. Brewster, December 20, 1894: one sorrel horse, 12 years old, 1,300 pounds, light mane and tail; one bald-faced sorrel horse, 6 years old, 1,300 pounds; one bay horse, 10 years old, 1,300 pounds, no mark or brands; one bay horse pony, 7 years old, 900 pounds, white on left hind foot; one dark bay mare, 7 years old, 1,300 pounds, no marks or brands; one bay mare, 8 years old, 1,200 pounds, wire sew on left front foot; one bay horse mule, 8 years old, leather halter on.

COW—Taken up by H. Paroline, in Smith tp., P. O. Rexford, October 10, 1894, one white dehorned cow, 6 or 7 years old, branded H on left side; valued at \$10.

FOR WEEK ENDING JAN. 16, 1895.

Bourbon county—G. H. Requa, clerk.

TWO HEIFERS AND BULL CALF—Taken up by J. J. Rollins, in Cott tp., one red earling heifer, one veill-w brindle heifer, 1 year old, marked with cl ft in right ear, and one black brindle bull calf; total value, \$12.00.

Consumption.

The incessant wasting of a consumptive can only be overcome by a powerful concentrated nourishment like Scott's Emulsion. If this wasting is checked and the system is supplied with strength to combat the disease there is hope of recovery.

Scott's Emulsion

of Cod-liver Oil, with Hypophosphites, does more to cure Consumption than any other known remedy. It is for all Affections of Throat and Lungs, Coughs, Colds, Bronchitis and Wasting. Pamphlet free. Scott & Bowne, N. Y. All Druggists. 50c. and \$1.

ONLY 10% ABOVE ACTUAL COST.
We are headquarters for BABY CARRIAGES and BIRD CARRIAGES. Our baby carriages are made of the best material, and other styles ranging in price from \$25.00 to \$50.00. Fully warranted for 3 years. Shipped on 10 days trial, freight paid, no money in advance. Send and return "Ours" from us only 10 per cent. above actual cost. Highest references as to our absolute responsibility. Call on us at our headquarters, 713 1/2 Wabash St., Chicago. OXFORD BROS. CO., Furniture Dept. 713 1/2 Wabash St., Chicago.

PIASA BIRD
LAYS NO EGGS and is not for sale, but our entire line of implements are at wholesale prices direct to the consumer. We want a live farmer agent in every town-ship. No risk, no trouble, good pay. Write for catalogue and particulars to **Hapgood Plow Co., ALTON, ILL.**

WOVEN WIRE FENCE
Why pay 60 to 90c. a rod for fence when you can make the best Woven Wire Fence on earth, horse high, bull strong, pig and chicken tight, for **13 to 20c. A ROD?** A man and boy can make from 40 to 60 rods a day. Over 50 different styles. Catalogue Free. Address, **KITSELMAN BROS., Ridgeville, Indiana.**

SPRAY YOUR FRUIT TREES & VINES
STAHLS' EXCELLENT SPRAYING OUTFITS kill insects, prevent leaf blight and wormy fruit. Insure a heavy yield of all Fruit and Vegetable crops. Send 6 cts. for catalogue and full treatise on spraying. Circulars free. Address **WM. STAHL, Quincy, Ill.**

THE OLD WAY
WHAT'S THE MATTER? FARM COVERED WITH STUMPS.

THE NEW WAY
HAWKEYE GRUB & STUMP MACHINE
Works on either Standing Timber or Stumps. Pulls an ordinary Grub in one and a half minutes. Makes a clean sweep of two acres at a sitting. A man, a boy and a horse can operate it. No heavy chains or rods to handle. The crop on a few acres the first year will pay for the machine. You can not longer afford to pay taxes on unproductive timber land. Clear it, raise a bountiful crop with less labor and recuperate your old worn out land by pasturing. It will only cost you a postal card to send for an illustrated Catalogue, giving price, terms and testimonials. Also full information concerning our I. X. L. Grubber, Iron Giant Grub and Stump Machine, Two Horse Hawkeye and other appliances for clearing timber land. Address **MILNE MANUFACTURING CO., 620 8th St., Monmouth, Ill.**

Sunnyvale Shetland Pony Farm. For catalogue address Milne Bros. at above office and number. Breeders of Pure Shetland Ponies.

In writing to our advertisers please say you saw their advertisement in the KANSAS FARMER

YOU CAN SAVE many a fine Sow and Litter of Pigs by using my Forceps. Send for a book on Pigs, FREE. **J. N. Reimers, Davenport, Iowa.**

The Home Circle.

To Correspondents.

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

A MONOPOLIST'S WANTS.

My wants are few, I sit serene
Upon contentment's highlands.
If I can have earth's continents
I care not for its islands.
I would not climb upon a throne
Through seas of bloody slaughter,
If I can call all lands my own,
Why, you can have the water.

Give me but these, they are enough
To suit my humble notion,
And you can have for all your own
The land beneath the ocean.
And 'tis a generous slice of earth,
And doubtless quite prolific,
If you can only drain it once—
The bed of the Pacific.

And all I ask is just this earth,
To regulate and man it,
And I surrender all my claims
To every other planet.
And so you see I cut my cloth
On a contracted pattern;
Give me the earth, I drop all claim
To Uranus and Saturn.

Little I need, my wants are few,
Nor would I have them greater.
I only want the land between
The poles and the equator;
Give me the earth, 'tis all I ask.
For me and my wife, Sarah,
Then I'll give all my fellow-men
A house lot in Sahara.

The earth is very, very small,
And not in good repair;
Compared with Sirius it is
A very small affair.
And I just want it while I live,
And death, I'll not resist him,
For after death I hope to get
The whole great solar system.

REGARDING UMBRELLAS.

The Favorite Shapes in Handles Are Long and Narrow.

Never was there a feminine heart that didn't delight in umbrellas, and surely the designers know it, for they rake every artistic instinct in their souls to devise and satisfy this longing.

Handles of gold and silver are children of a day that is done. They were cheaply imitated, and smart women put their real ones aside in disgust and took to those of wood.

This set the pace to those who were not modish folk, and fashion whirled from the mineral to the vegetable kingdom.

And now have we umbrellas of finest silk with handles of wood, upon which the artists place many designs. The favorite shapes in handles are long and narrow. One odd variety of newest build is of gnarled imported wood, without a semblance of polish, ending at the top in a grotesque or picturesque head made of bisque. One is of a little Dutch boy, with a water lily inverted over his head. Another ends in a cross-legged Brownie and others in red



SOME SMART UMBRELLAS.

tomatoes, with the four green leaves at the top.

Those of rough wood with large cherries sprinkled over the handle are sold, but are not a bit smart in tone.

The preferable ones are carved in long slabs that are tipped with silver or twisted in a circle at the end that the owner may slip her hand in to hold it better.

A style that fits the woman in the rough tailor gown is built similarly to

a man's cane, having a broad claw of wood or burnt ivory tipped with silver placed at right angles to the handle proper.

Burnt ivory is very fashionable still, especially if mounted with narrow fligree silver bands, and some devices show an elf's face carved into the ivory, surmounted by a cap of silver. Very dressy umbrellas have handles of plain mother of pearl, fashioned column-like; others have a large amethyst or emerald laid into the metal at the end. But women who dress modishly don't go in for any of these styles as much as they do for the rough or scented wood, twisted and turned and capped charily with silver.

A word as to the care of your umbrella. Never put it ferrule downward when wet. If you can't open it and allow it to dry at its best, which is the correct method, then place it handle downward, so there is no chance for the drippings to remain in the tip and rot the silk. Again, never go out with your umbrella unrolled when not in use. It is a world of saving if the cover is always kept on it, to say nothing of the smarter appearance it makes.

—Jocelyn Davis, in Chicago Record.

INFERIOR MOTIVES.

A Point to Be Considered in the Education of Children.

It is most important in reasoning with children that only the best motives for conduct should be given them, and never inferior or wrong ones.

A conscientious child will often make mistakes and do the wrong thing, while he has the most sincere and unselfish desire to do the right one. Such actions in such children should not be scolded or condemned too harshly. For it is the motive that most matters. So long as the intention be right the action may be amended, and the child learn from his error to avoid it in future.

The difference between the motive and the action, and their interdependence are not often enough explained to children. It is more possible for a child to understand the distinction than people usually think. If, as might easily be done, the teacher would put the idea into simple and familiar words, most children could grasp it, and learn to be their own guides in future, and that is what all child teaching should tend toward, or it is teaching thrown away.

Children quickly appreciate high motives. To urge your boy to do right because it is brave to do so, or because it is honorable, or because it is true, is to speak to him in a language which he can understand as well as you. And to know only such motives tends to make him the truthful, brave or honorable boy you wish him to be.

On the other hand, to habitually incite him to goodness because of the candy which comes to good boys or the punishment which awaits bad ones, is to create in him only the motives of greed and fear. These incentives are not only demoralizing to the character of the child, but the force of them is weakened as the boy grows older.

Again, it is a mistake to appeal to "outside" motives with children, such as acting for the sake of appearance or because some one is watching: "Be a good child, for uncle is looking at you;" "Don't be rude to your sister or misbehave at the table while company is here;" "How ugly it looks for a little girl to be disobedient or unkind!" "See how pretty it is to be amiable or generous!" "People always admire a gentle little girl." Such phrases surely do not show a child the best reasons why he should do right. Children do understand and appreciate better ones. And children have a right to the best. They have a right to as good motives as those we try to live up to ourselves.—Harper's Bazar.

Law and Engagement Rings.

An important decision has just been pronounced in Vermont as to engagement rings. A young man sued to recover one that he had given to a young woman who, after accepting the ring, repudiated the engagement. The judge decided that it must be returned or else that the recipient must fulfill the conditions under which it was presented. The English courts some years ago decided that an engagement ring is not recoverable under any circumstances.

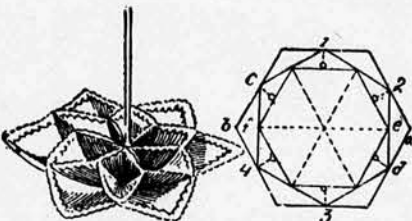
USEFUL LITTLE BASKET.

A Charming Bit of Fancy Work for Bright Young Girls.

A charming little basket that might well be called the traveler's basket can be made from heavy colored linen. If any of you girls are in doubt as to what gift you can offer to mamma or to your sister, this pretty trifle will help to solve the problem. It is so simple that any of you can make it, and it is both convenient and attractive when finished. It becomes a dainty little basket with pockets for buttons, thread, and all a needlewoman's paraphernalia when it is hung from a hook, and it lies perfectly flat when the string is let out. Hence it is easy to pack, and takes up no room in the trunk, for which reason it is a traveler's friend, and so deserves its second name.

Heavy linen, either blue, old-pink, or sage-green, makes the best material of all, and you will require just three-quarters of a yard of the twenty-four or twenty-seven-inch width, and half a yard of the thirty-six-inch width to cut all the parts. The basket consists of three hexagons, as the diagram shows, and its success depends entirely upon the neatness and exactness with which you do the work.

Cut the three pieces carefully, and let the largest measure fifteen inches from A to B; the second, thirteen from C to D; and the third, eleven from E to F. Then you will find that each



THE FINISHED BASKET AND DIAGRAM.

hexagon is one inch smaller all round than the last.

When they are all cut, scallop the edges of each with white silk, and work a row of fine tree-stitching within the edge. When that is done the basket will be ready to put together.

To do this, first lay the largest piece upon the table, and the second in size upon it, so that the points fall midway of the straight edges of the first, as the diagram shows. When you have adjusted it exactly baste it into place, then stitch it fast to the larger piece along the dotted lines, or from the points 1, 2, D, 3, 4, and C to the center. Then on these two lay the third and smallest piece in the same way, and again stitch from each of its points to the center; but take care to sew through only the upper two. The under piece must be left free.

When all the pieces are in place, and all have been stitched, sew a small brass ring to the center of each of the sides of the smallest hexagon, and through them run either a silk cord or a narrow ribbon. Whichever it may be let it be a little longer than the combined distance between the rings, and when you draw it up and hang it upon a hook, you will find a perfect basket like the one the drawing shows.

The directions may sound slightly complicated, but if once you begin you will find the work as simple as can be. The pockets formed by drawing up the cord are deep and quite sufficiently ample; together they will hold the material for many hours' work. The one drawback to leaving the string free is that the basket must always hang. If you simply knot either the ribbon or cord after it is drawn up it can be more easily carried about, and the basket can be placed upon a table if desired. It is designed to hang, and always looks prettiest in that position, but the ability to change so useful an object from place to place is always a convenience, and for that reason it is wiser to knot the ribbon or cord.—Harper's Young People.

Interesting circulars sent to farmers. Send name to Bureau of Immigration, Spokane, Wash.

INCORPORATED OCTOBER 29, 1884. LOCATION, 1103-1105 NORTH FOURTH AVENUE.

HOME OF REDEEMING LOVE,

WICHITA, KANSAS.

Object.—To provide a home for penitent fallen women, and to rescue them from lives of shame; to re-educate and instruct them in industrial pursuits, and to restore them, when possible, unto their homes and parents. BENEVOLENT FRIENDS, this institution is non-sectarian and non-salaried—each worker freely doing her part to "rescue the perishing, lift up the fallen and tell them of Jesus, the mighty to save." God is blessing the work and good is being done. Now, we want you to "help just a little" and enable us to do still greater good. The erring daughters must be reclaimed—they are more often sinned against than sinning. The Savior said, "Neither do I condemn them; go in peace and sin no more." Address REV. LYDIA A. NEWBERRY, WICHITA, KAN.

IVORY



FOR CLOTHES.

THE PROCTER & GAMBLE CO., CINCINNATI.

TIMELY HEALTH HINTS.

An open fire is most valuable in an invalid's room, especially in a case of contagious disease, as it is constantly purifying the air by drawing it up the chimney.

To STERILIZE milk for babies or invalids, let it stand till cool in a clean, cold place, remove about half the cream, put in a double boiler and let the water boil around it for half an hour or longer.

For earache put a live coal from a wood fire into a cup, sprinkle a teaspoonful of granulated sugar over it and invert a small funnel over the cup, putting the small end into the ear. Be careful that it does not blaze up. The smoke deadens the pain almost instantly.

For a cold in the head when first felt take from ten to fifteen drops of camphor on a lump of sugar; a very simple remedy, but the most effectual known to medical science. Never take it in water; it precipitates a gum which is an irritant to the stomach and causes vomiting.

Do NOT let the baby sleep with its mouth open and thus acquire such a bad habit. See that its nostrils are clear, then gently press the lips together; place it on its side, smooth out its ear and the creases in the pillow case. People who snore are those who were allowed to sleep with their mouths open when they were babies. If the nostrils are not properly dilated in childhood they do not enlarge with the growth, and breathing through them is more difficult.—Farm Journal.

The grave of Eve is visited by over forty thousand pilgrims each year. It is to be seen at Jeddah, in a cemetery outside the city walls. The tomb is fifty cubits long and twelve wide. The Arabs entertain a belief that Eve was the tallest woman who ever lived.

ONLY 10% ABOVE ACTUAL COST. We are headquarters for BABY CHAIRS and BABY CARRIAGES. \$3 buys a strong, serviceable, other style, ranging in price up to \$25.00, fully warranted for 3 years. Shipped on 10 days time, freight paid, no money in advance. Good and Heavy Chairs from \$1.50 per seat. We save you all millinery's cost. At only 10 per cent. above actual cost. Highest references as to moral and financial responsibility. We cut and warrant. Write for our handsome catalogue. Address, OXFORD BROS. CO., Furniture Dept., P.O. 342 Wabash Av., Chicago.

CONSUMPTION SURELY CURED.

To THE EDITOR—Please inform your readers that I have a positive remedy for the above named disease. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy free to any of your readers who have consumption if they will send me their express and post office address. Respectfully, T. A. Slocum, M.C., No. 183 Pearl Street, New York.

The Young Folks.

THE TWO WORDS.

One day a harsh word, rashly said,
Upon an evil journey sped,
And like a sharp and cruel dart
It pierced a fond and loving heart,
It turned a friend into a foe,
And everywhere brought pain and woe.

A kind word followed it one day,
Flew swiftly on its blessed way;
It healed the wound, it soothed the pain,
And friends of old were friends again;
It made the hate and anger cease,
And everywhere brought joy and peace.

But yet the harsh word left a trace
The kind word could not quite efface;
And though the heart its love regained,
It bore a scar that long remained;
Friend is could forgive, but not forget,
Or lose the sense of keen regret.

Oh if we could but learn to know,
How swift and sure one word can go,
How would we go with utmost care
Each thought before it sought the air,
And only speak the words that move
Like white-winged messengers of love
—Sunday School Times.

AFTER NEW YEAR.

After the holiday's over—
After three days or a week;
After we've gathered the clover,
And nothing is left—so to speak.

Many a heart will be aching—
If we could see them all!
Many a nurse will be empty
After the squall!
—Atlanta Constitution.

THE ALAMO MISSION.

How It Was Defended by a Handful of Heroic Texans.

It is a safe wager that nine out of every eleven boys who are proficient in the use of a bowie knife have not the slightest idea where the instrument got its name.

Col. Bowie of Texas fame gave the knife its title.

And when one writes of the Texas hero, one must needs think of the battle of Alamo, that heroic fight of which our American boys and girls seem to think so little, and half of them know nothing whatever.

They read how the brave soldiers fought and held the pass of Thermopylae, but they seldom think of how a mere handful of men defeated the Alamo mission. How they dropped fighting on their knees and then died facing the foe.

If you should go to the historical city of San Antonio in Texas you will see the old mission building standing with battered, bullet-pierced walls, a monument to the 172 heroes of '36. Behind



MASSACRE OF THE ALAMO.

these walls the most important battle in the war between Mexico and Texas was fought. This was when Santa Anna was president and the Texans were fighting for their independence. Here it was that Col. Bowie ended his brave life, dying with his boots on and fighting under the most terrible odds. The story is this, and every American child should know it by heart, that he may tell it with pride when other nations are talking of their great deeds:

One hundred and forty-five men under Capt. Travis, a young man of 28, were holding the town of San Antonio against Gen. Santa Anna and 4,000 men. They were the only defenders of the town and were ensconced in the old mission of the Alamo. Davy Crockett was also with them and Col. Bowie, who was wounded and stretched out on his cot. Of artillery they had only fourteen pieces.

Santa Anna demanded surrender, but the little garrison held out for ten days, skirmishing secretly for food and water. Every shot sent out of the mission house told, but not one of the Alamo heroes was hurt. Patience and strength, however, were being rapidly exhausted. Some of the little band were falling sick, others were desper-

ate. Reinforcements had been appealed for, but none had come. Col. Lamein, with 300 men and four pieces of artillery, had started in answer to the appeal, but had put in somewhere for fresh water and food supplies.

At last Capt. Smith joined the exhausted band with thirty-two men. Three days after Gen. Santa Anna ceased the bombarding, and, taking advantage of this, Capt. Travis called his men into line and frankly owned that there was no earthly hope for them; that he had led them into this thinking that reinforcements were on the way. He does not utter one word against Lamein for failing him; he simply gives them their choice of deaths. They can surrender and be shot down, or be killed fighting out their revenge. The captain drew a line and said: "Every man who is determined to remain here and die with me come to me across that line." Every soldier but one crossed at once. When they finished Col. Bowie looked up, with his arm in a sling, and cried: "Boys, don't leave me. Won't some of you carry me across?" And the only backward step they made was to go over the line and carry the colonel to the young captain's side. The man Rose, who was a coward, dropped over the wall into a ditch, and was verily the only man who escaped to tell the tale. And then came the terrible day.

Santa Anna brought all his forces to bear on the fortress. The scaling ladders were again and again raised, but those who placed them were shot down like grain. Four thousand men charging into 172 seemed easy enough, but it soon reduced the 4,000. At last numbers conquered, and the Mexicans climbed over into the Alamo. The little band of defenders were trampled on and beaten, but they dropped to their knees and hacked and shot and pierced until the pile of the dead was awful. Col. Bowie, too weak to rise from his cot, leans on his well elbow, and marks his man every time he pulls the trigger. Cut, bleeding, he continues to kill until the pistol drops and the breath leaves his body. Davy Crockett, standing in a corner, fights like a panther, and the young captain, backed against the wall, surrenders only when run through and through.

The great battle is over. The Mexicans have won. Out of the 172 Texans are 172 dead. No Spartans were braver or more tenacious, for they killed 523 of their enemies and wounded 500 more. Texas, though, was finally freed, and whenever great deeds thrill young boys' hearts they should think of that splendid piece of American daring, and say, as Houston said to his men: "Remember the Alamo."—Claire Claxton, in St. Louis Republic.

WALKING WITHOUT LEGS.

A Chapter for Boys and Girls on Snakes and Their Habits.

Lots of boys and girls kill snakes in the country who never stop to think what a very curious way a snake has of getting about. They see him so often sliding through the grass that it never occurs to them to wonder how he can do it, just as many other wonderful things in this world are so common that we never stop to think how wonderful they really are.

You would tell me that Mr. Snake got along by crawling. His body holds one long backbone, the ribs coming from it numbering as many as three hundred in some snakes. Besides these ribs in his long slender body he has very powerful muscles which bring his ribs forward as he walks along upon them, just as if they were feet. So that he may be said to walk upon his ribs. His muscles draw his ribs forward, so that he rests upon them, and then his muscles give another step. So on he runs as quick as lightning, particularly when he sees a small boy coming after him with a sharp stick.

The snake, large or small, swallows his food whole and often has to open his mouth very wide to do it. But mother nature has made special arrangements about a snake's mouth, by which he can separate the bones of it, so that he can swallow animals by gradually drawing them in until the bones are at some distance apart. When once the dinner is down, the muscles of the mouth contract, and the bones draw

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back into place, and the snake's head looks as small as it did before he took in his huge mouthful. Poisonous snakes kill or crush their prey to death before they swallow it. The smaller snakes have teeth turning backward, so that the prey, getting inside once, cannot escape.

You know something, perhaps, of how the snake sheds his skin. Perhaps you have found such a treasure as an old snake skin for yourself. When the snake is about to shed his coat it grows dull in color, and some day it splits open all the way down the back. Then Mr. Snake wriggles out of his old clothes and finds himself in a brand new suit, handsomer and better-fitting than the last.

Snakes, of course, can climb trees, or swim, as well as they can get over the ground. In fact, they do all these things so well, and so expeditiously, that it would seem as if it were rather easier to get along without feet than with them. And Mr. Snake must wonder what upon earth a boy's legs are good for, since snakes can run faster than boys.—Chicago Inter Ocean.

NEGRO HEAD-DRESSES.

Eccentric Coiffures Seen by Travelers in the Dark Continent.

The African puts ornaments in his hair as we more civilized mortals do, but his taste is different. For where we decorate with gold and silver pins and combs, he proudly uses little balls and disks of clay hanging to the end of his braided locks or long braided beard. Sometimes he plasters a great crescent shaped lump of clay on the back of his head, and one old prince, particularly vain and loving of ornament, rolled his entire beard into a ball and so plastered it with mud that it hung, a great clay ball, from his chin. Just fancy how pleasant it must have been to wear a five-pound weight on one's chin! It would be a great discourager of conversation, for one certainly would not



TWO ECCENTRIC COIFFURES.

wish to lift that weight any oftener than was absolutely necessary.

Some of the women with long hair weave it over and around little reeds stuck in at right angles to the head, so that it finally looks like a great straw hat or basket all around their faces, much like the old poke bonnets that our grandmothers used to wear. The ladies of the lower Congo whose hair is more woolly than that of some of the other tribes, part their hair in three great thick locks, one on each side of the face and one in front. These they grease and twist until they look like wire, then they curve them until they look like short cow's horns sticking out on both sides and in front.

The natives of Rua braid their hair in two or three long plaits right on top

of the head. They stiffen with clay until they stand upright exactly like the funny little horns the unsociable snail sticks out as he saunters along with his house on his back. If the man of Rua happens to have short hair he braids in false hair until he gets what he considers a fashionable length, that is about twelve or fourteen inches. They likewise share the fondness of so-called civilized nations for changing the color of the hair, and are particularly addicted to the use of a red clay, which makes their hair a brilliant red. They also use a preparation of henna for the same purpose, and when they want to hide the gray hairs they mix henna and indigo, which makes a fine black, and, unlike some European dyes, does not affect the brain.—Isabel McKee, in Chicago Inter Ocean.

A Ring with a History.

A ring, studded with diamonds and pearls, hangs suspended by a silken cord around the neck of a statue in one of the most frequented parks in Madrid, Spain, and it is just as safe there as in the United States treasury. The greatest thief in Spain would hesitate to even touch it, for it is believed to deal out death to anyone to whom it belongs. The ring was made especially for the late Alfonso XII., who gave it to his cousin Mercedes. She died and bequeathed the ring to her grandmother, Queen Christina, who also died within three months. The king then gave the ring to his sister, who died within a month of receiving it. The king then took the ring, placed it in his own collection, and lived less than a year after doing so. His executors then gave the ring to the statue, which it certainly can't kill.

Said Grace to the Duchess.

An Englishwoman of rank, a duchess, was very apt to forget to pay her bills. A milliner, whose large bill had been repeatedly ignored by the duchess, at last determined to send her little girl, a pretty child of ten years, for the money which was so much needed. "Be sure to say 'your grace' to the duchess," said the anxious mother; and the child gravely promised to remember. When, after long waiting, she was ushered into the presence of her grace, the little girl dropped a low courtesy, and then, folding her hands and closing her eyes, she said, softly: "For what I am about to receive may the Lord make me truly thankful." As she opened her eyes and turned her wistful gaze on the duchess, that person turned very red, and without delay made out a check for the amount due her milliner.

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The report of the annual show of the State Poultry Association will be presented next week. The great number of meetings which occur during the first half of January greatly crowd our space for reports.

WAGNER'S FLAT PEA.

Dr. G. Bohrer, of Rice county, this State, asks: "Where can I get seed of the new honey plant, described in a recent issue of the KANSAS FARMER?"

Write to any of the seedsmen whose advertisements appear in the KANSAS FARMER. This pea is mentioned in the advertisement of F. Barteldes & Co., of Lawrence, as *Lathyrus silvestris*.

The semi-humorous paper of Col. T. W. Harrison, Mayor of Topeka, on the "Kansas Steer and His Brilliant Future," was well received. Col. Harrison is a farmer more than anything else, and his observation should carry the weight of the convictions of the practical man which he is. His claim that the \$100 steer should be the typical Kansas brand will have careful investigation.

Dr. H. W. Roby, the Family Doctor of the KANSAS FARMER, who was a member of the State Board of Health, some of the officers of which attempted to "appropriate" the \$8,000 cholera fund, is to be congratulated on the success of the legal proceedings instituted by him to prevent the theft. Offered a share of the plunder if he would only keep still, he was so incensed at the base proposition that he at once employed an attorney and drove to a successful termination the suit which saved the State \$8,000. He is now out of office and in the enjoyment of a good conscience and is the object of the active enmity of the conspirators.

The interest which has from the first attached to Chancellor Snow's method for the destruction of chinch bugs will certainly be augmented by his announcement at the annual meeting of the State Board of Agriculture that it has been found that the same fungous disease which has proven so efficient for chinch bugs is equally effective for bed bugs, lice, grasshoppers and several other injurious insects. Truly, science as an aid to agriculture has but just begun its work. We should now require of the entomologists and bacteriologists that they find and show how to apply fatal contagious diseases for all of our insect enemies, including those which attack fruits and the larger ones which injure field crops, and that they do not neglect those which annoy men and animals. French scientists have, as stated by Chancellor Snow, applied the white fungus to the destruction of the large white grub, which, living in rich surface soil, often does great damage to plants. It is strongly intimated that by the method of impregnating the soil with the white fungus immunity may be had from not only chinch bugs but also other insect pests.

ANNUAL MEETING OF THE STATE BOARD OF AGRICULTURE.

No more important gatherings for the promotion of the material interests of Kansas have been held than was the general round-up last week which began with meetings of some of the important live stock and breeders' associations and ended with a two and a half days' session of the State Board of Agriculture. These board meetings for a decade constituted annual landmarks in the progress of Kansas agriculture and have been distinctive promoters of that progress. The interest has kept pace with the growing worth of the proceedings, and, notwithstanding hard times, possibly even on account of depression, increasing numbers of farmers have year by year attended the annual meeting. Many who this year were present for the first time have declared that they will never in the future fail to attend. Those who came partly from curiosity and partly for a vacation from the cares of the farm have found themselves possessed of information the existence of which they had never suspected; they have found themselves divested of crochets and hobbies which they have long possessed to their hurt; and they have found themselves imbued with the progressive and aggressive spirit of the prosperous.

Such a program as that of this year, so ably filled, was never before presented to a gathering of farmers. From the opening prayer to the final adjournment the interest never flagged. There was in session the beginning of an interesting session of the Legislature. There were going on in the city the various wire-pullings of politicians in the grab for official spoils. There were the schemes of candidates for United States Senator. There was the impending change of the administration from one set of hands to another and from one political organization to another. But all these did not and could not draw the farmers away from the discussions of subjects of practical agriculture. The attendance of ladies was larger than ever before, and the evening meetings drew out numbers of the brightest and best ladies of the capital city, as well as those who accompanied their husbands from the farms.

This was the twenty-fourth annual meeting of the State Board of Agriculture. This board is peculiarly constituted. It was originally the State Agricultural Society, whose chief business was to hold a State fair each year. But its Secretary, Alfred Gray, had a genius for gathering, classifying and tabulating information. The society had not the means to pay for publishing the results of his labors. The matter was brought before the Legislature, and, on ascertaining the value of Secretary Gray's work, it adopted the society, re-christening it the State Board of Agriculture. Its form of organization, its succession of membership and its officers were retained and a salary was provided for its Secretary. The Secretary now has his office in the State house and is provided with several assistants, and his work has so grown that he needs more help. The reports are published by the State Printer and are paid for out of the regular printing appropriation. The society consists of twelve "members"—of whom the Governor and the Secretary of State are *ex officio* a part—and one "delegate" from each county agricultural society which has, during the year, made certain reports to the Secretary. Of the ten "members" (not including the Governor and Secretary of State) five are elected each year by vote of the "members" and "delegates." The President, Vice President and Treasurer are elected each year and the Secretary is elected every two years. The officers for the present year are: President, T. M. Potter, of Peabody; Vice President, J. E. Hoagland, of Whiting; Treasurer, Samuel T. Howe, of Topeka; Secretary, F. D. Coburn, of Kansas City, Kas.—official address, Topeka.

The members are E. N. Morrill, Governor (*ex officio*), Hiawatha; W. P. Edwards, Secretary of State (*ex officio*), Larned; Geo. W. Glick, Atchison; B. F. Campbell, St. Francis, Cheyenne

county; Thomas A. Hubbard, Rome, Sumner county; R. T. Stokes, Garnett, Anderson county; W. J. Bailey, Nemaha county, and W. B. Sutton, Russell, Russell county, whose terms of office will continue until January, 1897, and Joshua Wheeler, Nortonville, Jefferson county; A. W. Smith, Groveland, McPherson county; J. L. Finley, Dodge City, Ford county; I. L. Diesem, Garden City, Finney county, and A. C. Shinn, Ottawa, Franklin county, who will probably be candidates for re-election in January, 1896.

The "delegates" who attended this meeting are:

C. E. Gifford, Clay county.
Martin Allen, Ellis county.
J. C. Allen, Finney county.
Edwin Snyder, Jefferson county.
C. M. Dickson, Johnson county.
V. R. Ellis, Johnson county.
G. W. Erwin, Logan county.
Jos. Gamble, McPherson county.
D. W. Kingsley, Montgomery county.
C. L. Whitaker, Allen county.
J. H. Coffman, Allen county.
M. L. White, Anderson county.
E. Harrington, Brown county.
W. J. Workman, Clark county.
Geo. Throckmorton, Coffey county.
Joseph Ennis, Crawford county.
L. M. Pickering, Finney county.
J. E. Churchill, Ford county.
W. H. Moherman, Franklin county.
D. Needham, Fra克林 county.
C. A. Maxwell, Grant county.
D. W. Stanley, Jackson county.
Geo. A. Bishop, Rice county.
A. P. Collins, Saline county.
Ed. R. Smith, Linn county.
W. M. Fichery, Linn county.
R. E. Trosper, Marshall county.
W. H. White, Morris county.
J. J. Knepp, Nemaha county.
David Wilson, Neosho county.
Thos. Cain, Osage county.
Judson Linden, Osborne county.
John E. Gebhart, Phillips county.
D. E. Mickey, Hooker county.
E. R. Powell, Sedgewick county.
C. R. Cantrall, Wilson county.

Visitors, though neither "delegates" nor "members," were accorded the privileges of the floor.

The proceedings, aside from the small amount of routine business, consisted almost entirely of "papers" or written addresses on subjects of investigation or thought in which the authors are in some measure specialists. Some of these papers appear in this number of the KANSAS FARMER, some will be presented in future numbers, some will be "briefed" and some will be editorially mentioned or discussed.

It would have been thought absurd a few years ago to devote nearly half of the time of such a gathering to the consideration of irrigation. But such was done at this meeting, and, moreover, the subject crept into other parts of the proceedings at various places and was introduced by speakers from the extreme eastern as well as by those from the western part of the State. Evidently a transformation in the methods and an improvement in the certainties of agriculture is at the threshold, and the State Board of Agriculture is at the front in promoting and in giving information of this progressive movement.

We desire again to call attention to subscriptions expiring this month. Please renew promptly before expiration of the month. If those who know the value of the *Ladies' Home Companion*, published at Springfield, Ohio, desire to have that periodical for the family twice a month send us \$2 for your own subscription and for one other subscriber to KANSAS FARMER and we will furnish both with one of the best cook books free, and also a year's subscription to *Ladies' Home Companion*. We can only offer this for clubs of two or more. If, however, you cannot send both at once send us \$1.30 with your own, and it will entitle you to the combination of KANSAS FARMER, *Ladies' Home Companion* and cook book, and when you get the other you can send us the balance, 70 cents, and the other subscriber will also be entitled to the same.

The central demand of the January 12 issue of Henry Clews' weekly financial circular is that "Congress should pass an act authorizing the issue of \$497,000,000 United States bonds, payable, principal and interest, in gold coin," etc., etc. Most of the circular is devoted to showing the necessity of taking up the greenbacks and the Sherman law notes with such bonds. Does the country need to substitute interest-bearing bonds for the non-interest-bearing greenbacks?

The Shawnee County Horticultural Society convenes in regular session, in G. A. R. hall, Topeka, the fourth Saturday of each month. The next meeting will be on the 26th.

AN OBJECT LESSON IN IRRIGATION.

We present in the Irrigation department of this number a clear and comprehensive description of the reservoir and pumping plant of Mr. George M. Munger, situated some seven miles from Eureka, Greenwood county. This is the largest irrigation plant of its kind in Kansas, and is not likely to be surpassed in magnitude for many years. Mr. Munger remarked, on presenting the paper before the annual meeting of the State Board of Agriculture, that it was, perhaps, unfortunate that his undertaking was so large, since its magnitude and expensiveness might discourage rather than encourage the average farmer. But in the opinion of the KANSAS FARMER, the fact that so large an enterprise is found to be advisable by a farmer of many broad acres, who is investing his own money and is paying as he goes, should attract universal attention to this plan, which for smaller farms can be constructed on a correspondingly less expensive scale. That Mr. Munger's investment will prove a wise one will not be doubted by those who have investigated, as he has, the advantages of adding to the present combination of Kansas soil and Kansas sunshine the Kansas water now running unused to the Gulf of Mexico.

Thus far in the current discussion of the irrigation problem in Kansas, consideration has been confined chiefly to the wonderful underground natural reservoir, which, under very large areas of the western half of the State, is annually replenished from the rainfall, in a manner not wholly different from that in which Mr. Munger's surface reservoir is to be filled. And this sub-surface supply, whose receptacle of coarse sand and gravel is, in much of the country, covered with only enough soil for maximum productiveness, is worthy of all the attention ever given it, and will inevitably be the means of producing immense prosperity. But, as was shown by Prof. Haworth, of the State University, much of the western portion, as, also, nearly all of the eastern portion of Kansas, must depend upon artificial stores of water for irrigation. This water can, in many instances, be stored in reservoirs located high enough to render pumping unnecessary, while in others modifications of Mr. Munger's plans will be found necessary. For those parts of the State where the great sub-surface natural reservoirs do not exist, Mr. Munger's plant will serve as a model erected by a competent man, after the fullest investigation of every detail and the most careful inquiry as to all questions of profit from the investment.

There is much disappointment at the fact that the illustrated address which was to have been delivered by Col. C. D. Perry, of Englewood, showing how he irrigates his 1,200 acres of land in Clark county, could not be delivered before the State Board of Agriculture on account of the illness of Mr. Perry. Arrangements have been made, however, for a series of illustrated articles from his pen for the KANSAS FARMER. In these he will show how he not only obtains but applies the water to his several fields with the variations found necessary on account of peculiarities of surface. Such descriptions of work as it is actually done are much more satisfactorily instructive than the more general directions given by writers of purely ideal irrigation. Mr. Perry's papers will be awaited with much expectancy.

Comments on each of the many excellent papers presented at the annual meeting of the State Board of Agriculture will not be attempted in this number of KANSAS FARMER. Lack of space forbids. It is hoped, however, that we shall be able to do a great deal better than this and give in this and future numbers the most valuable parts of the papers themselves.

To Prevent Horns.

EDITOR KANSAS FARMER:—Can you prescribe a remedy to apply to prevent horns growing on calves?
Canada, Kas. J. S. Good.

If any of our readers have tried any of the methods which have been brought to the attention of the public many farmers will be pleased to hear the result through KANSAS FARMER

MISSOURI STATE SWINE BREEDERS' MEETING.

The Missouri Swine Breeders' Association held its second annual meeting at Chillicothe, on Tuesday, Wednesday and Thursday of last week. The association came to Chillicothe on the invitation of the Chillicothe Commercial club, that provided hall and all things necessary for the comfort of the members and visitors, including reduced rates at the hotels.

Promptly at 7:30 p. m. on Tuesday, J. M. Vivion, of McCredie, President of the association, called the meeting to order, and it was soon apparent that a general sprinkling of the membership was present from all parts of the State and a score or more of breeders who became new members. Prof. Allen Moon, Vice President of the Commercial club, in a neat and scholarly address welcomed the visitors and was responded to by G. W. Waters, of Canton, who is one of Missouri's best-known farmers' institute workers. Space forbids that extended review of the entire program that was carried out during the several sessions of the meeting, therefore only a part of the more salient features will be given at this time.

Mr. W. A. Hill, of Belton, read a very excellent paper on "Boom Prices and Their Effect." The general sentiment brought out during the discussion that followed was that the evil effects over-balanced the good that naturally comes of boom prices.

June K. King, of Marshall, the west-central Missouri breeder, read a paper, "Some Drawbacks to the Breeding of Pure-bred Swine," that contained some very pertinent ideas and elicited an all-round expression of views and personal experiences during the discussion which followed.

Wednesday morning's session brought out a hall full, and among them several delegations that came in on the night trains. Immediately on call to order the association was entertained by President Vivion, who delivered his annual address. It contained many practical things and showed that old Missouri, with all her faults, ranked second in swine husbandry of all the States in the Union. The association had nearly doubled its membership during the year, and the breeding industry had fared well throughout the State and was growing more in interest, both as to a higher standard and profit.

This was followed by one of the State's most successful breeders, Mr. C. G. Sparks, of Mt. Leonard, on "Is a Breeder of One Breed as Competent to Judge Other Breeds as He is to Judge the One He Breeds." He at once took the position that he was undoubtedly more competent to judge of the merits of the animals that he bred, from two principal reasons; the one because of his preference, and, secondly, from his more intimate acquaintance with those that he bred. Again, one naturally grows to think and conclude his own were the best. Yet he thought every breeder, if he be honest, and every breeder ought to be, would place awards of merit just where they rightfully belonged, regardless of the breed or to whom they belonged.

In the discussion which followed, Geo. W. Falk, of Richmond, thought a person who breeds one breed not as competent to judge, though he thought there was no absolute or general rule to be laid down. Ed. Dorsey, of Perry, Ill., did not know of any general rule that could be laid down with safety. It is owing some to what section of country a judge belonged to, as the East had a different type from the West. His experience taught him that some Berkshire breeders were better qualified to judge Poland-Chinas than were the owners of the Polands themselves. "I would rather," he said, "see the ribbons tied on any breed other than my own if my competitor had animals of a better type and a higher standard." W. A. Hill, of Belton, thought that any well-up and experienced breeder of any of the several breeds ought to know a good individual and have an idea of the necessary essentials of any breed. There is a general character about an animal that any one with an eye, judgment and reflection necessary for comparison ought to be able to select the best from out of a herd or show-ring group.

The paper by T. A. Pew, of Gamma, "The Hog's Foot," was read by Secretary A. J. Blake, of St. Louis, live stock field man *Coleman's Rural World*. Among other things Mr. Pew stated that many engaged in swine breeding oftentimes lost sight of essential points in trying to get something fancy. The foot is an essential, and the hog being in one sense a mere machine, if he loses the power of good locomotion he loses a great part of his value. The breeder should keep close to all foundation principles. A broad, short, compact foot was a thing most desirable. They seldom get too large if properly proportioned. We seldom see a perfect foot, and a hog, no matter how well proportioned otherwise, if he has not a perfect foot cannot be said to be a perfect animal.

The discussion brought out a good many dodgers, and among others was the observation of George B. Bellows, of Maryville, the *Live Stock Indicator* field man, who stated that his experience was that the hog down in the feet was usually the best feeder. H. C. Sydnor, of Corder, stated that his observations led him to the same conclusion. J. C. Canada, of Bogard, thought that over-feeding and a want of exercise were the causes of bad feet. In answer to the question of how to remedy, Mr. Sparks thought that by selecting the boars and sows having the best feet and using care and judgment in rearing the offspring, better results might be surely expected. Use less fat-forming ration and more bone and muscle-producing feed. Avoid the too liberal use of corn. Geo. W. Null, of Odessa, had got them up again when not

grown by taking off of feed and turning out to run and hustle for a living on pasture range. In response to the inquiry of J. W. Boles, of Auxvasse, whether or not it was advisable to breed an animal, however good in all other conformation points, that had bad feet. P. Mayo, of Clifton Hill, said that that was rather a difficult question to determine, and Mr. Grant Welsh, of Laclede, found that a piece of stony ground over which to let the herd travel or feed was a successful way to shorten up the toe. Mr. Vivion said, always, if possible, select swine with good, short feet and short pasterns. He had never been able to reclaim one of those that went down on long, slender pasterns. Some good could be accomplished when in pig form, before maturity had been reached, by trimming off the toe and giving sweet milk almost exclusively as a ration and plenty of exercise at foraging for roughness.

J. M. Welsh, of Laclede, read a very interesting paper on "Pure-bred Types," among other things stating that this was a question that the novice would do well to thoroughly consider before attempting to crystallize on some single type. There are types enough to suit most all ideals, yet in this grand array but few really meritorious ones. The general farmer is so situated that it is barely possible for him to attain a fixed type, as he must of necessity increase or decrease the numbers of his herd as necessity demands; hence that fixation that all progressive live stock breeders strive for must of necessity be left to those who devote their entire time and study to the question. Every breeder, though, should aim high, whether he breeds for the standard pure-bred breeder or the general hog-raiser. If the general worth of the hog is to be maintained and increased we must work for individuals of force, character, good feeders and reasonably active; not nervous, but those having steady, contented dispositions, and by all means avoid every fad that comes along. Be careful in selecting and mating, always adhering to the best results.

The discussion on this paper was a most interesting one, some twenty-five persons taking part before its close. Mr. O. H. Southworth, of Harris, among other things, said: "I reside up in the north part of the State, where we endeavor to reach early maturity in the shortest possible time, and we all attempt to do so with animals at 8 to 10 months of age. We are, I think, following after the Eastern idea of type." When asked by Mr. Brush, of Kansas, if he was not endangering the size of the future hog, replied that it was possible, yet as long as selfishness existed in the human being the future was extremely uncertain, as present ambition oftentimes destroyed the hope of the unborn future. W. M. Penniston, of Stet, said, in talking of this question of type: "After twenty-five years of experience at breeding live stock, especially do I find myself in swine having a type of my own. I hardly know how to best express myself unless it be to say that actual experience, first attained and then compared with my fellow-breeders, brings out type ideals." D. D. Smothers, of Armstrong, said: "I want an early-maturing kind of a hog, yet want one that I can hold to 15 or 18 months if necessary, and receive pay for the ration and my labor. I think a danger lies in striving for an early-maturing type." P. Mayo, of Clifton Hill, said he preferred to turn off whenever ready or the market was favorable. He had pigs now on the farm 3 months old that would weigh 100 pounds each. Mr. Sydnor stated that he made it a rule, or rather aimed, to turn off when pigs reached 200 pounds. He endeavored to raise enough to supply the capacity of the farm and sought to avoid buying stockers, thereby, he thought, lessened the chances for disease. The aim of every breeder should be type and profit, but many could not afford to wait and reversed his own decision—profit first and type afterwards.

A very interesting, scholarly and excellent paper, "Hog Cholera and Swine Plague," was read by Dr. J. S. Meyer, of St. Joseph. This subject belongs to the category in swine husbandry, ranking first after type, and commanded a long and voluminous discussion, nearly every member in the hall taking a part therein. Dr. Meyer had in his paper meandered along the highway of scientific research and experience and landed just about where Dr. Salmon, Chief of the Bureau of Animal Industry, rests in his late Bulletin No. 24, on "Hog Cholera and Swine Plague." Nearly all had tried remedies of all kinds—patented, old Dutch and improvised ones—yet when the disease had once gotten a foothold in the herd all remedies usually failed, and it was generally conceded that it was more practical to study how best to avoid conditions that would have a tendency to impair and reduce the vitality of the individual animal and provide against contagion from infected individuals or herds. Mr. Brush, live stock field man of the KANSAS FARMER, in answer to a question for an opinion, stated that he thought there was not enough attention paid to the laws of nature and the cause of disease; while, on the other hand, too much stress was laid on the experience or dictum of some one else whose chief object was a monetary consideration or one of an over-confiding brotherly love. He thought disease generally was a condition, when the man sick was in a state of impaired vitality and the little fellow known as bacillus had taken advantage of such impairment and gone to work to do his big brother up. He believed, too, that some time, and that in the near future, the question of "Hog Cholera and Swine Plague" would be solved by inoculation, and that the individuals who had not the vitality or power to resist the encroachments of other forms of animal life, or withstand the onslaught

of Mr. Bacillus by inoculation would, of course, succumb, and that low degree of vitality to which he was heir would decrease, leaving the more strong to propagate a race of whom a larger number would represent a more hardy stock, resulting in a surer and better chance for life in the struggle for existence in all domesticated animal life, including the human family. As it now stood, the swine breeder must content himself with striving to keep up a strong, vigorous physical condition of the individual animal, and pay more attention to the sanitary surroundings of his herd, cleanliness in ration and surroundings, using every endeavor to keep up the highest possible degree of vitality.

Among other important questions taken up during Wednesday afternoon was "Swine Food and Its Preparation." Mr. Falk could always feed if he could get enough of it. His experience was that the best all-round ration was equal parts of corn, wheat and oats, ground together at home in an ordinary iron mill, cooked and steamed, but would not recommend it as an all-time ration. Mr. Sydnor thought all wheat was not the best, but mixed with one-half bran and oats was a good ration. Ground oats and sweet, fresh milk were best for growing pigs. J. C. Canada, of Bogard, used ground wheat flour mixed with two-thirds bran. Young pigs sent out that had been fed on an exclusive all-wheat ration were apt to fall off on hard feed and would not be satisfactory to the new owner. Mr. Sterling Harris, of La Mine, had found that pigs seemed to relish warm feed in cold weather. Had found ground oats an excellent ration and had had no trouble with hulls. Grind oats as fine as the burrs will grind it. Mr. O. D. Kester, of Chillicothe, used a twenty-four gallon reservoir, in which he heated water and mixed the ration with hot water. Results not satisfactory with an all-wheat ration. For growing pigs the more oats in ration the better. Mr. McElhany used ground wheat in a slop and followed once a day with a little whole corn. When growing pigs tend to get too fat he changed ration to one less fattening. Mr. Geo. W. Null preferred corn, wheat and oats, fed ground or whole, but did not find enough in steam or cooking to justify the time and outlay. Whatever ration was used a little oil cake, and clover in season, were the best to put on that finish that indicates a healthy and vigorous animal. Many others expressed their views and were in tenor with the remarks already cited.

The paper, "Proper Age for Mating," by J. W. Benefiel, Linneus, was a most interesting one and full of practical ideas, both for the experienced breeder as well as the junior or the beginner. He had good results with females bred at 10 months, but always better success if they were bred to farrow at from 15 to 18 months. "My twenty years' experience," he said, "leads me to believe we could raise the standard of vitality by mating later than some of us do." Mr. Sydnor was of the opinion that many a good gilt is injured, and not only the mother but the produce or pigs, by mating too young. "I prefer to have them farrow above 14 months." Mr. O. H. Southworth, of Harris, agreed with those who had expressed themselves on the mating question, and in answer to the best time of year for mating replied that he had best success with pigs that come in September. Several others preferred breeding so that farrowing time came in February and April.

The paper, "Care of the Brood Sow and Litter," by P. Mayo, of Clifton Hill, was one of more than ordinary interest. Among other things, he said, ten days before farrowing time place the prospective mother in clean, dry, warm quarters by herself. Give good wholesome ration—not too much corn. First day after farrowing nothing but some warm water should be given her. For next three days a thin, slightly warmed slop, and on fourth day a little corn may be given in addition to the slop. Feed plenty of shipstuff and provide plenty of sweet, fresh cow's milk, and give the youngsters a chance to learn to eat from the trough. Oats and wheat may be given, but shipstuff seems to be the best milk-producing ration. Keep plenty of salt and charcoal where they may partake of it at will and use a liberal sprinkling of carbolic acid after cleaning up, once a week.

Among other points brought out during the discussion that followed was the observation of Mr. S. H. Chitwood, of Rochepoort, that he found it best to provide a place where the young pigs belonging to the litter could get in and eat by themselves. By doing so they seemed to grow up more gentle and act less piggy during feeding time. Mr. J. G. Cassida, of Chula, said that in addition to what had been said, both sow and litter did better if they had opportunity for exercise. Give both a chance for a range of good pasture.

The notes taken during the meeting by the writer are far too long for review at this writing, and many of the good papers and ideas brought out during the discussions thereon will appear in future issues of the KANSAS FARMER. One of the best read was the report of the Secretary, Mr. A. J. Blake, of St. Louis, of which something will appear later on.

The officers elected for the ensuing year were as follows: President, Sterling Harris, La Mine; Vice Presidents, Berkshires, W. N. Briskey, Independence; Chester Whites, J. C. Canada, Bogard; Victorias, A. G. McClelland, Kirksville; Yorkshires, J. M. Kennedy, Bedford; Poland-Chinas, C. G. Sparks, Mt. Leonard; Duroc-Jerseys, W. L. Addy, Parnell; Secretary, A. J. Blake, St. Louis; Treasurer, H. C. Sydnor, Corder; Executive committee, Levi Chubbuck, Kidder; Geo. B. Bellows, Maryville, and C. C. Alexander, Fulton; instructors on score-card, Geo. B. Bellows and C. G. Sparks.

Inter-State Swine Breeders.

The annual meeting of the Inter-State Swine Breeders' Association will be held at Hiawatha, Brown county, Kansas, on Thursday, January 24, 1895. Following is the program:

MORNING SESSION—10 O'CLOCK.

President's annual address.
"What Breeds Shall We Raise?" W. F. Garrett, Maryville, Mo.
"Selection and Care of Breeding Stock," Bert G. Wise, Reserve, Kas.

AFTERNOON SESSION—1 O'CLOCK.

"Cholera—To Prevent," C. B. Blaney, Cleo, Kas.
"Cholera Cures, if Any," J. A. Worley, Sabetha, Kas.
"The Pig From Farrowing to Weaning," A. W. Themanson, Wathena, Kas.

EVENING SESSION—7 O'CLOCK.

"Feeds and Feeding," O. S. Colthar, Pawnee City, Neb.
"Preparation for Show Ring," J. W. Babbitt, Hiawatha, Kas.

All interested in the swine industry are invited to be present and take part in the discussions of the meeting.

L. W. LEONARD, President.
L. C. CLARK, Secretary,
Granada, Kas.

Gossip About Stock.

J. C. Stone, Jr., an old-time Kansas breeder, of Leavenworth, Kas., offers fine jacks and jennets in exchange for young cattle, or will sell on easy terms.

C. S. Cross, proprietor Sunny Slope farm, Emporia, Kas., writes: "I have just sold to Mr. Walsh, manager for Mrs. Adair, at good prices, all my Hereford bulls now over 6 months old. By the way, the 'J. A.' ranch, to which I sold, has 6,000 Hereford cows in one pasture. I think I got the best prices for a quantity that any one has received this year."

The KANSAS FARMER takes pleasure in calling the attention of its readers to the new sale advertisement of the well-known and successful breeder, Mr. W. H. Wren, of Marion, Marion county, Kansas. See his advertisement elsewhere in this issue and send for a copy of his free catalogue, and in the meantime remember the date, Thursday, February 7, 1895.

D. Trott, Abilene, Kas., says: "My herd of Poland-Chinas and famous Duroc-Jerseys are in the best of health. The year just passed was a very successful one for me as far as sales were concerned. I can show hundreds of letters from pleased customers for the year just closed, which speaks well for the class of stock sent out. I will do my best to still please all reasonable customers in the future. Have stock yet for sale. I thank the KANSAS FARMER and wish all a happy and prosperous year. May we all have our share of the good things of this life."

Publishers' Paragraphs.

"I don't mean to say that I know how to tell a story, but I do mean to say that I know how a story should be told," says Mark Twain, in an article which he has written for the *Youth's Companion* on the art of story-telling.

The Creamery Package Manufacturing Co., of Kansas City, Mo., is one of the substantial institutions of the time which has grown up on account of the growing demand for the special lines handled by this company. The large creamery or the farm dairy which has not at hand the new illustrated catalogue of this company is perhaps not aware of the loss and inconvenience which may be avoided. See advertisement on page 14 of this paper and write for catalogue.

A COLORADO VIEW.—That genial hustler, Hon. S. M. Scott, of Emporia, who had an experience in running for Congress, has "reformed" and is now hustling for business. Recently he made a trip to Colorado to look up irrigation matters and became wonderfully infatuated with irrigation farming in the great San Luis valley, along the line of Denver & Rio Grande, and writes quite entertainingly about it in the last *Topeka Advocate*. He also ran amuck an agricultural newspaper man, to whom he refers as follows: "While in Denver we had the pleasure of meeting the hustling editor of the *Field and Farm*, Mr. Wilcox. Colorado to him is the ideal spot on earth. He is the right man in the proper place; ever courteous, answering all the questions of a tenderfoot with seemingly as much pleasure as if he were enjoying a visit from the Prince of Wales. Don't fail to call on the *Field and Farm* if ever you visit Denver."

\$300 For a Name.

This is the sum we hear the Salzer Seed Co. offer for a suitable name for their wonderful new oats. The United States Department of Agriculture says Salzer's oats is the best of 300 varieties tested. A great many farmers report a test yield of 200 bushels per acre last year, and are sure this can be grown and even more during 1895. Another farmer writes us he cropped 112 bushels of Salzer's Marvel spring wheat on two and one-half acres. At such yield wheat pays at 30 cents a bushel. One thing we know and that is that Salzer is the largest farm seed grower in the world and sells potatoes at \$2.50 per barrel.

If You Will Cut This Out and Send It with 10 cents postage to the John A. Salzer Seed Company, La Crosse, Wis., you get free his mammoth catalogue and a package of above \$300 PRIZE OATS.

Horticulture.

WINDBREAKS, ORCHARDS, GARDENS.

EDITOR KANSAS FARMER:—People usually advise planting a wind-break on the north of an orchard. In this region it always seemed to me that the south side was most in need of protection, because in winter, the time when north winds are most frequent, the trees are dormant and little affected by the weather, while in summer the south winds are often very trying to vegetation. A good wind-break on the south will prevent a great deal of evaporation. We need protection against evaporation more than against cold. For a long time I saw no objection to a north wind-break, but now I would advise planting a wind-break on the south, east and west, leaving the north open if one is obliged to depend entirely on natural moisture. A wind-break catches a drift of snow and then the ground is bare for some distance south. An orchard entirely surrounded by a wind-break after a snow would be apt to be surrounded by a drift but be bare among the fruit trees, while one open on the north would have drifts in the wind-break to give it a good wetting, and the wind-break at the south would slack the wind enough to cause a greater deposit of snow among the

the ground quite wet about the plants, verifying Mr. Hilton's experiments, showing that a damp soil will absorb moisture and a dry one will not.

For a long time I could see no benefit from the application of manure to this soil, but kept putting all my manure on the land. In the KANSAS FARMER I learned that soil which had been manured absorbed water more rapidly and retained it longer than unmanured soil. I have since noticed that a furrow plowed across manured ground showed moisture when unmanured soil was dry.

Many have applied extra water to a garden or a few fruit trees by turning the rain-water which runs down the road onto the field.

My cow yard lies on slightly sloping ground. The yard and around the sheds is tramped quite smooth. On the lower side is a large buffalo wallow. I dug an outlet even with the bottom and put in a box and raised a bank on the lower side as high as the upper side and ran furrows along the lower side of this smooth ground to the upper side of my reservoir. If the ground had been nearly level I could have built a ridge around my garden and let the drainage run directly onto the garden. After every rain I have a pond full of liquid manure. I apply it as soon as the rain is over and then cultivate as soon as the ground is dry enough.

the right time. Now that the windmill and pump have been recognized as necessary garden implements, the above lists can be relied on as certain, as well as many more vegetables and fruits. Melons and squash are almost certain with the natural rainfall. The garden and orchard should be protected by a wind-break. Russian mulberry and seedling peaches are good trees for the purpose. Apply as much water and manure as possible and cultivate after every rain or irrigation. Frequent cultivation prevents the escape of moisture.

C. STIMSON.
Chantilly, Kearney Co., Kas.

The San Jose Scale in Ohio.

One of the most interesting of the discussions of the recent sessions of Ohio State Academy of Sciences was brought out on the subject of a new fruit tree pest discovered in Clermont county about a week before, says the *Ohio State Journal*. The subject of the discussion was termed, "The Occurrence of the San Jose Scale in Clermont County." This is sometimes called the orange scale, from its first discovery in this country on orange trees in the San Jose valley in California. The discussion of the matter brought out much interesting information about the hitherto unknown scale insects, at least so far as Ohio fruit-growers are concerned. The pest was introduced

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

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

Something New in Musk-melons

The White Persian, the largest and best flavored on earth. Nothing better to be desired. Write for prices and particulars to Larkin Commission Co., Wichita, Kas. Mention FARMER.

Mount Hope Nurseries.

27th year. Have for sale a complete assortment of fruit trees, especially of the leading commercial sorts. Also making a specialty of extra hardy peaches. Crosby, Bokara, etc., 28 deg. below zero and a crop. For circulars and prices address the proprietors.
A. C. GREISA & BRO.
Lawrence, Kas.

ESTABLISHED IN 1873.

WILLIS NURSERIES.

Contain a general assortment of choice fruit trees and other nursery stock, which we offer for sale in lots to suit. Our prices are low—stock and packing the very best. Write for free catalogue and always mention name of this paper. A special lot of choice well-grown two-year-old apple trees for sale.
Address A. WILLIS, Ottawa, Kansas.

BONNER SPRINGS NURSERIES

We shall offer in the spring, 1895, at surprisingly low prices, a large stock of apple trees—mostly Gano, Ben Davis and Jonathan—the apples. Also small fruits of all kinds. Greenhouse bedding plants and bulbs for spring planting; asparagus, evergreens and a general collection of nursery stock, all being of the leading and most popular kinds.
Address H. H. KERN, Manager,
Bonner Springs, Kas.



KANSAS SEED HOUSE, F. BARTEDES & CO., PROPRIETORS, LAWRENCE, KAS. (See advertisement, page 48.)

fruit trees than if there were no impediment.

Five per cent. of these uplands of western Kansas might be planted in trees if they were planted in narrow belts, three or four rows wide, and thick in the row, running east and west. After a few years' cultivation they would be large enough to catch drifts every snow, which would furnish the extra moisture they would need. Weeds would lodge and make a mulch. Such belts would prevent the spread of the Russian thistle to a large extent.

I built an old-fashioned worm fence, of some unused posts, along a row of cherry trees. This catches a good drift every snow. Brush piled where extra moisture is needed is excellent to catch snow. Ground in an orchard that has been well cultivated is so smooth that snow does not lodge, and all the winter moisture is lost. We rarely have snow without wind. If the last cultivation is with a lister the ridges will catch the snow.

Even where one has other means of irrigation it will pay to put the wash water on a few shrubs or trees on account of the fertilizer it contains. Dig a small hole near the tree to be watered and then it will soak into the ground instead of being evaporated.

I tried watering some pie-plant this summer with suds. The effect was not very apparent until there was a little shower; then they made a very good growth. A rain that did not wet the dry ground more than an inch made

My pump has a two and one-fourth inch cylinder and four-inch stroke, run by a twelve-foot windmill, 140 feet to water. It waters fifty head of stock, furnishes water for house use and an abundant supply to irrigate a good garden. From what others are doing, there is power and water enough to run a four-inch cylinder as deep as 200 feet.

The Missouri Pippin has a thick leaf, which enables it to withstand dry weather better than other varieties of apples. It is a small tree and bears early. Three points which commend it to the farmer on the uplands of western Kansas.

Cherries and plums stand dry weather very well.

While peach and apricot stand dry weather, the variations in our winter temperature usually kill the blossom buds. The peach grows well and is a good tree to plant thick for a wind-break. Snow drifts furnish sufficient water to give a wind-break of peach trees a good growth.

The apricot makes a very pretty tree. The peach and apricot are not of sufficient value to warrant any greater expense than to plant pits.

My selection for an upland fruit and vegetable garden would be Missouri Pippin apple, cherries, plums, blackberries and pie-plant. Among vegetables, asparagus, parsnips, carrots, beets, garden peas, beans, cabbage, turnips and rutabagas have been successfully grown, if the rains came at

into Clermont county by a shipment of trees from a New Jersey nursery, and is ruining a fine, new orchard of 600 trees. President Webster, of the academy, who is Chief Entomologist of the Wooster Experiment Station, was notified of the existence of the pest in Ohio and went down the first of the week to examine and report on the case. He stated to the academy that he ordered the digging up of fifty of the trees and the burning of them, root and branch, while he directed that the remaining trees be treated to a solution known as the "resin solution," composed of resin, caustic soda and fish oil. He stated that the pest is the most dangerous one that has ever made its appearance in the State, and all who know the character, habits and the terrible prolificness of the insect are greatly alarmed for the fruit supply of Ohio.

The discussion of the pest brought out many interesting facts connected with the life and habits of the insect and the curious way in which it is propagated and distributed. The female, strange to say, is the most dreaded, for the young female, before being impregnated, will travel all over the trees until it has found its mate, when it settles down, becomes impregnated, and from that time never moves from its position on fruit or tree, sucking the juices of the one and deadening the bark of the other. It lays myriads of eggs, and when they are hatched it dies, fast adhering to the tree, and the shell of the dead mother becomes the

Lee's Summit Star Nurseries.

ESTABLISHED IN 1869.

Choice fruit and ornamental trees, including small fruits, evergreens, roses and shrubbery. A specialty of supplying trees for commercial orchards. Also shade trees. Plant while you can get the best trees at the lowest prices. Send for catalogue. Address (mentioning this paper) M. BUTTERFIELD, - Lee's Summit, Mo.

COLE'S Illustrated FREE Garden Annual SEEDS. The Best and latest NOVELTIES in BEANS, CORN, LETTUCE, MELON, TOMATO & SEED POTATOES, PARSNIPS & SWEET PEAS. Save money in buying from us. Complete list. Extras with orders. Address COLE'S Seed Store, Pella, Iowa



THE BINGAMAN PRUNER

The best Pruner ever made. Will cut any limb not exceeding 1 1/2 inches in diameter. One man can do more work with it than five men can with any other. Agents wanted in every State in the Union. Address—
ORCHARD PRUNER CO., Ottawa, Kansas.

home and shelter for the progeny until they become so large they crowd each other out to become in turn fathers and mothers of an awfully-increased increasing progeny. The male is furnished with wings; the female has none. The female is somewhat oval or circular in form, about the one-thirty-second of an inch in diameter. She produces but one brood, but this brood produces a brood each and on to an indefinite number of times each season, so that the posterity of a single female runs to almost an infinite number of insects. The tree does not survive the season. The entomologists and fruit-growers are very much alarmed over the approach of the pest, which is more destructive to fruit than the Colorado beetle ever was to potatoes, because of the vast productiveness of the insect and the peculiar ease with which it can be distributed. There are three remarkable ways of distribution. The first is by means of the search of a female for its mate; second, it is blown for miles by the wind; and third, the female in her search for a mate attaches itself to the feet of birds and thus is carried many miles from its birth place. It does not breed in winter.

If the pest should ever become established nothing but the introduction of some parasite to prey upon it can curb its onward march. The pest has been discovered at one point in Indiana, one in Virginia, one in Maryland and one in New York. It is believed that at all these points it gained a foothold, as in Ohio, from trees from the New Jersey nurseries, where it was introduced from California by shipments of trees. Tracing back it has been found to have been first noticed at San Jose about fifteen years ago, probably emigrating from Australia or some of the South Pacific islands by shipments of scions of tropical fruits. In Virginia the national Department of Agriculture took it in hand and held it in check, as an experiment, by burning some trees and treating the others to a certain gas treatment, which, however, is too expensive for ordinary use. The speakers warned the academy to tell their fruit-growing friends to be on the look-out for this pest, for in this case an ounce of prevention is worth a ton of cure, as the pest attacks all kinds of fruits.

Great complaint of damage from borers has been made this fall by men who have young orchards growing. The Department of Horticulture of the Oklahoma Experiment Station has been making extensive investigations through the Territory, and Prof. F. A. Waugh reports that the damage seems to be always worst in orchards which have received poorest care. The better the cultivation, the fewer borers. Also the better the cultivation, the less sun scald. Besides good cultivation, Prof. Waugh recommends for the prevention of damage by borers, that the trees be washed every two or three months with a strong solution of concentrated lye. Dissolve a can of lye in a patent bucket of water and apply with a bunch of rags on a stick.

Beware of Ointments for Catarrh that Contain Mercury,

as mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten-fold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally and is made in Toledo Ohio, by F. J. C. Ely & Co. Testimonials free.

Sold by Druggists, price 75c. per bottle.

"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.

In the Dairy.

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

A Good Jersey Cow.

EDITOR KANSAS FARMER:—My famous Jersey cow, Massena, dropped a fine heifer calf last week, looks as bright as a new dollar, carries a splendid udder, and milks nearly forty pounds a day, and on the 8th of March next, she will be 19 years old!

It will be remembered that, in her sixteenth year, Massena gave me over 8,000 pounds of milk, which made over 654 pounds of splendid butter, all within the year. Who can beat it?

I am proud to tell you that my little book, telling all about my Jerseys and dairy, has had a great success. The Ontario government bought 50,000 copies from me, to distribute free to the farmers, and the Quebec government bought a whole edition from me and translated it into French, sending me their check to-day. I have also filled orders for it from England, Australia and China. MRS. E. M. JONES. Ontario, Canada.

To Avoid Loss of Butter Fat in Churning.

Bulletin No. 22. of the Iowa Agricultural College Experiment Station, contains the reports of several investigations of unusual interest to the dairymen. Prof. Henry C. Wallace gives the results of eight months' study in churning in the attempt to find some way to avoid the loss of fat in the buttermilk. He found that much of this enormous loss was due to improper ripening of the cream and inability on the part of the butter-maker to tell when the cream was properly ripened. He found that by using an acid test, which is described in detail in the bulletin, a person of even limited experience could determine when the cream was in the best condition to churn. By using this test and regulating the temperature and the amount in the churn the loss of fat in the buttermilk was entirely avoided, not a trace being shown by the Babcock test. The experiment was conducted under creamery conditions with a 300-gallon churn, and covers a period of nearly eight months.

An "Old Bach" Butter-Maker.

Coming with the first settlers of 1882, I took the precaution to take with me two cows, thinking that milk in a bachelor's shanty would be a great luxury, and I was not disappointed. As the season advanced the cows gave large quantities of milk, more than we could use; often half of the milk was left standing in the pail and good, thick cream would rise to the top, and I often wished I could make some butter.

At last I heard of a neighbor, about four miles away, who had a dash churn, and as I was expecting a friend from Toronto I thought it would be a great treat to get some home-made prairie butter. I got the loan of my neighbor's churn, butter bowl and utensils. I had been saving the cream for about a week and had it in a small cellar under the shanty. The first day after it froze up I decided to churn. When I went to get the cream it was frozen hard, although the gophers had done all they could to keep it from freezing by covering it with soil that they had scraped out of their winter quarters. However, I did not despair. I scraped off the dirt with the butcher knife and thawed out the cream in the oven of the cook stove, and when I thought I had it at the right temperature I commenced my churning. After I churned fifteen minutes I began to look for butter, but none was in sight. I then put in some hot water and churned away again, when, to my surprise, the churn was full of white foam. I then thought the witch had got into it, so heated the wagon-rod red-hot and thrust it into the churn, but it did not have any effect. I then put in cold water and pounded away again, when suddenly the lid of the churn came off and the cream flew in all directions and some in a direct line with my face. It is some time since this occurred, but I think I remember saying something about churning and the cream that you

do not find in any book on butter-making. However, I went on again, adding cold water and then hot and then cold again, when suddenly I thought I detected in the white foam some particles of butter. I stopped churning at once for fear I might pound it away again. I then went to the well and got a pail of ice cold water and poured it in the churn, and instantly butter came in small grains about the size of shot. I never knew why that butter came, unless I gave the cream a sudden chill by dashing in the pail of water. By the aid of a piece of wire mosquito netting I separated the buttermilk from the butter and then gave it another cold bath. It looked very white, but this I attributed to the cold bath. I found it very hard and I could not get it to work very well, and as it was long past my dinner hour, I set it in the oven to warm a little, while I went to the stable to give the oxen some hay. A neighbor coming along, we talked of the price of wheat, railway prospects, and where we would get our wood for the winter, etc., and the conversation lasted a little too long for the butter, for when I went back to the shanty it had turned to oil of a pure amber color. This was the last straw, but I put it into cold storage and it made better bannock than the fat from over-date Chicago bacon, commonly called S—B—. I took home the churn, bought some butter from my neighbor, and never said a word to my friend from Toronto about the qualities of home-made prairie butter, nor my experience in butter-making. Every experience has its good effect. Since then I have read almost everything on butter-making, and now I am not afraid to try again, with the help of the latest improvement for separating, keeping and testing cream, churning and making up butter.—American Creamery.

Dairy Notes.

Many dairy farmers in Shawnee county have given up making butter for the winter, as they say oleo keeps the price of butter below the cost of production.

One of the most important meetings ever held in the interests of pure butter will convene in Washington, D. C., this month, under the auspices of the National Dairy Union.

Let every one interested in the passage of the oleo bill write a letter to their Senator or Representative, asking them to support the measure in justice to the dairy interests of the State.

"The Kansas Steer" was the subject of T. W. Harrison's very interesting paper before the State Board of Agriculture, at Topeka, last week. It is now in order to say something about the Kansas cow, which will be attended to later on.

A short time ago Prof. Wallace had a sample of yellow oleomargarine analyzed by Prof. Bennett, the college chemist. This sample had been bought by Dairy Commissioner Boardman, at one of the grocery stores in Des Moines. It was found to contain 10 per cent. pure butter. Of course, oleomargarine of this color was being sold against the new law and the Dairy Commissioner proceeded to make it so warm for the Des Moines grocers that they were glad to ship all of the stuff back to the manufacturers. Prof. Bennett recently analyzed a sample of the white oleomargarine, that comes within the requirements of the law, and it was found to contain only 4 per cent. pure

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butter, less than one-half as much as was found in the other sample. This shows the methods of the manufacturers of oleomargarine and effectually disposes of their argument that in making the yellow article they had no intention to imitate butter.—Farm and Dairy, Ames, Iowa.

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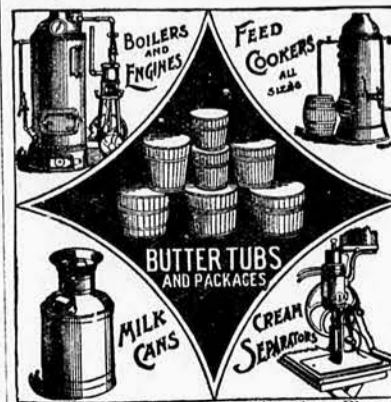
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KANSAS STATE SWINE BREEDERS' MEETING.

The Kansas Swine Breeders' Association met in regular semi-annual session on Monday, January 7, 1895, at the Hotel Throop club rooms, Topeka.

Among others on the program was Col. Eli Zimmerman, of Hiawatha, whose paper, "Are Public Sales an Advisable Means of Disposing of Pure-bred Live Stock," was read by Mr. Bellows.

In the discussion which followed, Mr. W. B. McCoy, of Valley Falls, looked with disfavor upon the public sale system.

The paper, "Feeding and Care of the Herd," by W. B. McCoy, of Valley Falls, was a good one, at least the writer so judged by the general expression of approval that it met at the hands of the meeting.

In the discussion following, Messrs. Cross, Bellows, Updegraff, Killough and others participated, and the subject of line breeding was discussed in about all of its possible phases.

The evening session showed up a larger attendance and more enthusiasm. The President, Mr. Berry, delivered his address, as follows:

"Gentlemen of the Kansas Swine Breeders' Association: It affords me great pleasure to congratulate you on your past year's success and that you are again in the presence of the association for mutual profit and benefit.

who tries to gain that eminence in unison with the sentiment expressed in the motto of our great State, 'Ad astra per aspera.'

After some preliminary routine the question of public sales of live stock was again brought up, and among others who spoke on the question was Col. S. A. Sawyer, of Manhattan.

The discussion on the paper, 'Is the Breeder of One Breed a Competent Judge of Another?' brought Mr. J. W. Babbitt, of Hiawatha, a Berkshire breeder, to his feet, who stated that the breeder of one breed ought to be a judge of a good animal belonging to any breed, though some few breeders never get beyond their own personal preferences.

Mr. C. J. Huggins, of Wamego, a breeder of Chester Whites, said that every breeder should be able to judge his own, but hardly thought that he would be the best qualified to judge of all the merits of another breed as against the actual breeder of the breed that should be under consideration for individual merit and special breed characteristics.

Mr. C. J. Huggins, of Wamego, read a paper, "Is the Raising of Pure-bred Stock Profitable for the Farmer," which was well received and caused quite an entertaining discussion.

The discussion came near bringing out a battle of the breeds, and it brought out all the merits and good qualities of the four leading breeds, viz., Poland-Chinas, Berkshires, Chester Whites and the Duroc-Jerseys.

can market is lard, hence the Mexican buyer prefers the Poland. The discussion, after nearly a score had had their say, closed good-naturedly, and every breeder apparently was, like the old woman that kissed the cow, 'every one to his notion.'

Several excellent papers followed, of which more will be given in the KANSAS FARMER later on. The proceedings on Tuesday were closed by a school of instruction on the mysteries of the score-card.

The meeting then adjourned. The next regular annual meeting of the association will be held on Thursday of the week of the next Kansas State fair.

W. P. BRUSH, Secretary pro tem.

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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 the 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. OHS, Manhattan, Kas.

CHRONIC GARGET.—I have a valuable cow that was troubled with garget, at intervals of about two weeks, all last summer; but now, after milking for over two years, she is about dry. She will be fresh in April and I want to know if I can do anything to prevent a return of the disease? C. K. P. Mankato, Kas.

Answer.—Avoid keeping your cow in too high condition, both before and immediately after calving. Give laxative, cooling diet. See that the calf sucks as soon as it is able to do so, and if it does not take all the milk it should be drawn away by hand. If there is the slightest tendency to garget give a pound of Epsom salt dissolved in half a gallon of warm water, then give a tablespoonful of saltpetre twice a day for a week. Bathe the udder twice a day with hot water, and after wiping dry each time, rub on some of the following: Gum camphor, 4 ounces; fluid extract lobelia, 4 ounces; olive oil, 12 ounces; mix. Do not allow the cow to be out in the rain or to lie on the cold ground at night.

Kansas Seed House.

Successful Kansas institutions are the pride of our patriotic citizens, and among these is the Kansas Seed House, owned by F. Barteldes & Co., of Lawrence, Kas. Our horticultural page gives a view of their new building and main warehouse, which has a frontage of 100 feet and a length of 120 feet, with three stories, or a total floor space of 36,000 square feet. This building is equipped with hydraulic elevators, five power seed-cleaners, besides a complete outfit of modern machinery for handling and recleaning seeds of every description.

For thirty-five years F. Barteldes & Co. have been doing an extensive seed business in Kansas and to-day the Kansas Seed House ranks among the largest and best in the United States, and their regular customers are to be found in every State. In addition to this, they have a large foreign trade with England, France and Germany. The English government has recently made some large purchases from the Kansas Seed House for their colonies in other countries.

The secret of this great Kansas success is that their seed is carefully tested and by their system of personal supervision of seeds sent out, they can satisfy any purchaser that their seed is reliable, fresh and genuine, a very important consideration for the planter.

We are in receipt of their 1895 catalogue, a handsome and useful manual of 100 pages, replete with illustrations and essential facts regarding late seed novelties, new grasses and forage plants, garden seeds, seed corn, potatoes, flower seeds, lawn grass, bird seed and flowering, clover and grass seed, field seed, non-saccharine sorghum, nursery stock, and ten pages are devoted to miscellaneous matters pertaining to the business. Any reader of this paper will receive this 1895 manual and catalogue free by sending a postal requesting it to the Kansas Seed House, Lawrence, Kas.

MARKET REPORTS.

Kansas City Live Stock.

KANSAS CITY, Jan. 14.—Cattle—Receipts since Saturday, 5,124; calves, 53; shipped Saturday, 1,454. The general market was about steady; bulls weak and 10c lower. The following are representative sales:

Table with columns for 'DRESSED BEEF AND EXPORT STEERS' and 'WESTERN STEERS'. Includes prices for various grades of beef and steers.

COWS AND HEIFERS.

Table with columns for 'COWS AND HEIFERS' and 'FED TEXAS AND INDIAN STEERS'. Includes prices for various grades of cows and steers.

TEXAS COWS.

Table with columns for 'TEXAS COWS' and 'STOCKERS AND FEEDERS'. Includes prices for various grades of Texas cows and stockers.

Hogs—Receipts, since Saturday, 5,291; shipped Saturday, 758. The market was active and steady to be higher, closing strong. The top was \$4.35 and the bulk of sales \$4.10@4.20.

Oil Vacuum Leather Oil. It won't mend broken leather, but will keep it from cracking. 25c. worth is a fair trial—and your money back if you want it—a swob with each can.

For pamphlet, free, "HOW TO TAKE CARE OF LEATHER," send to VACUUM OIL CO., Rochester, N. Y.

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Table with columns for 'against \$4.45 for top and \$4.05@4.20 for bulk Saturday'. Lists various grades of grain and their prices.

Receipts of wheat to-day, 13 cars; a year ago, 147 cars. Car lots by sample on track at Kansas City at the close were quoted nominally as follows: No. 2 hard, 53c; No. 3 hard, 51c@52c; No. 4 hard, 50c; rejected, 48c@49c; No. 2 red, 53c; No. 3 red, 51c@52c; No. 4 red, 50c; rejected, 48c.

Corn sold slowly and was about 1/4c lower. The receipts were not large, but there was more corn offering than for some time past, and demand was very poor. Iowa buyers, who have been getting corn here, are now able to get it cheaper from Illinois.

Receipts of corn to-day, 33 cars; a year ago, 103 cars. Sales by sample on track at Kansas City: No. 2 mixed corn, 2 cars 41c, 7 cars 40 1/2c, 3 cars 40 1/4c, 3 cars 40c; No. 3 mixed, nominally, 39 1/2c@40c; No. 4 mixed, nominally, 39c@39 1/2c; No. 2 white, held at 41 1/2c; No. 3 white, 2 cars 40 1/4c.

Oats were 1/4c lower. The receipts were larger than usual, and holders were more anxious to sell. Receipts of oats to-day, 20 cars; a year ago, 19 cars.

Sales by sample on track at Kansas City: No. 2 mixed oats, 2 cars 31c, 13 cars 30 1/2c; No. 3, nominally, 29c@30c; No. 4, nominally, 27c@28c; No. 2 white oats, 1 car 32 1/2c; No. 3 white, nominally, 31c@32c.

Hay—Receipts, 52 cars; market steady. Timothy, fancy, \$10.00; choice, \$9.00@9.50; No. 1, \$8.00@8.50; clover mixed, \$5.50@8.00; low grade, \$6.00@7.50; fancy prairie, \$8.50@9.00; choice, \$7.50@8.00; No. 1, \$6.50@7.00; No. 2, \$5.50@6.00; packing hay, \$4.00@5.00.

Kansas City Produce. KANSAS CITY, Jan. 14.—Eggs—Receipts light; the market is quiet but firm; strictly fresh, 15 1/4c.

Poultry—Receipts light; market for chickens is active and firm; hens, 5c; mixed springs, 5 1/2c; small, 6c@6 1/2c; roosters, 12 1/2c@15c; dressed chickens, 5c@5 1/2c; turkeys, scarce, firm; old gobblers, 4c; young, 4 1/2c; mixed, 5c; hens, 5 1/2c; dressed turkeys, dull, 5c@5 1/2c; ducks, firm, 5 1/2c@6c; geese, scarce, 5 1/2c@6c; pigeons, dull, 75c per doz.

Butter—Receipts light; the market is firm; extra fancy separator, 22c@23c; fancy, 19c@20c; fair, 18c; dairy, fancy, 15c@16c; fair, 13c@14c; fancy roll, 12c@15c; fair roll, 10 1/2c@11c; packing, steady, 7c@8c; old, 5c@6c.

Fruits—Apples, receipts light, supply small; the market is more active, steady; standard packed ranged from \$2.50@3.00 per bbl.; others, \$2.25@2.50; fancy stand, \$3.25@3.50; Jennettings, \$1.50@2.25 per bbl. Lemons, weak, \$3.00@4.25. Oranges, plentiful, weak; Mexican, \$2.50@2.75; Californias, \$2.65@3.25; Florida, \$3.00; frosted, \$1.25@1.75. Cranberries, firm; Cape Cod, \$10.00@11.00 per bbl.; Jersey, \$10.00@10.50.

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I will EXCHANGE for young CATTLE, KENTUCKY-BRED MAMMOTH JACKS! and Jennets, or will sell on long time at 6 per cent. with approved security. Call on or address JAMES C. STONE, Jr., Leavenworth, Kas.

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Feeders, Attention! WHAT ARE YOU DOING? FEEDING WHEAT INSTEAD OF CORN? EXPECT TO MAKE A HATFUL OF MONEY? We hope you will, and to help you do it we offer a friendly word of warning. Those who know, say wheat fed to farm animals acts as an astringent, and causes constipation; therefore something else must be combined with the wheat to overcome this difficulty.

TOPEKA LINSEED OIL WORKS, Topeka, Kansas. CHEAP IRRIGATED LAND GREAT SAN LUIS VALLEY, Easy Terms. CERTAINTY OF CROPS. Large Yields of Wheat, Oats, Barley, Potatoes, Alfalfa, Peas, Etc. ENORMOUS YIELDS OF VEGETABLES! Good Home Markets, Owing to the Nearness to the Mining Camps. ARTESIAN WATER EASILY OBTAINED.

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JOHNA. SALZER SEED & LACROSSE. GRASS AND CLOVER MIXTURES FOR MEADOWS. Luxuriant meadows, thrifty pastures, large hay crops, are the farmer's delight. Everybody can have them, no matter how poor the soil, by sowing Salzer's Extra Clover Grass Mixture. CORN, WHEAT AND POTATOES. This trio is invaluable on every farm. Our 25 Corn sorts will astonish you in yield, quality and earliness. We have a Spring Wheat doing exceedingly well in Mass., New York, Pa., Ohio, Tenn., Ky., Kans., and all Western States; and Potatoes! Why, bless you, we have sorts yielding from 400 to 1,200 bushels per acre. The editor of the "Rural New Yorker" gives us a yield of 742 bushels on our Early Wisconsin, and we have bigger yielding sorts too. SPLENDID VEGETABLES. We make a great specialty of fine early vegetables; so if you want these for sales ten to twenty days ahead of your neighbors and get fancy prices, ours are the sorts to plant. 55 pkgs. Earliest Vegetable Novelties, \$1, postpaid. Special Wholesale Market Gardener's List, 2c. NOW THEN, FOR 1895.—WE WILL MAIL YOU UPON RECEIPT OF: 5c. postage, our Mammoth Seed and Plant Book—worth \$100 to every Farmer. 6c. " " Seed Book, 144 pages, and pkg. 14-Day Paris Radish Seed. 7c. " " " " " and pkg. Salzer's Meadow Grass Clover Mixtures. 10c. " " " " " and pkg. \$500 Prize Oats, the Oat wonder of the world.

The Poultry Yard

CHICKENS AND GARDEN.

Both May Be Maintained Profitably on the Same Premises.

It is out of season now to make a garden, but it is a good time, these pleasant fall days, to put a chicken proof fence around it.

The conflict between chickens and garden is an old one, and one long drawn out. Some people regard the two as inconsistent and will not attempt both. They either have chickens and no garden, or else garden and no chickens. Yet, it need not necessarily be so. Both chickens and garden may be maintained in a thriving condition on the same premises. Only a little judicious fencing is necessary, that's all.

Now, let us tell you what we consider the best garden fence to put up where there are chickens about. Go to work and set posts ten feet apart; stretch a smooth wire at the bottom, as low down as possible; then stretch a similar wire up just five feet from the bottom one. Then get some good two inch mesh wire poultry netting, and stretch it around the inclosure, tacking it to each post, and tying it to the two horizontal wires every six inches or one foot. The wire netting should be five feet wide, the same as the two wires referred to.

This sort of a fence will keep the chickens, both old and young, out of the garden, for the chickens always look up for something to afford a foothold before flying a fence, particularly so when flying into a place instead of flying out. The wire netting stretched on wires affords no inducements for flying, and so the fowl that looks up to it for a foothold sees none to speak of, and does not try the experiment.

A fence of this sort and height named would hardly answer to fence or yard up poultry with, as the fowls being in a close place would naturally make more effort to get out than they would put forth to fly into a garden. Of course, when put up high enough, poultry netting is just the thing to yard fowls with.

The posts to such a fence should be at least a foot taller than the netting, and pointed at the top so as to afford no place for the chickens to alight in safety if they should try to fly the fence.—Southern Cultivator.

POULTRY AND BEES.

SIFTED coal ashes are better in the coop than wood ashes.

Do you know of a better debt-paying institution on the farm than a good flock of poultry?

If beginning in the poultry business be sure you get healthy stock or eggs from healthy stock.

BEEKEEPING is an important adjunct to horticulture and floriculture; much more so than is generally realized.

TEN or twelve hens well cared for will furnish more eggs than double the number of the same breed uncared for.

WHEN wood ashes are strewn over the henhouse floor the manure will lose much of its ammonia by the mixture.

LIKE every other business, poultry keeping must begin in a modest way and increase as circumstances warrant.

THERE is no better work for the children than to make them feel the responsibility of caring for the poultry on the farm.

If we are to keep poultry through the cold season cheaply, food sufficient for the time must be purchased in bulk when it is cheapest.

GREEN silage is a delicious food for poultry in the winter time and it ought to be just as profitable to raise and store this for the hens as for the cattle.

THOUGH a pound of bone will give as good results as four pounds of corn, we are not to infer that nothing but bones should be allowed. Give grain and green food, but make the green bone a part of the ration also.—Western Rural.

COUGHS AND HOARSENESS. The irritation that induces coughing is immediately relieved by using "Brown's Bronchial Troches." A simple and safe remedy.

Perches.

EDITOR KANSAS FARMER:—Proper roosting places are essential for the health and comfort of the fowls. These should all be in the house and be placed where the fowls will not be exposed to drafts. It is always desirable to have all of the poultry roost under shelter. If there is any exception it should be in the summer, when it is generally the case that there are more fowls than at any other time, and when the poultry house is crowded some may be allowed to roost outside for a time.

In arranging the roosts have them so that they can be readily taken down and out to be cleaned and to clean the droppings under them. Two-by-three or two-by-four scantlings planed smooth, make better perches than round poles. Have them all the same height; there is no advantage in room in placing one above another, while the latter plan encourages fighting among the fowls. Have them sufficiently far apart so that there will be plenty of room. It is unhealthy to allow the poultry to be crowded on the roosts. There is no advantage in having them high, while jumping down from them in the morning often causes bumble foot and deformed breasts. Two and a half or three feet is plenty high, and with the roosts all on a level and away from drafts the fowls can be kept comfortable. N. J. SHEPHERD. Eldon, Mo.

Skim Milk and Bran for Hens.

While little chicks should have no milk but that which is fresh, the hens may be given all the skim milk that they will consume, and we will include whey, curds or buttermilk. It should never be left in the pans, however, but should be cleared away as soon as the hens have satisfied themselves. The most satisfactory method is to use the milk for mixing the ground grain that may be used. One of the best mixtures for producing eggs is to take a pint of milk, stir into it a gill of linseed meal and then thicken with equal parts of bran and cornmeal until a stiff, crumbly dough results, which should be fed at night and the residuum removed. Bran is rich in mineral matter, and supplies substances more largely than can be derived from ground wheat or corn. It is not advisable to feed the hens ground grain in the morning, as they should be compelled to seek their food, and work, hence whole grains, well scattered, should only be given. At this season of the year one meal a day is amply sufficient.

Selling Eggs at High Prices.

After collecting the eggs for two or three days from a large number of hens, place them together and examine them closely. They will appear of different sizes, colors and shapes. Now assort them in different lots, and note the great change that has appeared. Each lot will be somewhat uniform, and will also be more attractive, while before they were assorted they possessed no advantages in appearance over eggs that may not be so fresh or desirable. The way to secure prices is to improve the appearance. Attractiveness is an important feature in selling, and applies to eggs as well as to anything else. Uniformity of size and color may be secured by assorting the eggs and selling each lot separately, which will induce a great deal higher prices.—Farm and Fireside.

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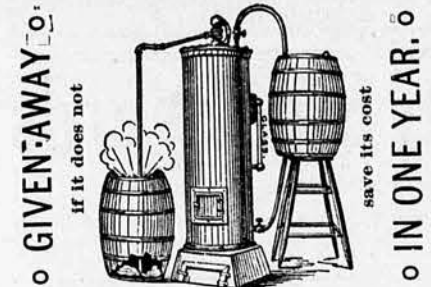
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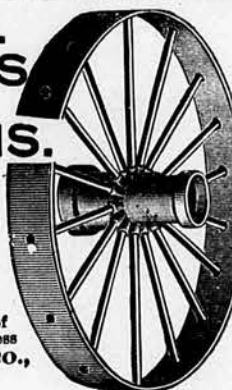
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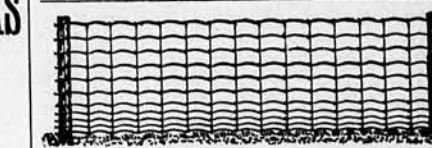


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IRRIGATION PUMPS.—For prices of irrigation pumps used by the editor of KANSAS FARMER write to Prescott & Co., Topeka, Kas.

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.

FARM LOANS—I have arrangements to negotiate loans with funds of a life company at a low rate of interest on long time. Correspondence solicited at 110 West Sixth Ave., Topeka, Kas. Milo Norton, Agent.

WANTED—To trade a \$50 scholarship in Pond's Business college for a good milch cow. W. B. Roby, 316 West Eighth St., Topeka.

LINSEED OIL MEAL (OLD PROCESS) FOR sale, car lots and less. Send for prices. Kansas City Grain and Seed Co.

YOUNG BULLS for sale. Short-horns and Herefords. Prices reasonable. Address Peter Sim, Wakarusa, Shawnee county, Kas.

WANTED—Car-load of 1894 alfalfa, German millet, cane and Evergreen broomcorn seed. Address Geo. A. Arnold, Box 146, Kearney, Neb.

CHOICE BARRED AND WHITE PLYMOUTH Rock cockerels; also White Holland turkeys. Mrs. E. P. Mason, Belle Plaine, Kas.

WANTED—Active salesmen to handle our Kansas home-grown nursery stock. Salary or commission. Good men can make good money. L. H. Corse, Lawrence, Kas.

DETECTIVES—We want a reliable man in every locality to act as private detective under instructions. Experience not necessary. Send for particulars. American Detective Agency, Indianapolis, Ind.

50 LIGHT BRAHMA COCKERELS—Feltch strain, that I will sell for \$1 each if taken soon. J. E. George, Burlingame, Osage Co., Kas.

CLOSING OUT—Entire stock of Hamburgs, incubators, brooders, bone-mill, clover-cutter, etc., on account of death of wife. J. P. Lucas, Topeka, Kas.

LAND IN THE BRAZOS VALLEY, NEAR HOUSTON, Texas, is now being offered in small tracts at \$10 and \$12.50 per acre, one-eight hecabs, balance seven years, 7 per cent. Do not rent when you can buy on such liberal terms. Reduced railroad fare to parties wanting to see this land. For full particulars write to John G. Howard, Topeka, Kas.

WANTED—Yellow and white millo maize seed by F. Barteldes & Co., Lawrence, Kas.

FOR SALE—We have farms for sale in almost every county in eastern Kansas and southwest Missouri; it will pay you to investigate our "cash rent plan" of selling farms; we can give you better terms than anybody; farms improved; possession soon; write at once; farms going fast. J. H. Brady, Topeka, Kas.

WANTED—The names of folks who like honey and want to buy it direct from the bee-keeper, where they can get it cheap and may know it is genuine. Oliver Foster, the Bee Man, of Las Animas, Colo.

SHORT-HORN BULLS FOR SALE—Sired by a son of Imp. Thistletoe. Address M. Walmire, Fountain, Kas. Station Carbondale.

WANTED—Farmers and others as agents to sell Eclipse Shaft Supporter and Anti-Rattler. Sells to every owner of a rig. Big profits. Enclose 2-cent stamp for circular. A. J. Spaulding & Co., Kansas City, Mo.

FOR EXCHANGE—Equity in 160 acres of good smooth Graham county, Kansas, land for Short-horn cattle. Land ten miles from county seat on Union Pacific railroad. For further information address Box 38, Rubens, Kas.

FARM FOR SALE OR EXCHANGE—640 acres in Morris county; first-class farm at bargain; all good buildings, no shells; house with ten rooms, bay window, good cellar, and other buildings, all new; all fenced and cross-fenced; some over hundred acres under cultivation; windmill, large tank, a never-falling well, cistern, young orchard, all smooth land; one mile from town, four railroads, car shops, elevators, mill, a good business town, all kinds of schools and churches; school on one corner, church on the other, but not on farm. Only sell because too much land; \$20 per acre. For exchange, not farther west than Morris county. For particulars write to proprietor, Box 151, Herington, Kas.

ALFALFA SEED. Fresh stock. W. P. Haywood, Lakin, Kas.

KANSAS CITY GRAIN AND SEED CO. Buy, sell, grain, millstuf, seed grain, millet, cane, Kafir corn, alfalfa, clover, timothy, flaxseed, popcorn. Kansas City, Mo.

FRESH ALFALFA SEED. Crop of 1894. MCBETH & KINNISON, GARDEN CITY, KANSAS.

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Chicks and Eggs for Sale.

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EVERYTHING IN THE SEED LINE.

Our Specialties: Seed Corn, Tree Seeds, Onion Seeds and Sets, Alfalfa, Sacaline, Lathyrus Silvestris, Sandvetches, Spurry, Kafir and Jerusalem Corn, and other new forage plants for dry and arid countries. NEW CATALOGUE MAILED FREE ON APPLICATION.

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Hitch A Horse To A Hoe. It's the up-to-date way of cultivating ground. But be sure and hitch him to the "PLANET JR." ALL STEEL HORSE HOE AND CULTIVATOR. Light, strong and easily controlled by convenient levers. Has separate parts for doing close hoeing, furrowing, or ordinary cultivating. Our free-for-all catalogue tells all about it. S. L. ALLEN & CO., Philadelphia, Pa.

The Kansas City Stock Yards

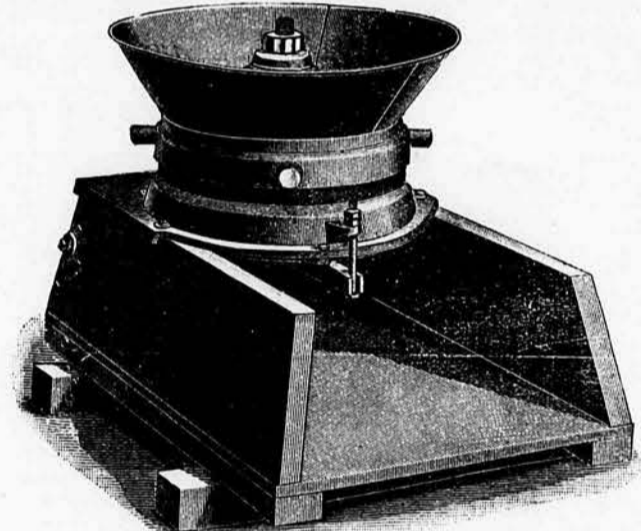
are the most complete and commodious in the West, and second largest in the world! The entire railroad system of the West and Southwest centering at Kansas City has direct rail connection with these yards, with ample facilities for receiving and reshipping stock.

Table with columns: Cattle and calves, Hogs, Sheep, Horses and mules, Cars. Official Receipts, 1894. Slaughtered in Kansas City, Sold to feeders, Sold to shippers, Total sold in Kansas City, 1894.

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, General Manager. E. E. RICHARDSON, Secretary and Treasurer. H. P. CHILD, Asistant Gen. Manager. EUGENE RUST, Gen Superintendent.

The "Eclipse" Sweep Feed Mill. FURNISHED COMPLETE WITH SWEEP.



This mill grinds ear corn, new, dry or damp; shelled corn, alone or mixed with other grain for chop feed, wheat, oats, etc., and is so arranged that the interior parts of the mill revolve with the revolutions of the team and the power is applied directly to the grinding parts, thereby making the draft very light. The finest mill for the money on the market.

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Farm for Sale---160 Acres! FIRST-CLASS FARM AT A BARGAIN.

All good buildings. House with six rooms, with large cellar. Two barns, one of them entirely new and cost \$1,200. Good bearing orchard of 150 apple trees and other fruit. Out buildings all in first-class condition. Two good, never-falling wells. One new windmill. Good fences of hedge, stone and wire on all sides of the farm, and also cross fences. Good shelter for stock on creek bottom. I will sell this farm at less than cost. Write me for further particulars, or, better still, come and see the farm, which is near Carbondale and within a half mile of school house.

LEONARD HEISEL, Box 11, Carbondale, Kas.

75,000 ASPARAGUS ROOTS.

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For full fattening. Also your Nannies, Ewes and Gip Dogs, with Howsley's Spaying Mixture. Easily used, quick, absolutely certain and safe. Price, \$3 per bottle; \$2 half bottle. One bottle spays one hundred head. Write for testimonials and particulars.

THE HOWSLEY SPAYING CO., Kansas City, Mo., or New Orleans, La.

5-Choice Cruickshank Bulls-5

We have or sale five choice Cruickshank bulls, 10 to 18 months old, suitable to use in any Short-horn herd. Prices low, quality good. Inquire of W. A. HARRIS & SON, Linwood, Kas.

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When a reduction draft of seventy-two head will be offered, without reserve or by-bid, to the highest bidder, consisting of about 30 bred sows and pigs of both sexes of summer and fall of 1894 farrow. The sows offered are by Sensation 25897, by One Price; El Capitan 10600, by Chief Tennessee 24; Young Model, by Admiral Chip; Longfellow 12173 and other high-class sires. The sow offerings have been bred to Wren's Medium 12387, by Happy Medium 8397 and to Corwin White Face 9324, a half brother to J. H. Sanders, that won first and sweepstakes at World's Fair. A major portion of the youngsters are by the line-bred Tecumseh boar, Royal Short Stop 10887, and by Kansas King 8911. Send for catalogue giving full and complete description. Terms: Nine months' credit with 10 per cent. from date; 5 per cent. off for cash.

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