

# KANSAS FARMER

ESTABLISHED IN 1863.  
VOL. XXXIII. NO. 20.

TOPEKA, KANSAS, WEDNESDAY, MAY 15, 1895.

SIXTEEN TO TWENTY  
PAGES--\$1.00 A YEAR.

## TABLE OF CONTENTS.

PAGE 306—THE STOCK INTEREST.—The Digestive Apparatus of the Horse—Some of Its Diseases and Their Treatment. Care of the Brood Sow.  
PAGE 307—AGRICULTURE.—Some Forage Plants. White and Yellow Corn. Special Money Crops.  
PAGE 308—IRRIGATION.—Irrigation in Osborne County.  
PAGE 309—IRRIGATION (continued).—A Centrifugal Pumping Plant.... Apple Tree Lice (*Aphis mali* Fabr.) in Indiana. THE FAMILY DOCTOR.—Catarrh.  
PAGE 310—THE HOME CIRCLE.—The Old Trundle Bed (poem). Ten-Minute Exercises. New Lamp Shades. For the Summer Cottage. Three Simple Designs. Languishing Ladies. Abridged History of a Courtship. A New Feminine Industry.  
PAGE 311—THE YOUNG FOLKS.—Grandma Land (poem). Pretty Pet Duck. Canine Life-Saver. Young Banjoists. Salt is a Necessity. Killing Jack Hares. Approved With Enthusiasm.  
PAGE 312—EDITORIAL.—The Tramp. Appropriation of Water. Corn Stalks.  
PAGE 313—EDITORIAL.—Weekly Weather-Crop Bulletin. Gossip About Stock.  
PAGE 314—HORTICULTURE.—Early Nursery Business. Fruit Problem in England. New Bordeaux Mixture.  
PAGE 315—IN THE DAIRY.—Inquiries Answered. Losses of Milch Cows from Winter Exposure. Good Butter.  
PAGE 316—THE BY-PRODUCTS of a Creamery. Feeding Grit to Poultry. The Evil of Overfeeding.  
PAGE 317—THE VETERINARIAN....Are Public Swine Sales Advisable? Market Reports.  
PAGE 318—THE POULTRY YARD.—Portable Fence. The Cause of Small Eggs. Keep Your Objects in View....Bees Divided Into Classes.

## BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the *Breeders' Directory* for \$15 per year or \$8.00 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.

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

### CATTLE.

**PEDIGREED** Holstein—M. H. Alberty, Cherokee, Friesians, Kansas.

**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 COTS.**—World Sheep.—Young stock for sale, pure-bloods and grades. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo.

### SWINE.

**FANCY** Poland-China—J. H. TAYLOR, Pearl, Boars and Glits, Kas.

**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**—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.

**A. W. THEMANSOON, WATHENA, KAS.**—Poland-China boars. Glits bred to Graceful F. Sanders; he is by J. H. Sanders 27219 and out of Graceful F. 63408, by A. A., by Black U. S. Sire and dam both first-prize winners at World's Fair and descendants of Black U. S.

**POLAND-CHINAS.**—Dietrich & Gentry, Richmond, Kas., have a fine lot of fall boars and sows and two very fine young sows bred that they will sell cheap. Breeding choice. Quality guaranteed. Write or come and see us.

### SWINE.

**V. B. HOWEY, Box 108, 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. Twenty-five sows, mostly aged, spring farrow. Orders solicited.  
H. S. DAY, Dwight, Morris Co., 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.

**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.

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

### CATTLE AND SWINE.

**ASHLAND STOCK FARM HERD OF THOR-**oughbred Poland-China hogs, Short-horn cattle and Plymouth Rock chickens. Boars in service, Admiral Chip No. 7919 and Abbottsford No. 2353, full brother to second-prize yearling at World's Fair. Individual merit and gilt-edged pedigree my motto. Inspection of herd and correspondence solicited. M. C. Vansell, Muscotah, Atchison Co., Kas.

### POULTRY.

**PURE-BRED LANGSHAN AND BARRED** Plymouth Rock eggs, one dollar per thirteen. Address Robert Crow, Missouri Pacific Railway Agent, Pomona, Kas.

**EGGS BY MAIL**—Are not allowed, but I will send eggs by express from Buff Leghorn, Buff Plymouth Rock or Silver Wyandotte at \$1.50 per setting. F. H. Larrabee, Hutchinson, Kas.

**EGGS FOR HATCHING.**—White Holland turkey, \$1.25 per 13; White Guinea and Plymouth Rock, 60c. per 13. Mark S. Salisbury, Independence, Mo.

**FIRE BURNED MY HOME**—And all my grain January 24, so I will sell all eggs from Knapp strain S. C. White Leghorns, \$1 per thirteen, \$2 per thirty. J. R. Cotton, Stark, Neosho Co., Kas.

**A. B. DILLE & SONS, EDGEMONT, KAS.,** breeders of choice B. P. Rocks, S. L. Wyandottes, Light Brahmas 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.

**EGGS, SIXTY-FIVE CENTS FOR THIRTEEN.** Combination best strains Barred Plymouth Rocks, Black Langshans, Buff, White and Brown Leghorns. For sale, young stock from Wren's Poland-China pigs. Write for prices. No better stock in the West. Zachary Taylor, Marion, Kas.

**BRONZE TURKEY EGGS.**—Average score of eighteen hens and toms 97½. Toms score 97½ and are from first premium stock at World's Fair. Eggs \$2 for 11. S. L. Wyandotte and S. C. B. Leghorn \$1.50 for 15. Mrs. F. W. Ives, Knob Noster, Mo.

**E. E. AXLINE, OAK GROVE, MISSOURI, (Jackson Co.)**  
**Barred Plymouth Rocks.**  
Bred from the best strains and judicious matings. Eggs \$1 per setting of fifteen. Satisfaction guaranteed.

**EGGS! FROM 98 POINT BIRDS!**  
SCORED BY JUDGE C. A. EMERY.  
98 score 35 lb. young Bronze tom mated to 97½ point 20 lb. pullets. Eggs \$3 for 9. B. P. Rocks and L. L. Brahmas, score 12½ to 94½, eggs \$1.50 for 15. Cornish Indian Game, score 12½ to 89½, eggs \$2.50 per 15. Who can beat these prices, quality considered? I have a handsome lot of fall Poland-China males good enough to go anywhere. Write. Mention FARMER.  
GEO. W. NULL, Odessa, Lafayette Co., Mo.

### SWINE.

**Thoroughbred Duroc-Jersey Hogs**  
Registered stock. Send for 44-page catalogue, prices and history, containing much other useful information to young breeders. Will be sent on receipt of stamp and address. J. M. STONERAKER, Paola, Ill.

**GEORGE TOPPING, Cedar Point, Kas. (CHASE 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.

**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.

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

**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.

**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 QUOROLLO, MOSCOW, MO.**  
Breeder and shipper of prize-winning  
**Large Berkshire Swine.**  
S. C. Brown Leghorns and Bronze Turkeys.  
Headed by King Lee II. 29801, Mephelopheles 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 32202. All selected and bred to head herds and to supply those wanting none but the best. Fall litters now can't be beat. Write or come visit me and see the herd.

**J. W. BABBITT, HIAWATHA, KAS.**  
BREEDER OF  
**Regist'd Berkshire Swine**  
45 in herd, headed by Lord Majestic 34768, a son of Imp. Lord Windsor 30461; dam Imp. Majestic 30459. 6 boars, 12 glits, by Model Duke II. 22467, and 9 fall of 1894 farrows, both sexes, for sale. Write or come.

**BERT WISE, breeder of Poland-China Hogs, Holstein Cattle and Barred Plymouth Rock Chickens of choicest strains.**  
Butler's Darkness No. 6346 S. and Ideal U. S. Nemo at head of swine herd. Only choice stock shipped on order. Sows bred and a few extra good young boars for sale. Three are out of my Orient sows. Write your wants. Satisfaction guaranteed.  
BERT WISE, Reserve, Brown Co., Kas.

**BERKSHIRE, Chester White, Jersey Red and Poland China PIGS.** Jersey, Guernsey and Holstein Cattle. Thoroughbred Sheep. Fancy Poultry. Hunting and House Dogs. Catalogue.  
S. W. SMITH, Cochranville, Chester Co., Penna.

**JOHN A. DOWELL'S HERD REGISTERED POLAND-CHINA SWINE.**  
Robinson, Brown Co., Kas.  
130 head, all ages, headed by Onward 5981 S., sired by George Wilkes. He is assisted by Tecumseh Wilkes, sired by General Wilkes 21927. The females belong to the best strains. Come or write.

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

**HOLSTEIN-FRIESIANS**  
Careme 2d's Jacob Prince of Twisk 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 glits either bred, bred if desired. Pigs shipped at my risk. Pedigrees furnished. M. H. ALBERTY, Cherokee, Crawford Co., Kas. Mention FARMER, AND POLAND-CHINAS.

**BARRED PLYMOUTH ROCKS EXCLUSIVELY.**  
All high-scoring birds. Have bred Plymouth Rocks for thirteen years. Yard headed by cockerels scoring from 92½ to 94 points, including a cock sired by the World's Fair winner, scoring 94 points by Pierce, and a 93½ point cock from I. K. Felch's yards. Have shipped eggs to all parts of the United States. Eggs \$1 per thirteen or \$2 for thirty. I guarantee satisfaction. Send for circular.  
D. B. CHERRY, Knoxville, Marion Co., Iowa.

### 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 Bear Real 11065 and assisted by sons of Cherry Boy 26475, Archibald 1st 30255 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.

### SWINE.

**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 9903 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 glits yet on farm. Write or come and visit me.

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

**BLACK U. S. AND WILKES**  
300 head, registered or eligible. Boars in service, Modest Duke 12653 S., Wilkes Tecumseh 11700 A., White Face 12081 O., and Osgood Dandy Wilkes 12709 S. 60 young boars; 80 glits.  
J. R. CAMPBELL & SON, Avilla, Jasper Co., Mo.

**A. E. STALEY, Ottawa, Kansas.**  
**CHESTER WHITES and POLAND-CHINAS.** Light Brahma eggs \$1.50 for 15.

**J. R. KILLOUGH & SONS, Richmond, Franklin Co., Kansas, POLAND-CHINA SWINE.**  
Headed by Upright Wilkes 13246 and assisted by J. H. Sanders Jr. 13739. Our brood sows are all richly bred and high-class individuals. A fine lot of fall pigs, both sexes, ready to go at reasonable prices.

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

**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.

**Evergreen Herd Poland-Chinas.**  
Winterscheidt Bros., Prop'r, Horton, Kas. Headquarters for Admiral Chip pigs. The great \$250 boar, Admiral Chip 7019, heads the herd, assisted by Kansas Chief 13676, Winterscheidt Victor 13294, Geo. Wilkes Jr. 11893. Also pigs from Orient's Success 27259 and Banner Chief 12714. Sows of following strains: Tecumseh, None Such, Wilkes Admiral Chip, etc. Prices reasonable. Write or come

**PLEASANT VIEW STOCK FARM. J. A. WORLEY, Sabetha, Kansas.**  
**Poland-China Swine, Short-horn Cattle, Light Brahmas and G. L. Wyandottes.**  
Herd headed by Anxiety 20251 A., assisted by Combination U. S. 13408 and America's Equal 12379. Have some choice fall pigs, both sexes, for sale, and a few Light Brahma cockerels. Eggs \$1 and \$1.50 per setting. Write. [Mention KANSAS FARMER.]

(Breeders' Directory continued on page 16.)



## The Stock Interest.

### THOROUGH-BRED STOCK SALES.

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

SEPTEMBER 6—Walter Latimer, Garnett, Kas., Poland-China swine.  
OCTOBER 4—Winterscheidt Bros., Horton, Kas., Poland-China swine.  
OCTOBER 9—Geo. W. Null, Odessa, Mo., Poland-China swine.  
OCTOBER 22—F. M. Lall, Marshall, Mo., Poland-China swine.  
OCTOBER 23—C. G. Sparks, Mt. Leonard, Mo., and G. L. Davis, Elmwood, Mo., Poland-China swine.  
OCTOBER 30—L. N. Kennedy, Nevada, Mo., Poland-China swine.

### The Digestive Apparatus of the Horse—Some of Its Diseases and Their Treatment.

By Dr. S. C. Orr, of Manhattan, Kas. (Veterinary Editor: KANSAS FARMER), read before the January meeting of the Improved Stock Breeders' Association.

As the digestive apparatus is that part of the animal organism through which all material intended for the building up of new tissue must pass before its desired result can be attained, it is very evident that some knowledge, not only of the structure of that apparatus, but of the functions of its various parts, should be made an essential qualification in those to whom the management of so important a piece of mechanism is intrusted. The animal body, whether of the human being or of the lower order of creation, being in constant operation from the beginning to the end of its existence, is continually wearing away by friction and decay, dying, as it were, while yet continuing to live. But, through the arrangement of an All-Wise Providence, with a fair understanding of the laws of health a proper balance may be maintained between waste and supply; decayed and cast-off particles are replaced by new and living tissues manufactured by the process of digestion and assimilation, from the various products of the soil furnished by nature for that purpose. And when we thus view the horse, man's most noble and obedient servant, as a living machine, with all its parts working in perfect harmony, every movement of body and limb a synonym of grace and beauty, every expression of the eye indicating an intellectual desire to do his master's will; and when we think of the ills which are too often the result of improper management of this truly wonderful machine, is it not to be regretted that the feeding, care and managing of so useful and intelligent an animal is often in the hands of the ignorant, the indifferent, and sometimes the brutal?

The digestive apparatus, as a whole, includes all the various organs of the alimentary canal, which, for convenience of description, is divided into the preparatory, consisting of the mouth, pharynx and esophagus; the true digestive, consisting of the stomach and the greater part of the intestines, where the food goes through the various changes and gives up its nutritive matter, and the organs of expulsion, through which all refuse is expelled from the body. Each of these parts has its accessories, of which only the most important require a short notice. In the mouth are the teeth—nature's mill-stones for grinding the grain—and the salivary glands which furnish saliva for moistening all food preparatory to going into the stomach. The first half of the horse's stomach is lined with a mucus-secreting membrane from which the food is further moistened after entering that organ. In the second half of the stomach are the follicles that secrete the gastric juice, which, mixing with the food, converts it into what is known as chyme, after which it passes out of the stomach into the duodenum or first of the small intestines, sometimes called the second stomach. Here the liver and pancreas lend their aid by pouring in the bile and pancreatic fluid, by the combined action of which the food undergoes the process of chylification, after which absorption begins to take place as the mass passes on its way through the intestines.

The equine stomach being very small compared with the size of the animal, proportionately less of the work of digestion devolves upon it alone than

upon the same organ in the ruminating animals; hence, abdominal diseases in the horse originate quite as often in some part of the intestines as in the stomach proper, while in the ox the large and complex stomach is generally the seat of the trouble.

Although the various afflictions of the digestive organs are known by different names, yet the prime cause from which these so-called diseases have their beginning, may be termed indigestion; and indigestion is almost invariably due to some error in the manner of feeding, to the quality of the feed, or to some deficiency in its preparation before entering the stomach. Improper mastication from ill-shaped, decayed or otherwise defective teeth in old, and sore and tender mouth from dentition in young horses, allowing coarse and hard food to pass into the stomach unground or insufficiently saturated with saliva; feeding upon mouldy hay or grain, or irregular feeding, even upon sound grain, are all fruitful sources of gastric derangement.

Grain of any kind, if finely ground and then made very wet with cold water and fed alone, unmixed with any coarse food, is liable to so chill the stomach and dilute its liquids as to allow fermentation of the food to take place; or, if an animal is given water to drink too soon after feeding, the grain will be washed out of the stomach into the intestines and the fermentation will take place there. Over-ripe hay or straw or coarse, woody corn fodder, if fed in abundance, with little or no grain, is almost sure to become lodged in the large intestines, and cause trouble in the form of impaction. As long as there is no violent pain from the formation of gas the symptoms may come on so slowly as to scarcely attract attention. But the careful observer will notice that his horse has a capricious appetite; sometimes it will be poor and at other times ravenous. There will be a foul odor from the mouth; the hair will be lustreless, rough and staring, and the animal will have a hide-bound appearance; the bowels will be irregular, generally constipated, but there may be diarrhea.

If these symptoms are noticed in time, a correction of the errors in the diet alone may restore the patient to a normal condition; but it is generally advisable to cleanse the bowels with a moderate dose of physic. If there is constipation, a dose of Barbadoes aloes—from six to eight drachms, according to the size of the horse—may be given. But if there is diarrhea, from one to two pints of raw linseed oil and one drachm of calomel should be given instead of the aloes. Following the purgative, a mixture of equal parts of powdered charcoal, bicarbonate of soda and powdered gentian root given in tablespoonful doses two or three times a day will soon restore the weakened organs to a healthy action. But too often the symptoms of indigestion are either unnoticed or neglected until the animal has a sudden and violent attack of colic.

Colic is of two varieties, which may exist singly or they may be associated together. The one is called flatulent, or wind colic, because of the accumulation of wind or gas in the stomach and intestines. The other is called spasmodic colic, and is generally supposed to be due to the spasmodic contractions of the muscular walls of the small intestines. The symptoms of the two varieties are in many respects the same. The horse paws, looks at his sides, jerks his feet up quickly and sometimes stretches out as if attempting to urinate. It is this last that often misleads the attendant into the belief that there is something wrong with his "water-works." But some other symptoms are very dissimilar. In flatulent colic there is great bloating or distention of the abdomen; the animal lies down carefully, stretches out upon the ground and throws its head back. In spasmodic colic there is little or no perceptible bloating; the animal stands at ease at times, then suddenly begins to strike with its feet, throws itself violently upon the ground, rolls and plunges for a few minutes, then gets up and stands quiet again until the pain returns.

But flatulent colic does not always

begin with severe bloating nor spasmodic colic with violent spasms at first, hence the first symptoms are very misleading to the inexperienced. In the beginning the horse will sometimes stretch himself upon the ground, with, apparently no flatulency at all. At this stage the accumulation of gas is only in the stomach, not having extended as far back as the large intestines yet and consequently does not show. But, if not relieved, it gradually increases until the symptoms of colic cannot be mistaken. Sometimes great flatulency and violent spasms combine in the same case, and such cases require prompt treatment, as there is danger of rupturing the stomach or some other part of the abdominal viscera, from the great distention and violent plunging together.

While it is always advisable in such cases to call an experienced veterinarian, yet as the progress of the disease is generally very rapid, such an individual cannot always be found in time, hence it frequently falls to the lot of the farmer or horseman to treat his own case. But the remedies which are most effective in the hands of the skilled veterinarian, as the preparations of morphine, eserine and pilocarpine administered hypodermically, and, in extreme flatulency, the operation of puncturing with trocar and canula, are only safe in the hands of those having a thorough knowledge of their uses and therapeutic powers; hence only simple remedies can be safely prescribed for the use of the general public.

In the treatment of either variety of colic, if much pain exists it may be relieved by giving two ounces of spirits of nitre, one ounce each of sulphuric ether and laudanum and one drachm of essence of peppermint combined and diluted with about six times its quantity of water. This dose can be repeated in an hour if necessary. Copious injections of warm water should also be given per rectum; and as soon as the pain begins to abate a cathartic of six to eight drachms of Barbadoes aloes should be given, unless there is already a diarrhea, and then a pint of raw linseed oil with an ounce of laudanum should be given instead of the aloes.

In protracted cases, where the pain continues for several hours, thus increasing the liability to inflammation of the bowels, a mustard plaster may be applied to the abdomen, as follows: Mix half a pound of the best ground mustard into a thin paste with warm water or vinegar; rub it well into the skin with the hand and then press a large sheet of paper down smoothly all over it and put on a blanket to keep it in place. If the mustard is of a good quality the horse will probably imagine in a little while that the colic has got on the outside of him; but a little frisking about will do him no harm if he is watched to guard against external injury. After the pain has all left him, the mustard should be washed off with warm water and a little clean lard or oil rubbed on. As soon as the patient will notice it, a pail of clean cool water should be placed within its reach. A horse often takes great satisfaction in playing in the water to cool off his parched lips and tongue, and there is no danger of his drinking too much. All grain should be withheld for at least twelve hours, and then he should begin with a light bran mash and be brought back to his feed gradually. A little hay to nibble at will do no harm at any time.

But, as it is said, "an ounce of prevention is worth a pound of cure," a few simple rules in regard to feeding may well be observed. Feed regularly on sound, clean hay and grain. Feed that has once become mouldy cannot be rendered fit for the horse's stomach by any purifying process. Always give water before feeding on grain and not soon after, and allow sufficient time to elapse after watering for the stomach to regain its normal temperature before giving grain. Keep salt where animals can get it at will; it prevents fermentation of food in the stomach and aids digestion. Make all changes from one kind of grain to another gradually. Sudden change from a heavy to a lighter diet will sometimes cause colic. If a horse comes into the

## Over Thirty Years Without Sickness.

Mr. H. WETTSTEIN, a well-known, enterprising citizen of Byron, Ill., writes: "Before I paid much attention to regulating the bowels, I hardly knew a well day; but since I learned the evil results of constipation, and the efficacy of



### AYER'S

Pills, I have not had one day's sickness for over thirty years—not one attack

that did not readily yield to this remedy. My wife had been, previous to our marriage, an invalid for years. She had a prejudice against cathartics, but as soon as she began to use Ayer's Pills her health was restored."

## AYER'S Cathartic Pills

Medal and Diploma at World's Fair.

To Restore Strength, take Ayer's Sarsaparilla.

stable tired and hungry let him rest and eat hay for an hour before feeding on grain, and if a handful of oat or corn meal is stirred into a gallon or two of water and given to drink, it will give tone to the stomach. And when a horse comes in an hour or two past his regular meal time, give only a part of a feed of grain and wait until the next regular meal time before a full feed is given. Hay should be allowed before grain, but not soon after, as it crowds the undigested grain out of the stomach. If a horse is not at work turn him out every day for exercise; no amount of feed will keep a horse healthy without exercise. And last, but not least, avoid the habit of continually dosing a well horse with condition powders, with the mistaken idea that he ought to have something to keep his blood pure. Wholesome food, sunshine, pure air and exercise are nature's own blood-purifiers, and when they are properly administered a horse seldom needs any other.

### Care of the Brood Sow.

I notice some discussion in your columns regarding the brood sow after farrowing. I am glad to see this exchange of ideas. We should learn from each other to a considerable extent. I never feed my brood sows for twenty-four hours after farrowing. I take care to prevent anything disturbing them or their pigs. Try to have them remain as quiet as possible. I assist the little fellows to a teat apiece and thus avoid their fighting and biting the sow. I treat the sow as kindly as I know how, for there is absolutely nothing to be gained by scolding or abusing her should she not do as you would like her to. The second day I give her a drink of clear, cool water, as much as she wants. If the sow is in good condition she will furnish plenty of milk for the pigs for five or six days without them proving a tax upon her. I allow the sow to eat all the afterbirth and stuff that attends the birth of the pigs. Some do not do this, but I have never had any ill effects, or a pig-eating sow, when I have allowed this. On the other hand, once or twice I have thrown away this accumulation and both times I have had bad results. It is nature. I gradually increase the food of the sow, both in quality and quantity, aiming to give a good deal of bran, for, if it makes milk in the cow, why not in the sow? I do not try to raise fat, chunky pigs, but long, rangy ones, with bone and muscle.—John B. Thompson, in Western Swineherd.

FOR COUGHS, ASTHMA AND THROAT DISORDERS, use "Brown's Bronchial Troches." Sold only in boxes. Avoid imitations.



## Agricultural Matters.

### SOME FORAGE PLANTS.

Prof. C. C. Georgeson, in Agricultural College Bulletin No. 48.

**Crimson Clover.**—We have grown small areas of crimson clover for several years, and the effort has invariably resulted in failure. Being an annual plant, and a reputed nitrogen-gatherer, it was thought expedient to introduce it in one of the rotations under experiment, but it was found to do so poorly and yield so little that it was practically worthless. It can neither stand our dry summers, nor the cold of our winters. When sown in late summer, as is the practice in the East, where this plant is in favor, we found that only a small per cent. would survive until spring. In no case has it compared favorably in yield or hardness with the common red clover. In the eastern counties of the State it may do better, but even there I should not expect it to be worth cultivating, when red clover is so much surer. This has been the tenor of the answers given to numerous correspondents, who, having read the glowing reports of this plant from the East, were anxious to learn what it would do here.

**The Flat Pea.**—This new forage plant has been grown at the station on a small scale for the last two years. We had difficulty in getting a stand from the seed. It germinates slowly, and frequently fails altogether. However, when once established, the plants appear to be quite tenacious. Our young seedling plants withstood last summer's drought and the present winter's cold satisfactorily. The greater number of them are alive at this writing. We have not had fodder enough from them to ascertain their feeding value, but if it can withstand the adverse conditions of the past twelve months, there is some hope that this plant may be useful.

**Vicia Vilosa (Sandvetch).**—This is an annual plant which has been advertised somewhat extensively during the last few years. We grew it on a small scale this past season; the seed germinated promptly and the young plants grew well for a while, but when the hot, dry weather set in they curled up and died. The plant does not appear to have any value for Kansas; certainly not in unfavorable seasons.

**Sacaline.**—Concerning this plant I can, perhaps, not do better than repeat what I said in the *Industrialist*, which is as follows:

Many inquiries suggest the propriety of recounting our experience with this new so-called "forage plant," which is being so widely advertised by seedsmen during the present season. This plant was called to our attention a year ago by the reports of a French experimenter, which were partially reprinted in one or two of the leading agricultural journals of America. He called attention to the extraordinary growth of this plant, which he estimated, on the basis of a very few specimens, to have yielded as much as 180 tons of green forage per acre in one season, and stated that cattle to which it had been fed ate it with avidity. It was noted, however, that it grew on rich, moist soil, and it evidently had plenty of room and good culture.

The plant reported on by the Frenchman was said to be from the island of Sachalin, in the sea of Okhotsk, north of the Japanese group, and was a wild species of the buckwheat tribe (*Polygonum sachalinense*). It is to be noted that its home is in a cold, moist climate, where the winters are extremely severe, the rainfall heavy, and the atmosphere at all seasons moist. It is also listed among the thirty-four distinct species of *Polygonum* found in Japan, the conditions here as to moisture being the same as further north, though the temperature is more moderate.

A plant of such extraordinary productive powers, as stated in the French report, with possibilities for usefulness as a forage plant, deserves to be investigated. We therefore procured a dozen plants from Pitcher & Manda, a nursery firm of Short Hills, N. J., and planted them out in April last. The plants, or rather roots, started to grow promptly, but a late

mild frost killed the shoots to the ground after they had reached the height of six to nine inches. One-half of the plants did not start to grow again; the remaining six sent up feeble sprouts, which reached a height of eighteen to twenty inches before the severe drought of the past season set in, in the latter half of July. When the hot, dry weather came they ceased to grow, lost their leaves and apparently succumbed completely.

This is the brief history of one season's trial at this station with the much-talked-of, over-advertised "sacaline." The results do not hold out much promise of enormous yields of palatable and nutritious green fodder, which most seed catalogues would lead us to believe this plant will furnish. On the contrary, it seems to be entirely unsuitable to the dry, hot climate of the Western States, and the facts as to the climatic conditions of its native habitat would seem to explain its behavior here. One point difficult to understand is, why a plant which has its home in Siberian latitudes should be so sensitive to a very slight frost as ours proved to be. It leaves room for the suspicion that we may not have had the genuine article, but instead a tender species from some Southern region. We have recently procured seed from two distinct sources in order to give the plant another trial, but I have but little hope of more favorable results than last season. Whatever it may do in moist climates, I do not believe that a plant from that region can be of any signal value as a forage plant in a dry, hot climate like ours. The seed is imported from Japan, and is costly; and I would advise those farmers who have been prepossessed in favor of this plant by the extraordinary statements in seed catalogues to await further developments before they invest much money in it. Should further trials show it to be a good thing, it will be time enough to get a start in it.

I may add that, while in Japan some years ago, I frequently saw a coarse species of polygonum growing in the volcanic sand and scoria in gulches and mountain valleys. It corresponds to the description given of this "sacaline." It is a coarse weed, six or eight feet high, and would be one of the last things a farmer would pick out as a forage plant, and if it had any value as such, the Japanese themselves did not know it. Whether it was *sachalinense* or some allied species I am unable to say, but I suspect that it is the plant which furnishes the seed now being sold here under the name of "sacaline."

### White and Yellow Corn.

Whether the yield of corn is affected by color, and whether the white or the yellow varieties produce the greater yield, has always been a matter of dispute. In order to secure definite information in regard to this the Mississippi Experiment Station has made 138 tests with forty-five varieties of dent corn. As a result of this work the seventy-five tests with twenty-five white varieties have given an average yield of forty-three bushels per acre, while the sixty-three tests with twenty yellow varieties have given an average of only 38.2 bushels per acre. These total averages coincide very closely with the partial results published in several of the annual reports, and which were as follows: In 1890 the yield of seventeen white varieties was 44.6 bushels per acre, while fifteen yellow varieties gave 37.1 bushels. In 1891, twenty-five white varieties yielded 37.5 bushels, while eighteen yellow varieties yielded 34.9 bushels per acre. In 1892 the yield of eleven white varieties was 45.2 bushels, while the same number of yellow varieties gave only 40.5 bushels per acre. In 1893 and 1894 the tests were continued with twenty-two white varieties, yielding 42.7 bushels, and nineteen yellow varieties yielding 39.1 bushels per acre. During each year of this work the two varieties giving the heaviest yields were both white, though not always the same varieties.

These results have been so uniform, and have indicated so strongly that the better yield can usually be secured from the white varieties, that the pub-

lished records of similar work done at other stations have been examined very carefully, and have been found to correspond very closely with the results secured at this station.

These figures show that in a total of 1,267 tests with 490 varieties, the average yield of 217 white varieties has been 2.5 bushels per acre in excess of the yield of 273 yellow varieties; and that at only one of the seven stations making these tests have the yellow varieties given the better average yield. At six of the seven stations some one white variety has given the best yield, and of the thirty-five varieties named as giving the best yields at the different stations, twenty-four are white and only seven are yellow.

Such an agreement in results over such a wide area, and secured by such a large number of careful tests, cannot be accidental, but shows very plainly that it is usually possible to secure greater yields from white than from yellow varieties.

Full details of these experiments are published in Bulletin No. 33, copies of which can be had by addressing the Director of Experiment Station, Agricultural College, Miss.

### Special Money Crops.

In considering the production and handling of special money crops, Clarence Downing, of Deerfield, Kas., says: ALFALFA HAY.

We take, for an example, one acre, producing five tons, as an average yield; \$1.25 per ton, or \$6.25 in all, is the amount required to produce the hay, harvest and place in stack. For feeding, we select three steers, the number required for consumption of the hay in two months. The stock should be in fair flesh, not fat, as the hay is intended to fatten them. This grade of stock can be purchased, usually, at \$2.25 per hundredweight; the weight we will say at time of purchase is 1,000 pounds each, or 3,000 pounds in all; consideration, \$67.50. At the close of sixty days, with proper care, a gain of fifty pounds per head per month, or a total gain of 300 pounds, will be obtained. Now our stock is ready for market; being in good flesh originally, is fat now. The gain while adding 300 pounds to the original weight also adds an additional value of \$1 per hundred, fat stock commanding a better price. Present weight of stock, 3,300 pounds, at 3 cents, \$99, leaving a gross receipt for the hay of \$31.50. [The addition of \$1 per hundred would make the stock worth \$3.25 per hundred, or \$107.25 for the three steers, and the \$8.25 additional would go to the net returns.—EDITOR.] A reasonable compensation allowed for feeding stock, which largely depends on available facilities, yet to strike an average would not exceed 60 cents per head per month, or \$3.60 in all. This, together with the cost of producing and harvesting the hay, which is \$6.25, makes a total expense of \$9.85, which leaves remaining \$21.65, the net profit to be derived from one acre of alfalfa hay properly fed to stock.

### ALFALFA SEED.

The growing of this most desirable crop is so generally known, and its accompanying receipts so large in most instances, that we consider it the leader of modern agriculture. We find quite a range of results, however, so we will present what we consider an average income from one acre of alfalfa, second crop, seed; first and last crops hay; the past year's market, the gross receipts: Two and one-half tons hay at \$3 per ton in stack, \$7.50; seed crop, four and one-half bushels at \$3.50, \$15.75; alfalfa straw, one and one-half tons at \$1.50, \$2.25. Total receipts, \$25.50; cost to produce entire crop and place in stack, rate \$1.25 per ton, \$5; entire cost to thresh seed, \$2.70; total expense, \$7.70; leaving a net profit of \$17.80 per acre. Considering the large acreage grown this is undoubtedly the leading money-making crop at the present time.

### THE VINE SEED INDUSTRY.

The growing of vine seeds is a new enterprise for southwest Kansas, and while it can in no wise be entered into by all the farming class, owing to limit of contracts, yet the results we know personally to be in almost every instance very satisfactory. The advantage of a dry climate in drying vine

## Long-lasting

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

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

seeds, and the aid of irrigation in their production, make this locality especially adapted to this new money-making crop. The kinds of seeds grown at present are squash, melon and cucumber seed. Not being personally acquainted sufficient to give net figures on the squash and cucumber seed-growing, we will only quote gross receipts, which range from \$20 to \$36 per acre, varying principally on account of stand obtained, varieties grown and different manner of caring for the crop. As a sample illustration of receipts of an acre of watermelons for seed purposes, we give the following:

Preparing ground.....	\$ 1.50
Stock seed.....	.25
Planting.....	.50
Cost of harvesting.....	4.50
Cost of irrigation.....	1.25
Usual transportation cost.....	3.00
Entire expense.....	\$11.00

The usual yield is 260 pounds of clean seed per acre, and at 10 cents per pound brings a gross receipt of \$26, allowing a net profit of \$15 per acre. Muskmelon seed usually commands an additional 2 cents per pound. The yield and cost per acre to harvest being almost equal, gives a slight figure in favor of the latter.

From practical experience we find a fattening property contained in muskmelons capable of producing a gain of forty to fifty pounds on ordinary hogs during the harvesting season, which is usually two months. This is almost a clear profit, the only expense being the labor of hauling, which is only a trifle to the experienced grower.

Buckingham's Dye for the whiskers is the best, handiest, safest, surest, cleanest, most economical and satisfactory dye ever invented. It is the gentlemen's favorite.

### Union Pacific Route.

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

### Removal of Ticket Office of New York, Chicago & St. Louis (Nickel Plate) Railroad.

On May 1, the Chicago city ticket office of the New York, Chicago & St. Louis railroad (Nickel Plate Road) will be moved to No. 111 Adams street, opposite the post-office.

J. Y. CALAHAN,  
General Agent.

### Homes for the Homeless.

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

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

### New Dining Car Service.

It is a pleasure to note the addition of another important feature to the already competent train service of the Nickel Plate Road. The Dining Car service of this popular low-rate line has recently been augmented, by which dinner will be served on train No. 6, leaving Chicago at 2 p. m., daily, and breakfast and dinner on train No. 2, leaving Chicago daily at 9:20 p. m., with direct connections for New York and Boston. Breakfast and dinner will be served on train No. 5, arriving at Chicago at 9:35 p. m., from New York and Boston. For full information regarding routes, rates, maps, folders, etc., address your nearest ticket agent or

J. Y. CALAHAN, General Agent,  
Chicago, Ill.

"The Farmer's Ready Reference, or Hand-Book of Diseases of Horses and Cattle." Descriptive circular free. Address S. C. Orr, V. S., Manhattan, Kas.



## Irrigation.

### IRRIGATION IN OSBORNE COUNTY.

EDITOR KANSAS FARMER:—After an absence of six months from the State in eastern Pennsylvania, I returned to my home in Topeka, a few weeks ago, and a few days later, at the call of business, I visited Osborne county. There I came in contact with a vigorous irrigation current which was surprising, and which was so refreshing and invigorating to me that for the time being I forgot all about the loss of the wheat crop in our county. The fact is, the idea, with all its surprising glory, is beginning to dawn upon our people in Osborne county that every farmer who has even one acre irrigated need not suffer for the necessities of life, even though the wheat gods and the corn gods should foolishly conclude to go off on a journey together.

I was, indeed, lost in a wilderness of amazement when told of the results of irrigating in our county last year, and of the progress made in the extension of irrigation plants in all parts of the county this year. It seemed like a dream that so wonderful a change in the outlook of our county should come upon us in so short a time as one year.

A new luminary has appeared above the horizon in the agricultural world, whose benignant rays fall like a benediction upon all the thirsty land. From Maine to California, men are lifting gold in liquid form from beneath their feet and transforming it into beautiful lawns and fruit and flower and vegetable gardens, which are no longer the exclusive heritage of princely men in lordly mansions. The every-day man now may revel in the delights of a beautified home, much the same as the man of more pretentious means. But I am wandering. Let us return to Osborne county.

Several hundred farmers, I am told, are irrigating gardens this year, while scarcely one was found a year ago, and the reason why is this: For several years the irrigation tidal wave has been rising, and last year the citizens of Osborne and other towns commenced irrigating gardens, and the results were so marvelous that farmers bid farewell to their prejudices and fell in line with the new idea. They began to utilize their surplus well water for irrigation purposes. Every farmer who is worthy of the name has a windmill, and the additional expense for irrigating a quarter or half acre is trifling. If tiling, even, is used, which seems to be preferred for gardens, the additional cost need not exceed \$15 for a quarter acre. A party in Osborne said to me that last year he laid sixty feet of tiling, at a cost of \$1.50, and that he had grown from that small area all the garden vegetables needed for his own family and considerable to spare. No one but a fool can resist the force of that argument. Our farmers are not fools. They have gone to irrigating. Some are putting in large plants, calculated to irrigate from five to forty acres.

When water is taken from streams and there is no special need for economy in its utilization, the usual method of surface application is adopted; but for irrigating gardens and generally when water is taken from wells and economy in its use is regarded important, sub-irrigation by means of tiling seems to be most satisfactory. And since the water available for irrigation in Kansas for the most part lies below us and must be lifted from wells, it is important to get all the information available from those who have been and are now experimenting on that line.

#### ANDREW LINN'S SUB-IRRIGATION PLANT.

In his experiments in sub-irrigation by means of tiling, in 1894, Andrew Linn, of Osborne, became thoroughly convinced that that is the ideal method of manipulating water for plant growth, and, accordingly, last September, he proceeded to put in a sub-irrigation plant for the irrigation of a fruit and vegetable garden containing about three acres.

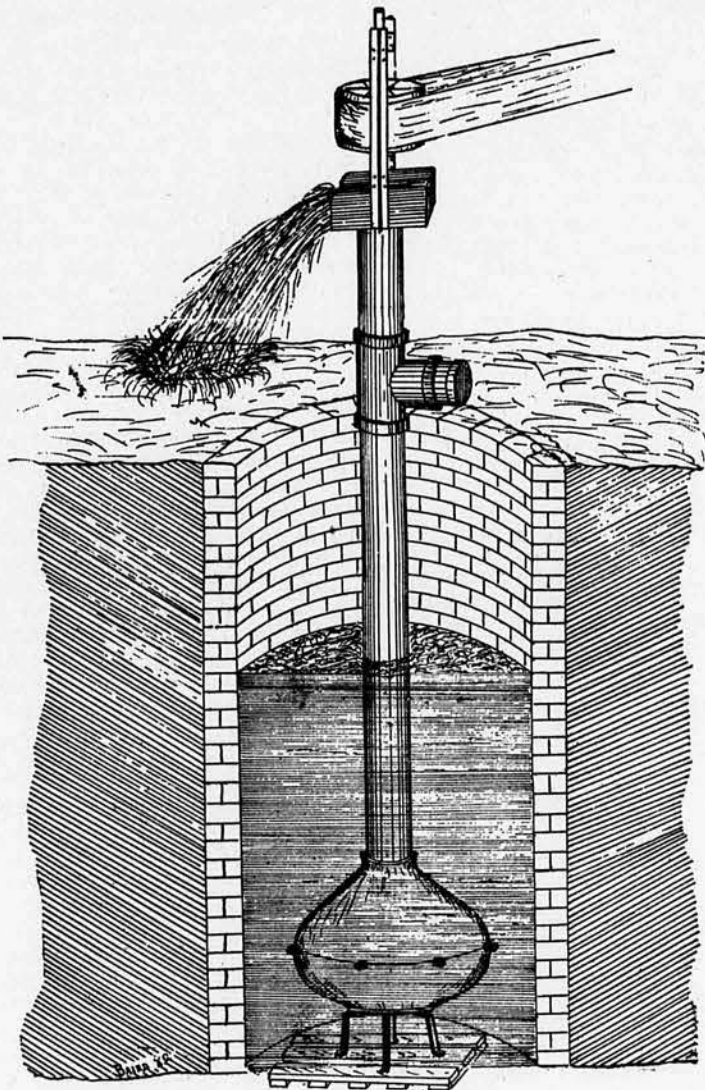
Ground was plowed, September 10, 1894, six inches deep, and subsoiled

about eight inches, altogether stirring the soil to the depth of fourteen inches. Ground was plowed north and south and tiling laid east and west. Land tips slightly to the east and south, and an arrangement is made to turn the plant, when there is too much water from excessive rains, into a drainage system. Three-inch tiling are laid fifteen inches below the surface and ten feet apart. Drainage tiling are used, but so hard that comparatively little water passes through the pores, the outlet being at the joints. Mr. Linn says his experience last year taught him that it was necessary to cement the joints, with the exception of about one inch, which is sufficient outlet for the water. This outlet he leaves on the under side of the tiling. If no part of the joint is cemented the water flows out too rapidly and is not so evenly distributed over the soil. Whether the roots of plants to be grown will find out this opening in the joints and cause trouble remains to be determined by further experiment. Mr. Linn says he laid and cemented, in ten days, all the tiling himself, covering an area of two and a half acres. The ditches for tiling were made with

of laying the tiling for the conveyance of water to the soil to be irrigated.

The water is carried from the pump in a wooden conductor, and flows into a barrel sunk into the ground, about ten feet away. A four-inch sewer pipe, conducting the water from this barrel, is laid in four sections, extending southward across the west end of lot to be irrigated. At the end of each section (not shown in cut) the pipe discharges its water into a barrel, also sunk into the ground. From this barrel a three-inch pipe is laid eastward, eight feet in length, where it communicates with a three-inch pipe, extending north and south fifty feet. To this pipe are connected, in each of the four sections, as shown in cut, five three-inch drain tiles, extending eastward entirely across the three-acre lot and ten feet apart. The lot is so divided into sections, each separate and independent of the others, because some plants require more water for growth and maturity than others, and having a section planted to the same kind of vegetables as much water may be applied as the needs of the plant require and no more.

Mr. Linn grows garden vegetables—

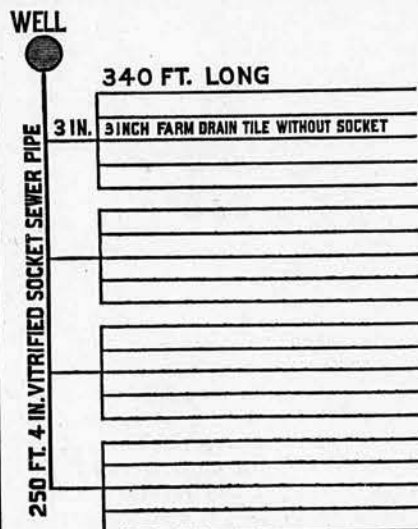


THE LIGHTNING IRRIGATION PUMP.

Manufactured by KANSAS CITY HAY PRESS CO., Kansas City, Mo.

lister plow and spade.

Mr. Linn has an open well, forty-three feet deep, a five-inch Gause pump and a Gem windmill. Capacity of pump about twenty gallons per minute. Pumping twenty gallons per minute does not lower the water in the well. The cut below shows the plan



By courtesy of the Dickey Clay Manufacturing Co., Kansas City.

onions, cabbage, tomatoes, pieplant, celery, and all else that usually grows in a garden. Besides, he devotes a liberal area to small fruits—strawberries, raspberries, blackberries, grapes, etc.

The plant being furnished and ready for business, Mr. Linn turned the water on the lot about 1st of October, and during the fall and winter the mill and pump were kept steadily at work when there was sufficient wind. I was informed by Mr. Linn that he had ascertained by actual test that the subsoil was thoroughly saturated with water to the depth of six feet, and that he believed that the saturation extended many more feet downward. Now, with this immense storage of water down below, but little additional moisture will be needed during the summer for the highest perfection in plant growth.

Mr. Linn now believes that his plant has capacity sufficient to irrigate twice the area he now has and probably more,

since the storage of water in the subsoil can be carried on during the fall and winter of each year. Experimental work only, continued through a number of years, can determine this.

The cost of a sub-irrigation plant over the cost of a plant for surface irrigation is greater only to the extent of the cost of the tiling. The cost of the tiling for Mr. Linn's plant, covering two and a half acres, is \$160, or \$64 per acre. He paid 2 cents per foot for tiling. The same tiling can be delivered now in Osborne for \$16.50 per 1,000 feet—a little over 1 cent a foot—and if tiling were manufactured in Osborne it is believed they could be had for 1 cent a foot. The tiling of Mr. Linn's lot at 1 cent per foot would cost only \$32 per acre, and, further, Mr. Linn says he believes the tiling might be laid sixteen feet apart, certainly for some crops, instead of ten feet, as he has them; and, indeed, since there is, as I saw myself, about an equal amount of moisture midway between the tiling, we are unable to tell except by experiment how far tiling may be laid apart and yet have practically an even distribution of moisture. It depends on the character of the soil, and especially the subsoil. With tiling at 1 cent per foot and laid one rod apart, the cost of tiling one acre would be \$26.40.

Here is a prolific field for investigation and experiment. Enter it. Don't wait on the State. If you have water, use it. Find out what you can do with it, either by the old-fashioned way or by the new way of applying it to the soil. The sooner the problem is solved the better for us individually and the better for the State. M. MOHLER.

#### A New Irrigation Pump.

The subject of irrigation is one which is of more than ordinary interest to most of our readers; the subject is one on which volumes have been written and which is discussed by farmers at every opportunity. Manufacturers and scientific men have devoted much time trying to discover a more satisfactory method of supplying large quantities of water with least expense. While at the works of the Kansas City Hay Press Co., at Kansas City, a short time ago, we had the pleasure of seeing in operation a new pump they are just placing on the market, and which we here illustrate, and which is known as their Lightning Irrigation Pump. In construction and operation it is different from anything we have seen, there being absolutely nothing to get out of order. It is made by having a cast-iron shell, with legs attached, which is placed in the bottom of the well or stream from which the water supply is obtained; in the bottom of this is an opening in which is placed a chilled iron runner, attached to a perpendicular shaft, at the top end of which power is attached by means of belts. At the top of the iron shell, pipe is attached, varying in size according to the requirements, a six-inch pump having a six-inch pipe; thus the water is lifted to the desired height through this pipe by centrifugal force. The supply of water depends upon the velocity of the runner. The manufacturers claim that a six-inch pump run to its capacity will lift 120,000 gallons of water per hour, and after seeing it operate we have no wish to question it. It certainly throws a river of water. There is no complicated machinery in its construction; nothing to get out of order; freezing does not affect it; it is only necessary that the opening in bottom of shell should be kept open. The power may be obtained from either steam or gas engine.

Those of our readers who are interested in pumps for irrigation, will do well to write this firm for complete catalogue and prices, both on their irrigation pumps and also on their centrifugal pumps.

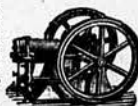
## DRAIN TILE

W. S. DICKEY CLAY MFG. CO.,  
20th and Main Sts., Kansas City, Mo.

## IRRIGATION.

## WEBER GASOLINE ENGINE

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





### A Centrifugal Pumping Plant.

Hearing that Wm. Rose, of Sterling, Rice county, had erected a pumping plant, with a thresher engine for power, and knowing him to be a close observer, we wrote him a series of inquiries, to which he returned answer as follows:

1. "What is the size number of your pump?" No. 5, with a six-inch suction and discharge.

2. "What is your lift?" Seventeen and one-half feet perpendicular and four feet slant to get to water, twenty-one and one-half feet in all.

3. "How much water are you throwing per minute?" One thousand five hundred gallons. As long as we had a foot valve on it did not throw over 1,000 gallons, but after I took the valve off it threw one-third more. It is now open at bottom.

4. "How much coal do you consume per hour or per ten hours?" Seventy-five pounds per hour.

5. "What does your coal cost you per ton at the railroad?" Six dollars and seventy-five cents for good coal; \$2.50 for slack coal. The latter is cheapest and best.

6. "What steam pressure do you carry on your engine?" One hundred pounds.

7. "How much land do you irrigate per hour or per ten hours?" It is hard to estimate this correctly, as I let water run until it stands on top. Mole and gopher holes had to be filled.

8. "Please give any other information which will be of value to others who contemplate putting in plants." To all those wishing to put in an irrigation plant I wish to say: First, be sure to have a sufficient supply of water. This is of greatest importance, if you want a large plant. Otherwise, a smaller pump would be more advisable. I have water enough to run a No. 8 pump, but still I constructed a dam four feet high, which not only gives me a large reservoir (as the water is backing up in creek banks), but it raises the water three feet higher, so it takes less power. This is to be considered in the long run. If I save three horse-power per day, it is quite a saving in a season. I made a dam, laying a long log across the creek; digging in the banks, on both sides, buried the ends in the ground, then laid long, slender brush, the tops up stream, the butts upon the log, then a load of straw on the brush and dirt upon the straw, and tramped well, as the work progressed. A sticky clay soil is needed for this. I laid some long brush under the log, butts up stream, so, as water falls over it falls upon the brush and loses its force, and won't make a hole and let the water run out. My dam has stood over a month, and is as good as when first made. Now we have a large reservoir, and have also saved horse-power.

Now we come to the pump. I believe if the lift is divided it is better, i. e., set your pump not on top of the bank. If you do it has to suck all the water, which I find is too much pressure on the valves. Divide it so two-thirds of lift is below and one-third above pump. As all our streams will rise and tear down everything, I would not advise a vertical pump, as you will be in the midst of stream at flood, and the chances are your pump will go down stream with some drift; but a horizontal pump is set high enough in the bank so as to be out of danger. Have elbow of discharge pipe bent as easy as possible, so as to avoid friction. There, again, you save power. Receive water in flumes or ditches as soon as possible, for as soon as it has left the pump it relieves the pump of that much draft, and will save you power. When in flumes the first thirty feet may be level, or even run up hill a little, as force throws it there. I have about two and a half inches to the rod, which is sufficient to run it off as fast as it comes from the pump. For flumes, take redwood two-inch boards. For siding use cypress, as neither swell nor warp. Paint with coal tar. Lay flumes in a scaffold made of 2x4; have box to fit tight in it, and bind on top with a cross-piece where you join two flumes together. Use dirt ditches as soon as possible, for economy. Two men with a stout team can plow nearly

all the ditches, and but little shoveling is needed. I have on eighty acres two main ditches, and as many laterals as may be necessary to lead to the most elevated places. I irrigated in eight and one-half days about fifty-five acres besides orchards and garden.

Sterling, Kas. WM. ROSE.

### Apple Tree Lice (Aphis Mali Fabr) in Indiana.

By James Troop, Horticulturist, Purdue University Experiment Station.

This little insect has appeared in such numbers in our apple orchards as to attract the attention of fruit-growers from all over the State. In fact, inquiries were received during the winter concerning the eggs which were found in unusual abundance on the branches. Since the warm weather began these inquiries have become so numerous that it seems best to publish a brief account of the insect and means of combating it.

The little shiny, black eggs, mentioned above, are deposited by the female louse on the twigs and smaller branches of the apple trees in the autumn. About the time the buds begin to expand in the spring, these eggs hatch into very small, light green lice, which immediately insert their tiny beaks into the young and tender leaves and commence sucking their juices. The broods hatched at this time are all females, which mature sufficiently in ten or twelve days to enable them to begin the process of reproduction, which, contrary to the general rule, they are able to do without the presence of the male, and the slow process of egg-laying is avoided, as the young which are produced during the summer are hatched within the mother. The process of throwing off these summer broods continues until fall, when a brood of true males and females is produced, from which comes the stock of eggs for the next season's supply.

**Remedies.**—The many inquiries received concerning this insect have developed the fact that people are not generally acquainted with the manner in which it takes its food. Like all members of this family, instead of having well-developed jaws for biting and chewing, its mouth parts are developed into a beak, which is adapted for sucking. It will be seen, therefore, that the arsenites will have but little value in fighting this pest, as it takes its food from the inner tissues of the plant. It will therefore be necessary to apply some substance which kills by contact, and the kerosene emulsion is as effective as any substance which can be used. This is made by dissolving one-half pound of hard soap in one gallon of hot water, after which add one gallon of kerosene or coal oil and mix thoroughly by forcing the mixture back into the same vessel by means of a spraying pump, until it becomes a thick creamy mass. Dilute this with ten times its bulk of water before applying to the trees.

These insects also have their natural enemies which aid very materially in their destruction. Among these are the several species of lady-bird beetles, which are unusually plentiful this season. They should not be destroyed, as they are among the horticulturist's best friends.

### Half Rate.

May 21 and June 11 the Missouri, Kansas & Texas Railway Company will sell tickets at one fare for the round trip, to points in Texas, Lake Charles, La., and Eddy and Roswell, N. M., tickets good returning twenty days from date of sale. For further information address

G. A. McNUTT,  
1044 Union Ave., Kansas City, Mo.

### No Change to Chicago.

The through service offered the traveling public by the Union Pacific system and Chicago & Alton railroad is unsurpassed. The "Perfect Passenger Service" of the C. & A. with the well-known excellence of the service of the Union Pacific assures the traveling public that they "are in it" when they patronize this popular joint line from Denver to Chicago and intermediate points. Pullman Palace sleeping cars, dining cars and free reclining chair cars without change.

For all information apply at 525 Kansas Avenue.  
A. M. FULLER,  
City Agent, Topeka.

## The Family Doctor.

Conducted by HENRY W. ROSE, M. D., consulting and operating surgeon, Topeka, Kas., to whom all correspondence relating to this department should be addressed. Correspondents wishing answers and prescriptions by mail will please enclose one dollar when they write.

### Catarrh.

Recently I have received several letters from readers of the KANSAS FARMER, asking me to discuss and prescribe for that most common of all diseases—except poverty—catarrh.

Three or four times in as many years I have written what I thought pertinent to the subject for the readers of the FARMER, but recognizing the fact that new readers are constantly being added to the list, it will not be amiss to recapitulate the discussion at this time.

Catarrh is, in plain English, an inflammation of a mucous membrane. It, therefore, may be located in many parts of the body. All the air tubes are lined with mucous membrane. The whole alimentary canal, from the lips to the rectum, is lined with mucous membrane. The kidneys and the bladder have the same kind of lining. So have the ears and eyes. Hence, it will easily be seen how various may be the locations of catarrh.

Acute catarrh is that form so often seen and felt by everybody when they take a fresh cold. The nostrils inflame and drip inordinate quantities of thin mucus, often accompanied by violent sneezing. This outcrop is in the upper air passages and is called nasal catarrh. It may attack a space lower down the air tubes and give rise to hoarseness, sore throat, coughing and expectoration. That is bronchial catarrh; or, it may show lower still in the air tubes and be manifest by heat, pressure, burning and deep cough in the lungs, pulmonary catarrh. It may show in the stomach, accompanied by thirst, heat, loss of appetite, an empty, all-gone feeling, nausea and vomiting. Sometimes large quantities of mucus are vomited. That is gastric catarrh. It may attack the bowels and give rise to mucous diarrhea. And so on, in every mucous-lined tube and cavity of the body.

Hence, a prescription that may cure catarrh in one location may not reach it in another. It will, therefore, readily be seen that when a correspondent asks for a prescription "for catarrh," I have little to guide me in the choice of a remedy. It must be known just what local membranes are involved in the attack and what the symptoms are. Some cases are acute and some chronic. The treatment is different for these cases. Then, in the air passages, we have the extra moist and the extra dry types. In one the flow of mucus is excessive and in the other it is deficient. That makes requisition for different remedies. After looking into the matter a little from a practical standpoint, my readers will see how difficult it is to make successful prescriptions on the few meagre details that most of those who write for treatment incorporate in their communications. One says: "I understand you advertise to cure catarrh for \$1. Send me med." Such a letter is worthless as well as partially untrue. It gives no clew to the variety of catarrh, and, moreover, I never advertised to cure catarrh, or any other disease, for \$1. I only agree to make the best

prescription I can on what information is furnished me for that sum. I do my level best at prescribing on whatever information comes to me. Take the above letter as a sample, and it will be readily seen that except by accident, or a possible shrewdness on my part, a prescription would be the merest guess-work. It does not furnish the least clew to the kind or location of the catarrh. For that reason I do not attempt to prescribe for that writer.

Each case must be made an individual study on full information of all its characteristics before a reliable remedy can be named for it. I have no wish or disposition to take any man's money without giving him full value in return for it. So I must insist on clear, explicit statements when asked to prescribe for readers of the FARMER.

### A Remarkable Train.

One of the most remarkable trains that ever traveled over the rails of an American road, left Philadelphia recently, destined for Boston. It was composed of twenty-five cars, all handsomely decorated, and every one of them from first to last loaded with "Hires' Rootbeer." There is no question but that it was the largest consignment of the kind ever made at one time in America. The value of this shipment was nearly \$100,000, and it attracted great attention among the trade and railroad men, who gave the train the appropriate name of "Hires' Rootbeer Special." The cars contained 6,400 cases in all, 4,035 gross, or 581,040 bottles of Hires' Rootbeer Extract, sufficient to make 2,905,200 gallons of rootbeer, or over ten glasses for each man, woman and child in New England. They also contained 2,425 cases, holding 60,000 pint bottles of rootbeer, ready to drink.

The above figures represent only about one-third of the total amount of this popular beverage consumed in New England during the season, but they give some idea of the wonderful popularity throughout the entire country of this greatest of all temperance drinks. A "Temperance Drink for Temperance People" is the name given this most delightful beverage. Composed entirely of roots and herbs, without the slightest trace of intoxicants, it is worthy the name. Not only is it a delicious thirst-satisfying drink, but it has a widely recognized value as a tonic, strengthening the system and enriching the blood.

# FULL OF SNAP

Sparkle and vim.  
Full of good health.  
Full of everything good.

# HIRES' Rootbeer

Every bottle of this great effervescent temperance beverage is a sparkling, bubbling fountain of health—a source of pleasure, the means of making you feel better and do better. You make it yourself right at home. Get the genuine.

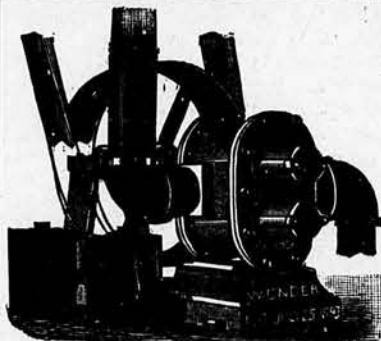
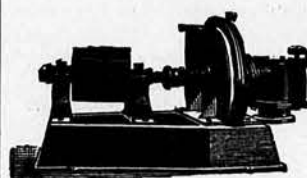
5 gallons cost but 25 cents.

THE CHAS. E. HIRES CO., Philadelphia.

### IRRIGATION MACHINERY.

If you want the most practical, efficient and cheapest irrigation pumping machinery, write for catalogue of Centrifugal and Triplex Pumps, Engines, Boilers, Gasoline Engines, etc., to

IRVIN VAN WIE,  
717-726 W. Fayette St., SYRACUSE, N. Y.



# WONDER PUMP.

FOR IRRIGATION PURPOSES.

Now in successful use throughout the West. For full particulars address the

NATIONAL PUMP CO.,  
306 W. 8th St., Kansas City, Mo.



## 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.

### THE OLD TRUNDLE BED.

Oh, the old trundle bed where I slept when a boy!  
What canopied king might not covet the joy?  
The glory and peace of that slumber of mine,  
Like a long, gracious rest in the bosom divine;  
The quaint, homely couch hidden close from the light,  
But daintily drawn from its hiding place at night.  
Oh, the nest of delight, from the foot to the head,  
Was the queer little, dear little, old trundle bed!  
Oh, the old trundle bed, where I wondering saw  
The stars through the window, and listened with awe  
To the sigh of the winds, as they tremblingly crept  
Through the trees where the robins so restlessly slept;  
Where I heard the low, murmurous chirp of the wren,  
And the katydid listlessly chirrup again,  
Till my fancies grew faint, and were drowsily led  
Through the maze of the dreams of the old trundle bed.  
Oh, the old trundle bed, oh, the old trundle bed!  
With its plump little pillow and old-fashioned spread;  
Its snowy white sheets, and the blankets above,  
Smoothed down and tucked round with the touches of love;  
The voice of my mother to lull me to sleep  
With the old fairy stories my memories keep.  
Still fresh as the lilies that bloom o'er the head  
Once bowed o'er my own in the old trundle bed!

—James Whitcomb Riley, in *Armazindy*.

### TEN-MINUTE EXERCISES.

#### If Taken Every Day They Make Women Look Truly Beautiful.

Everything in a woman's life should be done temperately, especially the wearing of corsets. This eternal lecturing upon the evils of corset-wearing is all folly; to condemn tight lacing is another thing, but the loose, wide-made corset is to be commended.

Of course all exercise should be taken with the waist perfectly free, and when vigorous out-of-door sports are indulged in no stay should be worn; but when in the street or at home or at social functions the corset worn sensibly is a necessity of all women who claim any degree of that intangible something called style.

The rules for health and beauty are really very simple. Rise a half-hour before breakfast, open the window, whatever the weather or season, and



SUPPLING THE WAIST.

go briskly through the ordinary calisthenic exercises with the arms and legs and body for ten minutes—no longer, for the half-hour of vigorous exercise which some advocate is trying to the nerves and taxes a woman's strength altogether too much; even five minutes may be found sufficient day after day.

The motions should be made evenly, firmly and with sufficient rapidity to get up a pleasant warmth.

The lungs should be filled through the nose with fresh air from the window and emptied through the mouth with a quick ejection. This should be done four or five times. Then the position should be taken for the exercises—legs together, hands on the hips and chin held up. Then a rotation of the body as in the first illustration. This tends to make the waist slim and mobile, and the muscles may be felt alternately stretching and relaxing under the hands as the motion is described.

The second sketch illustrates the exercise for widening the chest, increasing its bust and strengthening and knitting the spinal muscles generally.

The other exercises to be taken are

made according to the well-known routine, hands from shoulder up, ten times, then down, then from the shoulder straight out in front the same number of times. All these should be done briskly.

After the exercise a cold sponge bath should be taken, accompanied by vigorous rubbing, and every other week a cupful of common salt should be thrown into the water each day, and when this is used it must be remembered that soap cannot be used, as the two do not agree.

After dressing slowly a breakfast should be eaten of fresh fruit, grain foods and eggs or chops, according to one's taste.

At night, just before retiring, the same exercise should be gone through and a sponge wet with alcohol rubbed over the body; bathing the feet in warm, almost hot, water is soothing and healthy also, as it helps one to sleep soundly and sweetly.

To give a woman an erect and beautiful figure there is no surer way than to



BROADENING THE CHEST.

stand with the hands on the hips as often as possible, with the abdomen in and the chest thrown well out. When one is at home it is easy to stand in this way for several minutes at a time or to walk about the house so. It works like magic, too, for giving one a fine carriage.

It is perhaps unnecessary to add that all the walking in the open air one can possibly do, unless it is in the hot sun, serves to add to one's health and beauty, and a woman should be out of doors all that she possibly can, as nothing brings the bloom into her cheeks so quickly or so beautifully as God's pure air and sunshine.—Marie Jourean, in *Chicago Record*.

### NEW LAMP SHADES.

#### Simplicity Almost to the Point of Severity Now the Fashion.

The over-elaborate lamp shade has had its day. Fashion now decrees a shade simple to severity, whose contracted dimensions are in quaint contrast to the wide-spread flounces and furbelows of its predecessors. The new shades are of paper or silk plainly drawn over a smooth surface, and are hand painted. They are finished at the top and bottom with a prim quilling of narrow satin ribbon, and look precise and Quakerified to a degree, after all the laces, chiffons and flower wreaths which have clustered about lamps for the last few seasons.

Many are made to button up at one side, so that they may be taken off and either rolled up or laid out smoothly when it is desired to pack them. Some of these shades are etched out in black and white, and have old prints of French gentlemen and ladies as their only decoration. The most gorgeous are outlined in silver, as well as hand painted, but a demure unobtrusiveness characterizes them all.

It is customary now for house furnishers to order a lamp shade made of the same material as the wall drapery, curtains, upholstery, or other appointments of the room in which the lamp is to be used, but the material is drawn down in rigid flutes to fit the shade and finished at the bottom with only a narrow gimp.—N. Y. Sun.

#### For the Summer Cottage.

In seeking material for refurnishing the old or for decorating the new cottage there is nothing which fills the bill so completely as denim. It comes in shades the tones and tints of which rival the beauty of the most expensive art fabric. Manufacturers seemingly have realized the great possibilities of this durable cloth and have added to their stocks several new weaves which are elaborately designed in geometrical figures or are Japanese in effect.

#### Said to Be Dangerous Risks.

Some of the insurance companies of Paris refuse to insure people who dye their hair.

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

# Royal Baking Powder

## ABSOLUTELY PURE

### THREE SIMPLE DESIGNS.

#### Valuable Hints for Ladies Who Delight in Dainty Linen.

A fine quality of linen will be found a good body material for both large and small doilies. Seven inches square is a good size, and to make it cut a piece of linen eight inches square.

The flowers may be worked in outline stitch or solid with two shades of blue silk. The leaves are to be green and the stems a darker shade of green or a light greenish brown.

When working small flowers do not use a coarse grade of silk or linen floss as it forms aropy appearance on fine linen and stands out too prominently instead of lying flat as all fine embroidery work should.

The design for a pretty linen doily having a spray of maidenhair fern embroidered in one corner is shown in the illustration. As it is simple to work out, any clever girl should be able to make one or a number of them in a short time.

The fern leaves may be worked solid with a shade of delicate green, while the vines and stems should be indicated with a darker shade of green to lend a contrast.

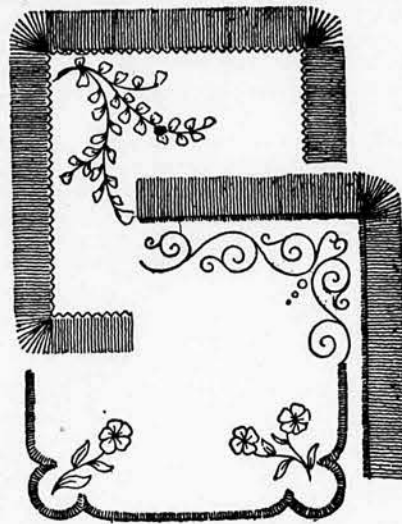
After the design has been worked the fringe can be made in the following manner:

A short distance from each edge draw a few threads and work a line of hem stitching. Ravel out the threads from the stitching to the edge of the material, at each corner catching a few of the ravelings to form more threads. To make them lie nicely around each corner place the doily flat on a marble seat or on a board and with a stiff brush smooth the threads out, then with a small sharp pair of scissors trim off the ends of the threads.

Take care when working the fern leaves and stems not to draw the threads too tight, as it will cause the linen around them to pucker; this will occur slightly in any case, however, but can be remedied by washing the doily after the work is finished.

One of the most attractive features of a large piece, such as a lambrequin, scarf or table cover, is its border, and particularly if a pretty design and nicely worked.

A neat and very simple running border to work is shown in the illustration.



THREE SIMPLE DESIGNS.

tion, and in design it may be classed as renaissance.

A corner is shown, also, in the drawing, so you may not be puzzled to know how to form one.

This design is adapted to a scarf, a mantel lambrequin, a bed spread, or to the edge of any large piece that is too large to work a design in the middle of.

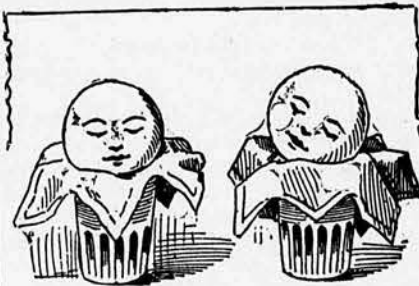
On white linen this design looks well worked with a delicate shade of salmon pink silk or rope linen.

When transferring a design, such as a running border that has to be repeated, care should be taken to have it appear evenly along the edges of a piece of goods.—Harry Adams, in *Chicago Inter Ocean*.

### LANGUISHING LADIES.

#### A New Form of Amusement Just Introduced in England.

To the long list of amusements that are sometimes permitted at the dinner table on specially unceremonious occasions, and at the end of the repast, such as the folding of dinner napkins into dolls and cauliflowers and other puzzle-like forms, and the making of music out of glasses, and throwing of apple-peel over shoulders, etc., we may contribute a dessert diversion we will call *Languishing Ladies*. With the tip of a spoon, or point of a knife, make



two incisions in an orange to represent two eyes; a smaller one below them to represent the termination of a nose, and a larger one below that to resemble a mouth. Then lay a dinner napkin (serviette) over a glass, and place the orange in it, so as to rest on the top of the glass. With care, and very slowly, then gently move the dinner napkin about to make the orange roll, or loll, first one way and then another, like a head. The motion gives the features the most fantastic expressions. At one moment there is a smile which becomes a grin, and the next or readjustment the face resumes its serious aspect. Then with fresh movements of the serviette come coaxing, conciliatory inclinations, entreaties, despair, polite arguments, simpering negatives and all sorts of languishing representations. When two oranges are treated in this manner, and placed to face each other, a curious little drama may be performed in these dumb motions to the great entertainment of those who have not seen the diversion before.—*Newcastle (Eng.) Chronicle*.

#### Abridged History of a Courtship.

Met him—met him again—in love with him. Met him again—no longer in love with him, but he is in love with me because I am so beautiful. Met him again—he is still in love with me, not only because I am so beautiful, but because I am also good. Sorry for him. Again I met him—he is colder than he was. Think he has forgotten my beauty and my goodness. I, however, am inclined to think that I am in love with him after all. How lucky he is, and how angry mamma will be. Mamma proved to be strangely pleased. Makes me angry, for I know she is not a good judge of a young girl's heart. Flirted with him outrageously to make mamma angry—didn't succeed. Engaged to him—glad. Married to him—sorry.—*Chicago Tribune*.

#### A New Feminine Industry.

Several young women in London have started a novel and sensible dressmaking establishment. They take last season's dresses and make them over in the prevailing fashion. No entirely new dresses are made, and the charges are reasonable. They should succeed, for the world is full of nice people who do not often buy a completely new dress, and to those who sometimes have dresses given them by their richer sisters such a place would prove a decided benefit.—*Queen*.

One of the best evidences that Ayer's Hair Vigor is an article of exceptional merit is the fact that the demand for it is constantly increasing. No one who uses this incomparable dressing thinks of trying any other preparation for the hair.

Agents wanted for Gearhart's Family Knitter. For particulars address J. E. Gearhart, Clearfield, Pa.



## The Young Folks.

### GRANDMA-LAND.

There's a wonderful country far away,  
And its name is Grandma-Land;  
'Tis a beautiful, glorious, witching place  
With grandmas on every hand.  
Everywhere you may look or go,  
Everywhere that the breezes blow,  
Just grandmamas! Just grandmamas!

In this wonderful country far away  
Where grandmamas abide,  
In this beautiful, witching Grandma-Land  
The Good Things wait on every side—  
Jam and jelly-cake heaped in piles;  
Tarts and candy 'round for miles;  
Just Good Things here! Just Good Things  
there!

In this wonderful country far, afar,  
Where blow the candy breezes,  
In this beautiful, glorious pudding-land  
Each child does just as he pleases.  
All through the night, all through the day,  
Every single child has his way.  
Each his own way! Just as he pleases!

In this wonderful country far away—  
In this gorgeous grandma clime—  
Whentired children can eat no more,  
There are stories of "Once on a Time."  
Stories are told and songs are sung,  
Of when the grandmamas were young—  
"Once on a Time!" "Well, Let me see!"

To this wonderful country far, afar,  
Where only Good Things stay,  
To this beautiful, glorious Grandma-Land  
Good children only find the way.  
But when they sleep and when they dream  
Away they float on the gliding stream  
To Grandma-Land! To Grandma-Land!  
—Hayden Carruth, in Harper's Young People.

### PRETTY PET DUCK.

Molly Is Fond of Squatting Down on Her Mistress' Lap.

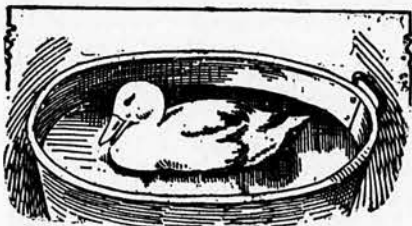
One gentleman tells me that he kept for some time a tame gamecock. It would roost on his knee as he sat in his easy chair after dinner, and follow him about the garden like a dog. And it had its likes and dislikes about visitors. One day a woman tramp came begging, and to her horror something jumped suddenly upon her hat, and tried to tear it off, flapping her screaming face with its wings. This was the gamecock's idea of getting rid of a tramp.

Another gentleman has told me of a tame duck which not only hated the water, but which was eventually drowned on being put into a pond to cleanse it.

Only yesterday I was introduced, by the kindness of some ladies at Tufnel park, to a delightful duck pet, Molly by name. She is a beautiful full-grown white duck, who has grown up from ducklinghood under the loving care of her mistresses. She was swimming about happily in a big metal tub, and when she saw one of her friends come into the garden with me, she bowed and wagged her tail and gaggled with delight. When she was lifted out, she waddled along very upright, following her mistress wherever she went.

Molly sleeps at night in a box in the house, and if the members of the household come home late, she quacks until they go down and wish her good night. She seemed to have an idea yesterday that a newspaper man had come to make copy out of her, for after luncheon she came quacking to the garden door, and it was a pretty sight to see her squatting down on her mistress' lap, and allowing one to stroke her neck as if she had been a cat.

Coming back to jackdaws, I have heard from a lady who has kept one of these "bird monkeys," as she aptly calls them. She says: "I have had a jackdaw for four years; she was not a young bird when she came, but her love for fun and mischief has in no way diminished. One thing worthy of no-



MOLLY TAKING A SWIM.

ice is the large increase in her vocabulary, due to her long intercourse with human beings. 'Char' has at least a dozen inflections, with distinct meanings attached to them, and her laugh, when some evil deed has been successfully perpetrated, is quite contagious." Certainly one of the great charms of keeping quaint pets is to notice how quickly they accommodate themselves to the new and wonderful life which

opens up to them by contact with human beings without guns. A person must be selfish and callous indeed who does not feel attracted by the trustfulness and quaint ways of these little wild creatures of fur and feathers, who have got over their hereditary and reasonable dread of man as the destroyer. —Westminster Budget.

### CANINE LIFE SAVER.

How a Newfoundland Dog Rescued Eight Shipwrecked Mariners.

Some years ago a vessel was driven on the beach of Lydd, in Kent, England. The sea was rolling furiously. Eight poor fellows were crying for help; but a boat could not be got off through the sea to their assistance, and they were in constant peril, for any moment the ship was in danger of sinking. At length a gentleman came along the beach accompanied by his Newfoundland dog. He directed the animal's attention to the vessel and put a short stick in his mouth. The intelligent and courageous dog sprang into the sea and fought his way through the angry waves toward the vessel. He could not, however, get close enough to deliver that with which he was charged; but the crew understood what was meant, and they made fast a rope to another piece of wood, and threw it toward him. The noble animal at once dropped his own piece of wood and immediately seized that which had been thrown to him, and then with a degree of strength and determination scarcely credible, for he was again and again lost under the waves—he dragged it through the surge, and delivered it to his master. A line of communication was thus formed with the vessel, and every man on board was rescued.—Our Dumb Animals.

### Young Banjoists.

While the city of Topeka has not the reputation for hospitality enjoyed by cities where State meetings are less frequent, she



GEORGE AND JASON HUGHES.

has usually in stock some musical talent of a high order with which to enliven proceedings. At the last meeting of the State Dairy Association, and also at the meeting of the State Editorial Association, the most taking performances were rendered by the young banjoists, George and Jason Hughes, aged respectively 9 and 8 years. Their pictures are here presented. Their father, George H. Hughes, is a banjo teacher, and he has had apt and enthusiastic pupils in his two bright boys. On the occasions of their appearance last winter they were again and again recalled by their enthusiastic audiences.

### Salt Is a Necessity.

You doubtless have heard of the little boy who wrote a composition on salt and said it was "stuff that made things taste bad if you did not put it on." Salt is an absolute necessity. Once a king in Mexico conquered his enemies because it was possible for him to prevent their getting any salt. The people yielded because they could not endure life without salt. In Mexico, when the world was young, they had a goddess who was known as the salt-giver. When you use salt, remember to be grateful for it.

### A Natural Error.

"Oh! mamma," said the small boy from the city when he first saw a robin, "come look at this little sparrow with a red flannel shirt on."—Harper's Young People.

## HAMMAR PAINT

Costs LESS than "Cheap" Paint or S. P. White Lead. Write for Book on Painting and Color Card, FREE. If not on sale in your town we will quote price delivered, freight prepaid, and send written guarantee for five years. F. HAMMAR PAINT CO. SPRUCE ST., ST. LOUIS, MO.

### KILLING JACK HARES.

Ten Thousand Horsemen Take Part in a Great Drive.

The jack hare group contains five species, which in turn inhabit all portions of the southwest quarter of the United States, as far north as Oregon, as far east as Nebraska and Kansas, and southward to Tehuantepec. Their numbers vary in different localities according to circumstances. Wherever in any portion of this vast range the coyotes and foxes are almost exterminated, the jack hares soon increase to an alarming extent. Men are beginning to learn that it will not do to cut out too many cogs from the great balance-wheel of nature; for her affairs are so nicely adjusted that even so apparently slight a matter as the poisoning of



AMERICAN JACK HARE.

coyotes may cause a great disturbance. In many portions of the southwest the jack hares are already a perfect pest.

In central and southern California the destruction of the carnivorous animals that usually keep rabbits in check has led to such an alarming increase in "jack rabbits" that now they constitute a genuine plague. In Fresno and Kern counties they are so destructive to young fruit trees that the fruit-growers have been compelled to adopt heroic measures for their wholesale destruction. In the winter of 1892 Mr. C. H. Townsend reported to Forest and Stream that in the great drive which took place near Fresno about the middle of February, a tract of country containing about 20 square miles was surrounded and swept over by nearly 2,000 horsemen, who closed in from all sides, driving the game before them. About 15,000 jack hares were thus forced into a central corral of wire, where they were killed with clubs. During the previous winter more than 50,000 jacks were killed in a series of drives which were made near Bakersfield, Kern county; and the worst of it was the animals were at that time not fit to eat.—W. T. Hornaday, in St. Nicholas.

### Approved with Enthusiasm.

A Lewiston 3-year-old damsel whose mamma combed the little one's recalcitrant lock of hair with some extra force the other day, and who bore it meekly, finally looked up and said: "Mamma, is you all done?" "Yes, dear," was the answer. "Amen," said the little one, devoutly.



health than ever before. It is more than a year now since I quit using it and have not had a pain or sick day in all that time. It is certainly a wonderful medicine for the kidneys.

### Couldn't Stand Upright.

June 11th, 1894.

The Dr. J. H. McLean Medicine Co.,  
St. Louis, Mo.

Gentlemen:

For about ten years I suffered with a pain in my back which I thought was caused by a strain, sometimes it got so bad I could not stand upright or ride in my buggy. I read in your almanac of symptoms that I recognized as my own, which led me to the conclusion that my trouble was disease in the kidneys. I immediately began using Dr. J. H. McLean's Liver and Kidney Balm. It proved to be the right medicine and reached the spot. I soon lost all pain and had better

Yours truly,

JNO. H. ALBIN,  
TOLARVILLE (HOLMES CO.), MISS.

### BETTER THAN A GOLD MINE.

Last month I cleared, after paying all expenses, \$235.88; the month before \$188.88 and have at the same time attended to my regular business. I believe any one, anywhere, can do as well, as I have not a particularly good location and not much experience. When you have an article that every family wants, it is very easy selling it. It seems strange that a good, cheap dish-washer was never before placed on the market. With the Perfection, which sells for \$5, you can wash and dry the dishes for a family in two minutes, without putting the hands in water. As soon as people see the washer work, they want one, and that is why so much money can be made so quickly. For full particulars address The Perfection Mfg. Co., 607 63d St., Englewood, Ill. I feel convinced that any lady or gentleman, in any location, can make \$5 to \$10 a day, as every family will very soon have a dish-washer. Try it and publish your experience for the benefit of others.

ALICE O.

## You will ride a Bicycle

Of course you will ride. All the world will—fashion, pleasure, business—men, women, children. It takes a while sometimes for the world to recognize its privileges; but when it does it adapts itself promptly. Therefore, you who are in the world will ride a bicycle—a



### COLUMBIA

bicycle if you desire the best the world produces; a Hartford, the next best, if anything short of a Columbia will content you.

Columbias, \$100; Hartfords, \$80 \$60; for boys and girls, \$50.

POPE MFG. CO., Hartford, Conn.

Boston, New York, Chicago,  
San Francisco, Providence, Buffalo.

A Catalogue—comprehensive, beautiful—at any agency free, or by mail for two-cent stamps. The book tells of all the new Columbias and Hartfords

### WM. TAYLOR,

Agent for Columbia and Hartford Bicycles  
TOPEKA, - KANSAS.



AGENTS \$75 A WEEK  
using or selling PRACTICAL  
PLATING DYNAMO. The modern  
method, used in all factories  
to plate new goods. Plates gold,  
silver, nickel, etc., on watches,  
jewelry, table-ware, bicycles and  
all metal goods; fine outfits for  
agents; different sizes; always  
ready; no battery; no toy; no  
experience; no limit to plating  
needed; a great money maker.

W. P. HARRISON & CO., Clerk No. 15, Columbus, Ohio.

## SUMMER BOARDERS PAY THEIR WAY

Handsomely. If you live in a pleasant place away from dust and smoke you can easily get a fat share of this money. Thousands of farmers are doing it every year. Write for our little book that tells you how.

LORD & THOMAS,  
45-47-49 Randolph Street, Chicago, Ill.

## WE HAVE NO AGENTS

but sell direct to the consumer at wholesale prices. Ship anywhere for examination before sale. Everything warranted. 100 styles of Carriages, 20 styles of Harness, Saddles, Fly Nets, etc. Send 4c. in stamps, postage on 112 page catalogue. Elkhart Carriage and Harness Mfg Co., Elkhart, Ind.

W. B. PRATT, Sec'y.

WILL YOU distribute Circulars and samples for us? No compensation. Salary and expense to travel. Send stamp. ADVERTISING BUREAU, 447 6th Ave., NEW YORK CITY.



# KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Wednesday by the  
**KANSAS FARMER COMPANY.**OFFICE:  
No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

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

Address **KANSAS FARMER CO.,  
Topeka, Kansas.**

## ADVERTISING RATES.

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

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

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

Electros must have metal base.

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

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

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

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

Address all orders—

**KANSAS FARMER CO., Topeka, Kas.**

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

If you want one of the finest magazines published, send us \$2.25 for KANSAS FARMER and *Cosmopolitan*.

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

It is estimated by Henry Clews that the recent advances in the prices of stocks and bonds have made for the "bulls" on the New York stock market no less than \$300,000,000.

Buyers for the apple crop are already in the field, while the blossoms have scarcely left the trees. Good crop to have and likely to bring good money to the orchardist.

The final settlement of the Japan-China war troubles in a way acceptable to the other powers is regarded by financial writers as having removed an obstacle to the steady advance of prices.

The next meeting of the Shawnee Horticultural Society will be held on Wednesday, May 29, at the residence of E. Marple, six miles north of Topeka. The subject will be "Strawberries." There is always a big meeting at Mr. Marple's.

It is reported that people in Chicago and some other cities have become so stirred up about the "meat trust" that they are "boycotting" beef, using eggs and pork instead. How long this will last no one can tell, but for the present this boycott is thought by some to be having a depressing influence on the cattle markets.

Many of our subscribers desire a daily newspaper. In renewing your subscription it is well to note the fact that we can furnish you a year's subscription to KANSAS FARMER and daily Kansas City Star for \$4. Or, KANSAS FARMER and daily Leavenworth Times for \$3. The amount for both papers to be sent to this office.

It is claimed that the oil field of southeast Kansas is scarcely inferior to that of Ohio. But while this oil is right at our doors and its development would furnish a near-by market for Kansas farm products, little progress is made. Neodesha, the center of the Kansas district, is but a short distance from Kansas City, while three and a half States must be crossed to reach Kansas City from the Ohio field. But such is the railroad discrimination in favor of the Eastern district that it costs more to transport the oil from Neodesha to Kansas City than to pay for both oil and transportation from Lima, Ohio, to the same market. This case would be a good one on which to try the "infant industry" argument.

## THE TRAMP.

It is generally assumed that society has no interest in the tramp; that he is a ne'er do well, generally harmless, without friends, without influence, a nuisance to be tolerated, a half human to be fed or refused, according to the compassion or want of it with which he meets, doing no good to anybody and not likely to do much harm, liable to steal when he cannot beg and to be fairly well satisfied to lie down with his hunger and sleep in his rags when successful at neither begging nor stealing. It has seldom occurred to thinkers that tramps might organize and become an irresponsible terror rather than a mere troublesome nuisance. It is not often considered that the tramp is an artificial product of conditions which are of others' making, that he is of that part of humanity which, through incompetence or lack of energy or on account of both these combined, has not held his own in the world's competition, and, either willingly or unwillingly, is being crowded down to a lower scale of humanity. Lower orders of humanity have in all ages proven a menace to good order. The plan of dealing with them in olden times was to keep them in subjection, to forcibly restrain, as long as possible, their tendencies to evil doing, and, when repression failed, to resort to the harshest measures. These efforts have not been creditable to the history of the race.

Attempts have been made to so organize society as to eliminate the causes of the inequalities, which, while resulting to the advantage of the strong and the prudent have seen many descend to the level of the tramp and below it. It was once thought that the founders of American institutions had builded so well that, with the aid of universal education and our free institutions, all would be elevated. The history of the tramp, extending, as it does, over about the last quarter of a century, discredits the prophecy of the optimists who saw in the fall of the institution of African slavery the destruction of the last barrier to the universal upward progress of the race.

But what shall become of the tramp? Those who think that, in the destruction of his manhood, there will be left nothing but a harmless unit, which will perish and disappear from view if let alone, may have this hallucination dispelled by reading the following from last Saturday's Associated Press dispatches:

"NILES, Mich., May 11.—An army of tramps descended on the little village of Gardner, Barrien county, yesterday afternoon, and for two hours held the people prisoners in their own homes.

"The first detachment was given food by the villagers, but the subsequent squads were refused, and this made them furious. As if by a prearranged program the tramps met in the center of the town and started out on a tour of pillage. They drove the people from the streets, told the most daring to stay in doors or they would be killed, and then started looting the stores.

"They took possession of the only saloon in the village, driving the proprietor into his upstairs tenement, and then they raided the combination grocery and dry goods store and the clothing and shoestore, fitting themselves up with new suits and taking anything they could lay hands on.

"Emboldened and rendered lawless by their own success, they started on a course of vandalism which has not been equalled in this State, and ruthlessly destroyed hundreds of dollars' worth of goods. Not satisfied with this, they subjected the women and girls whom they found out of doors to the most brutal insults, drove a bridge gang from work on the Michigan Central, seriously injuring James Finch, the foreman. Then they broke into a Michigan Central freight car and despoiled it, breaking open thirteen boxes of gentlemen's furnishing goods and carrying away the contents.

"A deputy sheriff, who lives two miles north of Gardner, was notified and organized an armed posse for the release of the imprisoned villagers. The tramps met the party with showers of rocks, but were finally scattered by bullets from the posse's Winchester and revolvers. No arrests were made, although search is still being maintained for such of the tramps as may be in the neighborhood."

The problem of the tramp is not easily solved. When the humanity of a man is starved out the brute is not thereby subjugated. The cunning frequently survives. The ability to

organize often remains. The recklessness of consequences never departs. Consolidation with mobs like that at Gardner or into more permanent banditti under daring and competent leaders who have sworn vengeance against society for real or imaginary wrongs, is a phase of the tramp development which has terrors for the dwellers in small towns and upon farms, and is reason for an interest in the tramp question, a question which heretofore has arrested the attention of few besides the tender-hearted people who have given them food or old clothing.

## APPROPRIATION OF WATER.

The demand for exact information as to the necessary legal steps to be taken in appropriating water for irrigation is so great that the KANSAS FARMER has secured from the best legal authority in western Kansas, the following discussion of the subject, which seems to cover all the inquiries so far received at this office. It is proper to state that the author of the letter has had more experience in dealing with the legal questions of irrigation than any other man in Kansas:

EDITOR KANSAS FARMER:—Your letter of inquiry as to the legal steps necessary to be taken in the appropriation of water from streams to be used in irrigation, awaited my arrival from the Kearney county District court.

Replying, I would say, there is no established form of notice. Any form that contains the statutory requirements is sufficient. The proceeding for the appropriation of water is about as follows:

The corporation that seeks to have the water appropriated, must, of course, be formed with a charter suited to the purpose. It must cause such a survey to be made as to definitely locate the line of the canal. It must then make application to the District Judge of the Judicial district in which the proposed canal is to be located, for the appointment of three disinterested freeholders to act as condemnation commissioners, to make the appraisal and assessment of damages to the lands or lots through which the canal is to be located. (The company or corporation may apply to the County Commissioners of the county to act as such condemnation commissioners if that method of procedure should be preferred, and such County Commissioners may act without appointment by the District Judge.)

As to the notice: Section 1395 of the General Statutes, compilation of 1889, provides, that before such commissioners shall proceed to lay off any route, notice of the time when they will commence the same shall be given by publication thirty days before the time fixed, in some newspaper published in such county, or if none be published therein, then in one of general circulation in the county wherein such canal is to be laid off. One of such notices should also be conspicuously posted at or near the spot on the bank of the stream where the appropriation of the water is to be made. Any form of notice that will definitely state the day, and the hour of the day, when the commissioners will commence their work, the place where they will begin, and the work that they will do by authority of their appointment, and showing by what authority they act, properly signed by the commissioners, will be sufficient.

The provision for the condemnation of right-of-way for railroads is by statute made to apply to the acquiring of right-of-way for irrigating canals.

By the provisions of chapter 133 of the Session Laws of 1891, the waters of the State west of the ninety-ninth meridian, whether standing or running, and whether surface or subterranean, are devoted to irrigation in aid of agriculture (subject to ordinary domestic uses) and to other industrial purposes. By this provision it will be observed that this dedication of the waters is not of general application throughout the State. I do not here express any opinion upon the validity of the statute, but simply suggest that those seeking to avail themselves of its provisions should first note upon which side of the ninety-ninth meridian their property may be located.

We want our readers to secure for us thousands of new subscribers for the KANSAS FARMER and we will pay well for such work. If you will get up a list, write this office for liberal terms.

Some of the old Kansas friends of Henry Wallace, formerly editor of the Iowa Homestead, will doubtless like an opportunity to continue to read the emanations from his able pen. He is now editing Wallace's Farm and Dairy. By special arrangement we are able to send KANSAS FARMER and Farm and Dairy for one year for \$1.25.

## CORN STALKS.

When, in his lecture before the State Board of Agriculture last January, Prof. Alvord, then of the Oklahoma Experiment Station, showed the feeding value of the portion of corn stalks below the ears to be equal to that of the ears and all above them, many practical feeders doubted the correctness of the determination. It is not possible to make a simple and conclusive test of this proposition by selecting two similar bunches of steers and feeding one lot on the butts and the other on the ears and parts above, and comparing gains. The problem is a complicated one, and, but for the showing of the chemists, might not have been attacked in practice. The fact that the butts of the stalks are hard and tough, or at least covered with a hard and tough shell which cattle are loth to eat, makes special preparation necessary. Some of the earlier experimenters used ensilage-cutters, reducing the stalks to short cylinders. The cattle ate these readily for a few times, when their mouths became sore, so that they could scarcely eat any food, and losses instead of gains resulted. Later, a shredding machine has been introduced, which tears the stalks into fine, soft shreds and at the same time separates the grain, so that it may be ground if desired. This renders the fodder more easily eaten than hay, and to the great surprise of some who have tried it, cattle prefer it to the finest quality of either "wild" or "tame" hay. No soreness of mouths results from feeding it. Those who have tried this feed on the farm have not made the experiment in a way to enable them to make exact comparisons, but of the several with whom the writer has conversed on the subject, not one doubted the correctness of Prof. Alvord's proposition.

The half of the corn thus made available has usually contributed to the manure pile, only, or has been allowed to remain standing in the field to be in the way when the land is to be prepared for the next crop.

The utilization of this formerly wasted half of the corn crop promises then, to double the value of this kind of crops, making it by far the most valuable cereal production possible on any acre of corn-producing land. It also calls for and has resulted in the production of improved machinery for harvesting and handling the corn. Perhaps the major portion of the corn which is now "cut up" is handled with a "sled" cutter. This as first produced was a great labor-saver, and it has been and is still being greatly improved. The binder men have also been busy and machines are now on the market which cut and bind a row of corn as rapidly as a team walks, and if desired gathers the bundles ready for shocking or hauling.

When shredded the fodder is readily elevated to the barn loft and stored. Farmers who shred very large amounts of fodder can afford to have shredders of their own; but among smaller farmers the shredder men, with their steam or gasoline outfit and camping equipment, have made their appearance, in some parts of this State, ready to prepare the corn for feeding, on contract, much as the wheat threshers handle the wheat crop.

It is sometimes questioned whether this method of preparing corn will supplant the silo and the handling of green fodder which it implies. Not unlikely this will remain an open question, especially among dairymen. Probably both methods will be used on many farms, but the division of labor afforded by the method of preparing the dry fodder, both as to time of performing the work and as to the persons who do it, is likely to make this method the more popular. With a barn loft full of prepared feed and the ground floor sheltering his herd the farmer need have little dread of the storms of winter and may enjoy the prosperity of his stock.

Any of our subscribers who are about to renew subscription will find something interesting by reading the advertisement of "Samantha at Saratoga." If you have already renewed your subscription it will tell you how to get the book at the reduced rate.







## Horticulture.

### EARLY NURSERY BUSINESS.

In an article on "The Nursery Business," in the *Florist's Exchange*, Prof. L. H. Bailey, says:

"It is impossible to fix a date for the beginning of the nursery business in America. Trees were at first grown in small quantities as a mere adjunct to general farm operations. Governor John Endicott, of the Massachusetts Colony, was one of the best fruit-growers of his time, and he grew many trees. In 1644, he wrote to John Winthrop, as follows: 'My children burnt me at least 500 trees this spring by setting the ground on fire neere them;' and in 1648 he traded 500 apple trees, three years old, for 250 acres of land. The first nursery in Maine is thought by Manning to have been that of Ephraim Goodale, at Orrington, established early in the present century. Other early nurserymen of Maine were the brothers Benjamin and Charles Vaughan, Englishmen, who settled at Hallowell in 1796. The first nursery in South Carolina was established by John Watson, formerly gardener to Henry Laurens, before the Revolution. In Massachusetts there were several small nurserymen towards the close of last century, amongst others John Kenrick, of Newtown, whose son William wrote the 'New American Orchardist,' published in 1833, and which passed through at least six editions. The trees were generally top-grafted or budded, sometimes in the nursery and sometimes after removal to the orchard. Deane writes, in 1797, that 'the fruit trees should be allowed to grow to the height of five or six feet before they are budded or grafted.' Stocks were sometimes grafted at the crown, and even root-grafting was known, although it is generally said that this operation originated with Thomas Andrew Knight, of England, in 1811. But I am not clear as to the exact nature of this root-grafting of the last century, and it may have had little similarity to the method now in vogue. One of the most popular trees a hundred years ago was the Lombardy poplar, which was then a newcomer. John Kenrick had two acres devoted to it in 1797; and Deane writes that 'the Lombardy poplar begins to be planted in this country. \* \* \* To what size they will arrive, and how durable they will be in this country, time will discover.' The tree is said to have been introduced into America by William Hamilton, of Philadelphia, in 1784. Deane speaks of raising apple trees as follows: 'The way to propagate them is, by sowing the pomace from cyder-mills, digging, or hoeing it into the earth in autumn. The young plants will be up in the following spring. And the next autumn, they should be transplanted from the seed bed into the nursery, in rows from two to three feet apart, and one foot in the rows, where the ground has been fitted to receive them.' Nothing is said about grafting the trees in the nursery.

"But the first independent nursery in the New World, in the sense in which we now understand the term, was that established by William Prince, at Flushing, Long Island, and which was continued under four generations of the same family. The founder was William Prince. The second Prince was also William, the son, and author of the first professed American treatise upon horticulture, 1828. The third generation was William Robert Prince, whose work and writings occupy a very high place in American horticultural literature. He was the author of 'A Treatise on the Vine' (1830), 'The Pomological Manual' (1831), and 'Manual of Roses' (1846). In the first two he was aided by his father William, the second. This William Robert Prince is the one who first distinguished the types of the prairie strawberry into the two species, *Fragaria Illinoisensis* and *F. Iowaensis*. From a large catalogue of William Prince second, published in 1825—and which contains, amongst other things, lists of 116 kinds of apples, 108 of pears, 54 of cherries, 50 of plums, 16 of apricots, 74 of peaches and 225 of geraniums—I

select the following account of the founding of this interesting establishment: 'The Linnaean Garden was commenced about the middle of the last century, by William Prince, the father of the present proprietor, at a time when there were few or no establishments of the kind in this country. It originated from his rearing a few trees to ornament his own grounds; but finding, after the first efforts had been attended with success, that he could devote a portion of his lands more lucratively to their cultivation for sale, than to other purposes, he commenced their culture more extensively, and shortly after published a catalogue, which, at that early period, contained several hundred species and varieties, and hence arose the first extensive fruit collection in America.' The elder Prince died in 1802, 'at an advanced age.'

"Amongst the nurseries which were prominent from 1820 to 1830 were Bloodgood's, Wilson's, Parmentier's and Hogg's, near New York; Buel's and Wilson's at Albany; Sinclair's and Moore's at Baltimore. David Thomas, a man of great character and possessed of scientific attainments, was the earliest horticulturist of central or western New York. His collection of fruits, at Aurora, upon Cayuga lake, was begun about 1830. His son, John J. Thomas, nurseryman and author of the 'American Fruit Culturist,' which first appeared in 1846, died at a ripe old age a month ago, and in his removal the country loses one of its most expert and conscientious pomologists. Between 1840 and 1850 arose the beginnings of that marvelous network of nurseries which, under the lead of Ellwanger & Barry, T. C. Maxwell & Bros., W. & T. Smith, and others, has spread the name of western New York throughout North America. In 1857, Prosper J. Berckmans, who had then been a resident of the United States seven years, removed to Georgia and laid the foundation of what is now the best known nursery in the South."

### Fruit Problem in England.

In discussing the future of fruit-growing for market in the current issue of the *Journal of the Royal Agricultural Society*, Mr. Lee-Campbell, of Glewston Court, expresses the opinion that every thoughtful man must view with feelings akin to consternation the increasing dependence of our population on foreign supplies of food, and proceeds: "There seems something radically wrong, as well as sad, in the reflection that our acres should be lying idle, and our population unemployed, while we are pouring out our millions of money annually in enriching other nations and giving employment to their populations." There is undoubtedly "something radically wrong," but without pausing to discuss what that "something" is, we turn to what Mr. Lee-Campbell has to say with regard to the question of bringing about a more satisfactory state of things. He tells us that much of our fruit may be supplied from home sources. He also holds the opinion, and properly so, that our soil and climate are admirably suited for the growth of apples, plums, and certain other hardy fruits; but he is careful to warn those who have not the necessary qualifications against engaging in what to them would be a disappointing enterprise. Mr. Campbell is evidently in full agreement with the views we have urged from time to time, for he states, in no halting manner, that to achieve success in the production of fruit for market a thorough acquaintance with the details of cultivation and of marketing the fruit is essential. The necessity of a soil and climate suitable for the fruit it is intended to cultivate is insisted upon, and as might be expected, the planting of inferior varieties and indifferent trees is strongly condemned. We are not surprised that Mr. Campbell should have expressed himself strongly in favor of bush trees, for when we had the pleasure of walking through his remarkable orchards in the autumn of 1894 he pointed out to us, that while his bush trees had borne full crops for some five or six years, the standards planted at the same time were only

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

## Taking

it for granted that you want to get the best results in painting, you will have to use Pure White Lead to obtain them. There are many mixtures branded "White Lead," "Pure White Lead," etc., which contain little, if any, White Lead, but are principally barytes, which is of little value, if not worthless. To be sure, accept only a genuine brand (see list).

If you want any shade of color, tint the White Lead with National Lead Co.'s tinting colors, prepared expressly for this purpose. A feature of these colors is the ease with which they are used and the exactness with which the desired shade is obtained. For particulars send for pamphlet, free.

NATIONAL LEAD CO.,

1 Broadway, New York.

producing their first crop. In answer to the question, "Who are to be the fruit-growers of the future?" Mr. Campbell replies that it will not be the farmer, as he has not the technical knowledge, and that the landlord can hardly be expected to risk his capital in a venture which largely depends upon the aptitude of the tenant. The only hope he holds out is that a race of practical fruit-growers may spring up, either possessing capital themselves or associated with others who are more fortunate in this respect. It is quite certain that fruit-growers, to be successful, must be well qualified by previous training; and we have no doubt, that with security of tenure and equitable compensation, the desired race of fruit-growers will be forthcoming.—*Gardeners' Magazine*.

### New Bordeaux Mixture.

A Bordeaux mixture first suggested by M. Michel Perret, at a meeting of the National Agricultural Society of France, was designed to remove certain objections to the use of the old mixture. It has the advantage over that famous mixture in being less injurious to foliage, less liable to be washed away by rains, and less likely to choke the nozzle of the spraying machine. The new formula is as follows: Quicklime, 4 pounds 6 ounces; molasses, 4 pounds 6 ounces; sulphate of copper, 4 pounds 6 ounces; water, 22 gallons. The essential difference between the new and old formulas is the presence of the molasses, which has a greater influence than would at first be expected. The prescription, as given by M. Perret, is to add the molasses to thirteen gallons of water, then slack the lime and add four and one-half gallons of water to form a milk of lime. Pour this slowly into the sweetened water, stirring briskly in order to mix intimately. Next, in a third (wooden) vessel dissolve the bluestone and pour this into the previous mixture, stirring well. In this blending of materials chemical changes are taking place. When the milk of lime and sweetened solution are intimately mixed together, then saccharate of lime is formed. Next, when to this is added the solution of sulphate of copper, a double decomposition takes place, sulphate of lime is formed on the one hand and soluble saccharate of copper on the other. This saccharate of copper is only formed in presence of an excess of lime, and its formation is indicated by the mixture

assuming a beautiful greenish tinge. Thus the mixture is rendered alkaline, and the acid is neutralized by the lime.—*National Nurseryman*.

### \$100 Reward \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is catarrh. Hall's Catarrh Cure is the only positive cure known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer one hundred dollars for any case that it fails to cure. Send for list of testimonials. Address, F. J. CHENEY & CO., Toledo, O. Sold by Druggists, 75 cents.

A new dining car service between Chicago and Buffalo via the Nickel Plate Road, has recently been placed at the disposal of the traveling public, which will enable patrons of this favorite low-rate line to obtain all meals on trains when traveling on through trains between Chicago, New York and Boston. For reservations of sleeping car space and further information, see your local ticket agent or address J. Y. Calahan, General Agent, Chicago.

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. GRIESE, 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.

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.

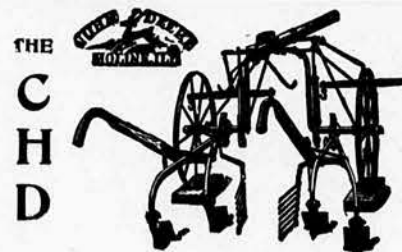
## Bonner Springs Nurseries

Apple trees, 2 and 3 years old, strong, \$6 per 100; \$45 per 1,000. Concord Grapes, \$1.25 per 100; \$10 per 1,000. Asparagus, 2 year, strong, \$3 per 1,000. Strawberry plants, 50c. per 100; \$3 per 1,000. Cherry and Pear, 20c. each; Plum, 15c.; Apricot, 15c.; Peach, 10c. Blackberries, \$8 per 1,000. Hardy Hybrid Perpetual Roses, 2 year, strong, 15c. each; \$1.25 per 10. Climbing Roses, 2 year, 15c. per 10. Thirty Greenhouse or Bedding Plants, \$1—all different. Cabbage and Tomato Plants, 25c. per 100; \$2 per 1,000. Plants by mail or express. H. H. KERN, Manager, Bonner Springs, Kas.

## FRUIT EVAPORATOR

THE ZIMMERMAN The Standard Machine Different sizes and prices. Illustrated Catalogue free. THE BLYMYER IRON WORKS CO., Cincinnati, O.

**CARRIAGES, BUGGIES, HARNESS**  
and Bicycles, at Factory Prices. Work guaranteed and 20 to 40 per cent saved. Our goods received the highest awards at the World's Fair. Our 1895 Mammoth Illustrated Catalogue is free to all. It shows all the latest styles and improvements and reduced prices. It has 200 pages and is the largest and most complete catalogue ever issued. "A" Grade, \$45. Write to-day. Send for it. It's free. Alliance Carriage Co., Cincinnati, Ohio. "A" Grade, \$67.50. Write to-day.



## Broke the Record

No Cultivator ever had such a remarkable run the first season. Sales nearly 20,000 in 1894

and this year will be greatly increased. The C. H. D. is simply the best Walking Cultivator ever made and as yet has no imitators. It sells at sight. For sale by one dealer in a town. See it before you buy. Write us for illustrated circular.

Deere & Co. MOLINE ILL.



## In the Dairy.

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

### Inquiries Answered.

Mr. A. E. Jones, Topeka, Kas.:

SIR:—I address you as the head of the Dairy department of the KANSAS FARMER. I have a tract of land north of this place, where I have been trying to raise a few cattle. There are about forty head of cows and heifers to have calves or have them now. I have rented the place and all the stock to a man that I believe will do his best to make a profit for us both (as I get half). His wife is a first-class butter-maker, as she has always demanded and got the top price for her butter by contract. We want a separator. What make shall we get? Then please give the dimensions of a milk-house with a tank in it to keep cream in. Please give us any and all the information we need and we will try to make it pay if the grass grows. Please state how we shall handle calves so they will not look like some hand-raised calves I have seen. Then last, but not least by any means, is, what shall we raise to make good milk in July and August when flies are worst? We expect to have sweet corn, red Kafir corn, sorghum and some millet. Our land is sandy, so we will sow rye in the fall to make some pasture and hold the sand. Please give your way of doing this work that will be required to handle the milk of thirty cows. Would you use ice, or is water that stands about 54° cool enough. I will look for an answer in KANSAS FARMER.

Hutchinson, Kas.

There are a great number of separators on the market, all claiming to do good work, but the De Laval "Alpha" is generally in use in this section. Most dairymen seem to think that for thirty cows it pays to get a machine that will separate 600 pounds of milk an hour. This would be one of the largest of the hand size, and could be operated by power if wished.

If you only want a milk-house for the purpose of keeping the cream from thirty cows, a building 12x16 feet would be large enough, but in case the separator and churn are to be operated in the same room, a somewhat larger structure would be needed, say 16x24 feet.

Two ripening vats, each large enough to hold a churning of cream, is the most convenient, provided that arrangements can be made for cooling the cream in warm weather and warming it in cold weather. These vats should be raised from the floor high enough so the cream may be drawn through a faucet into the churn or some sort of a vessel. To secure a proper ripening of the cream the creamery should contain a separate ripening-room, as it is otherwise very difficult to produce a good fermentation. The temperature of this room should be kept at 60° or lower, and should have windows to let in the light. We will now suppose we have the cream separated from the milk by the separator process, and if held for two or three days it ought to be kept at 50°, in order that it may not get too sour in warm weather. Cream may be added from each succeeding skimming and thoroughly mixed with that already in the vat or cans. None should be added, however, within twelve hours of churning time. The cream can or vat should be large enough to hold a churning; then we are quite sure that the cream is all of a uniform ripeness. This is necessary to secure the most exhaustive churning. In case a ripening vat cannot be used, some kind of a vessel about the same depth as the cream can and several inches larger in diameter, is needed to put the cream in and surround it with water, warm or cold, as needed to warm or cool the cream. A wooden vat may be used for this purpose. Cream should be churned at 58° in warm weather and 62° in winter. Stir often, or pour from one can to another to aerate. Cream from the separator should be immediately cooled to a low temperature, the degree depending on when the churning is to take place. If to be churned the next morning, cool to 40° and then arrange so the temperature will rise to 58° during the night, when, if sour enough, it will be ready for the churn. In my estimation the barrel churn gives the best satisfaction. Churn until the grains of butter are the size of

small peas; throw in some ice water, and then draw off the buttermilk through a strainer; wash the butter in the grain until the water runs clear; take out and salt on the board, one ounce to the pound, and work just enough to incorporate the salt.

Have always raised my calves by hand, mostly on skim-milk. Take a tablespoonful of oil meal to each calf; make a jelly by putting in hot water, and then add to the milk. Have never been troubled with pot-bellied calves. Care should be taken not to give them too much. Put shelled corn and bran before them and they will soon learn to eat. When turned to pasture the other feeds can be reduced.

See KANSAS FARMER of April 24, on "Forage Crops for Dairy Cows." Rye does well on sandy soil and will make good pasture in early spring.

My advice would be to purchase a separator, and then no ice will be needed except in cooling the cream and at churning time. It would not pay to buy ice to set milk in unless 30 or 35 cents could be obtained for the butter. If you have water that stands at 54°, but very little ice would be needed except to lessen the work, or for use in the hot months of summer. In place of a separator I would use Cooley cans, setting them in boxes filled with cold water, renewed several times a day, or arrange to pump through the boxes by wind power.

Some things can only be learned by experience.

### Losses of Milch Cows from Winter Exposure.

In the report of the United States Department of Agriculture for the month of April, is a table showing the losses of milch cows the past winter in the various States and Territories. It is quite interesting to note the difference in these losses. Much to the surprise, no doubt, of many, the most northern States show the least loss. The following is the percentage rating: Maine none; New Hampshire .2; Vermont, Massachusetts, Rhode Island and Connecticut, none; New York .3; New Jersey .3; Pennsylvania .6; Delaware not reported; Maryland 1.2; Virginia 2.2; North Carolina 2.8; South Carolina 2.2; Georgia 9.5; Florida 13.6; Alabama 6.3; Mississippi 6.0; Louisiana 9.2; Texas 3.6; Arkansas 3.7; Tennessee 3.0; West Virginia 2.1; Kentucky 1.6; Ohio .7; Michigan .1; Indiana .7; Illinois .5; Wisconsin .3; Minnesota .3; Iowa .6; Missouri .9; Kansas 1.3; Nebraska 1.8; South Dakota 2.3; North Dakota .2; Montana 2.1; Wyoming 2.8; Colorado 3.4; New Mexico 2.0; Arizona 1.2; Utah 4.6; Nevada 1.4; Idaho 1.4; Washington 1.5; Oregon 1.2; California 2.1; Oklahoma 2.4.

It will be seen that Florida, Georgia and Louisiana lead all other States in winter loss. One would naturally expect from the mildness of the climate in these Southern States, that the result would be vastly different. We are of the opinion, however, that the real cause of this great percentage of loss lies in the fact that in the Southern States the cow is left very largely to shift for herself in the winter months. We know from actual observation that cows in the Southern States are neither cared for, sheltered nor fed with anywhere near the attention and thoroughness that is seen in Maine or Wisconsin. The Southern farmer, as a rule, looks upon a cow as an outside consideration. When he begins to consider her as a truly good farmer should, we will see this fearful waste of cow life greatly reduced. The trouble is not in the climate, but in the understanding and practice of the Southern farmers themselves.

### Good Butter.

There is always a market for fancy grades of any product. There are always buyers for the best. The market is never overstocked and the prices are always high for the thing that is better than anything else in its line. Anybody can make butter of some sort—no trouble about that. Not everybody can make the best. That's what makes the price of the best butter from 60 cents to \$1 a pound in New York city all the year round.

One of the chief reasons why every-



Please say you saw this ad. in this paper.

## FRUIT PACKAGES

WE HAVE THE LARGEST STOCK IN THE WEST AND SELL THE BEST GOODS FOR LESS THAN INFERIOR GRADES USUALLY COMMAND

## EGG CASES AND FILLERS

Pine, Cottonwood & Poplar.  
From 8 cents, K.D. to 26 cents Filled.  
BUTTER TUBS AND PACKAGES, ALL SIZES AND SHAPES.  
For Net Seasonable Price List Address  
CREAMERY PACKAGE MFG. CO.  
DEPT. B KANSAS CITY, MO.

**SEPARATORS**  
HAND OR  
POWER FOR  
FARM USES

A Peerless Leader.  
1/4 More & Better Butter  
Saves Time, Labor and  
Money. Sizes from  
1 to 1,000 COWS  
Simple, Effective and  
Practical. Write for  
Illustrated Book Free  
AGENTS WANTED.  
DAVIS & RANKIN BLDG. AND MFG. CO.  
Sole Manufacturers, Chicago, Ill.

Write for Information of the

## Sunny Grand Valley of Colorado

The Home of the Peach and other Deciduous Fruits. The land of perpetual sunshine, where there are neither blizzards, cyclones, nor malaria; where the fruit crop never fails, and the farmers are prosperous and happy.  
THE WESTERN LAND & ORCHARD CO.  
723 17th Street, Denver, Colo.

## PATENTS

Practical ideas worked out for patterns and models by expert Machinists at the  
**TOPEKA FOUNDRY CO.,**  
Corner Second and J. Sts., TOPEKA, KAS.

## Cheap Farming Implements!

Sulky and Gang Plows, \$16 to \$26.  
Wood and Steel Beam Plows, \$6 to \$9.  
Disc Harrows, etc. Good as New.  
Write for Price List. **J. H. FINK,**  
Baird Building, Kansas City, Mo.

## The Greatest Railroad on Earth—

## Santa Fe Route!

Teachers and others going to National Educational Association meeting at Denver, in July, should remember that the Santa Fe offers as low rates as anybody else, with better service.  
Special inducements to small or large parties.

### Santa Fe Route.

Through Pullman Sleepers and free Chair Cars—Chicago, St. Louis and Kansas City to Denver. One hundred miles' superb view of Rocky Mountains between Pueblo and Denver.  
Privilege of attending Summer School, Colorado Springs, on return trip.  
Low-rate excursions into the mountains after meeting is over.  
For descriptive pamphlets, address  
G. T. NICHOLSON, G. P. A.,  
Monadnock Building,  
CHICAGO.

Most Picturesque  
Line to Colorado.

## HIGH GRADE BUTTER

Cannot be made without a  
**SEPARATOR!**  
Look to your Dairy for Profit.  
There is more money in Butter than Wheat.  
Send for Catalogues.  
**C. E. HILL & CO.,**  
8th and Mulberry St.  
KANSAS CITY, MO.  
Sharples Separators.  
We are headquarters for Ventilated Chicken Coops and Farmers' Egg Cases.

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

## GOOD BUTTER AND HOW TO MAKE IT.

A book of help and interest—free. It tells about the most modern and economical dairy invention—the Crystal Creamery. **Crystal Creamery Co.,** 29 Concord St., Lansing, Mich.

## RETAINS RUPTURE WHEN ALL OTHERS FAIL.



## The Dr. Harvey Human Hand Truss.

JUST LIKE USING YOUR FINGERS—YOU KNOW HOW THAT IS!

For Descriptive Circulars Address  
**R. I. PEARSON & CO.,** SOLE MANAGERS,  
Rialto Building, KANSAS CITY, MO.



### The By-Products of a Creamery.

Mr. G. E. Burnham, of Minneapolis, Kas., delivered a very interesting paper on the "By-Products of the Creamery," at the recent convention of the Kansas State Dairymen's Association. He first touched on the untidy and slipshod methods in vogue in some creameries where dirt and disorder were found on all sides and where the various appliances were greasy and uncared for, all to such an extent that the production of first-class goods was out of question in such places, and then proceeded as follows:

"Another 'by-product' of the creamery that should be guarded against is sickness and disease, caused by poor or imperfect drainage, or bad odors emanating from vats that get to leaking the milk or cream into the cooling apartments. So much about undesirable 'by-products.'

"The three desirable 'by-products' of the creamery mentioned should be a source of considerable revenue. And the great question regarding them is, how to make them bring the most. I confess my own knowledge in that direction is limited. In some parts of the East skim-milk and whey are both used in sugar and other factories at good prices, and skim-milk is made into Dutch cheese and sold readily at good prices. Also buttermilk can be sold in the large cities for culinary purposes, and to be used as a beverage, at good prices.

"But we, at our creamery, can only dispose of part of our buttermilk in that way, and the balance of it is either taken by our patrons for the same purposes, or run into our cistern with our surplus skim-milk and whey. We always supply our patrons first and base our price on the price we can pay them for their whole milk. That is to say, when milk is low in the summer we sell skim-milk for about one-half the price we charge for it in winter, when milk is higher. After supplying our patrons with all they desire we sell to outsiders, and when the milk receipts are light and the different kinds of feed are not very low, we can sell most of our surplus skim and buttermilk for about 11 cents per hundred weight and whey for about half that price.

"But when we have heavy receipts, or other feed is cheap, we cannot usually dispose of our surplus. Then we buy and feed it to hogs (providing we can secure the hogs, which we usually can). We always feed shorts, corn, chopped wheat or screenings (which ever is most economical) with it. Feed usually three times a day, and fill them full of milk each time before giving them the other feed.

"We have made a lot of hogs gain three pounds per head per day for sixty days this way, and one lot gained two pounds per head per day for ninety days. With good thrifty hogs we can usually make our skim-milk net us from 10 to 15 cents per 100 pounds—the latter price when all things are favorable.

"Thus, it will be seen that our desirable by-products are quite a source of revenue, even if our outlet is limited. I will state that a good proportion of our patrons raise their calves almost wholly, as far as milk is concerned, on sour skim-milk, while some only use it for hogs."

In the questions and discussions that followed, Mr. Burnham said that they always fed the milk sweet, whenever possible, as it was more nourishing than when sour. They had no practical knowledge as to the difference in value between skim-milk and buttermilk, but buttermilk was worth the most. They fed it three or four hours after, but he advised them not to keep anything till next day except what could not be fed out.

Mr. J. L. Hoffman, of Newton, Kas., said that he could not get any good results in feeding skim-milk sweet. He preferred to let it stand until next day. He believed in feeding buttermilk fresh, and regarded it as not only more nutritious but would add more weight than skim-milk to a shoat. For very small pigs buttermilk was injurious.

Mr. Burnham stated that he never

fed it alone. When they were hungry he gave them all the milk they would drink. Give them chopped wheat or corn, whichever is cheapest feed, next, and they eat that until fed again. They were more apt to be sick if crowded on milk alone. Separator milk of to-day would remain sweet until the evening. One feed of nice sweet milk and two of sour were good. He preferred to let all the milk get clabber. When he started in the creamery business the patrons would not take separator milk. They claimed that it would kill off their hogs. Some died without having had any milk at all. He got seven and resolved to see if the milk would kill them. One morning he fed buttermilk and the next morning skim-milk. The hogs refused to die, and while no big showing was made, they averaged 237 pounds at the end of nine months. They had no stable and did not get a peck of corn between them.

Mr. H. M. Brandt, of Moundridge, Kas., said that when the creamery was started in his section, the farmers had an idea that this skim-milk would kill the hogs, and urged it as the duty of a creameryman to teach the contrary to his patrons. Skim-milk would not kill, but on the contrary would fatten hogs, and make good money for the farm. When hogs are kept they ought to have a good stable, and the milk should be fed in the best possible manner. His system the past four years had been to turn out a litter every six months. They have their brood sows come in before cold in the fall, and in seven months' time, with a moderate amount of grain and a moderate amount of shipstuff, not too much at a time (have not had a pound of corn), they will weigh 250 pounds at six and a half months old. No farmer in his section can show better hogs, and no boasting is intended in so stating. From the skim-milk used it would be difficult to say how much they realized on it, about 1 cent a gallon he should say, but they were not able to do this all the year around, considering the work that it requires to keep those hogs up. All know that feeding 100 or 150 hogs in connection with the creamery does not leave much time to work inside the creamery.

Mr. A. E. Anderson, of Elmira, Kas., said he had been in the creamery business since 1883, continuously, and found it difficult to supply all the milk the farmers wanted. No farmer ever had a hog die from feeding him milk, sour, sweet or otherwise. The farmers sold to one another milk at the rate of 20 cents per hundred pounds. One hundred pounds of skim-milk or buttermilk is worth as much as one-half bushel of corn for feeding hogs.

In reply to a question as to how much shipstuff he puts with the skim-milk, Mr. Brandt said: "Grade it altogether by judging how well the hogs do for one week." If he thought that they would use up a little more next week and fat up well, he fed as much as they would take care of and do well. To a barrel (about 400 pounds) of skim-milk they added about one and one-half bushels of shipstuff, and they did not feed any corn when feeding that amount of shipstuff.

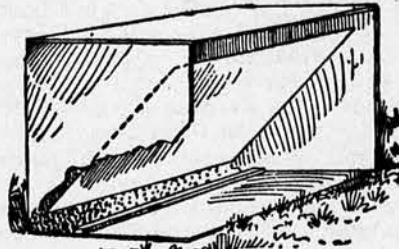
Mr. J. Y. Sawyer, of Chicago, advised dairymen to look well after these little things. Weigh up the buttermilk; weigh up the shipstuff; weigh your hogs, week about, giving them one feed and then another. If they gain on one thing better than another, increase it. A seven-months hog that will weigh 250 pounds is worth more than a nine-months hog that weighs 350 pounds.

In reply to a question, Mr. Anderson stated that his creamery had a man at the skim-milk tank to see that each patron got his proportion and weighed it out to him. Otherwise it was bound to be the case that one would take more than he was entitled to.

With reference to feeding calves, Mr. C. F. Dexter called attention to the calf-feeding experiments at the Iowa Agricultural Experiment Station (Bulletin 14) and stated that it was therein indicated that a ration of skim-milk and ground flaxseed compared favorably with new milk for calves.

### Feeding Grit to Poultry.

Get a box about one foot square and 8 or 10 inches deep, remove the top, and place it inside at an angle from one corner of the bottom of the box, leaving about three-quarters of an inch space from the bottom and one side, and the other side of the board about two inches from the other side to allow space to fill; or it may be filled tight, and the side of the box removed and hinged so as to open and fill. Place a strip of wood about one inch square, about two inches from the three-quar-



FEEDING GRIT TO POULTRY.

ter inch space at the bottom of the box, to keep the grit in place. Bore two small holes in the bottom of the box near what is to be the top, and hang on nails so as to raise the box a few inches from the ground, to prevent the chickens from scratching dirt in. Put in the grit, oyster shells, charcoal, etc., and the fowls will have it fresh and clean, as it will drop down as they eat it. There will be no waste as when fed on the ground or in open boxes. The same arrangement may be used for feed when it is desirable to keep feed before the poultry all the time. The device is shown in the cut.—Rural New Yorker.

### The Evil of Overfeeding.

Dr. Henry Stewart, says the Iowa Homestead, once said that the greatest cause of sickness and death among poultry is overfeeding. The common practice is to give the fowls all they will eat, as if fowls were wiser than hogs and knew when they had enough. Fowls and hogs, and even cows and horses, when they get at a meal bin never know when to stop until they are gorged full to the top of the throat, and then trouble begins. First, there is indigestion, then fever, then cholera or fever and gangrene of the intestines, or inflammation of the mucous membrane, which is catarrh or roup, or anthrax, which is black comb, and other fatal disorganizations of the muscular tissues and liver. In these cases medicine is of little avail, and the only remedy is a sharp little ax, which might justly be fitted in the top of the medicine chest as the most effective remedy for most of the diseases of poultry.

### Half-Rate Excursions to South Missouri, Arkansas and the Southeast.

On May 21 and June 11, round-trip tickets to south Missouri, Arkansas and the South and Southeast, via the Memphis Route, Kansas City, Ft. Scott & Memphis railroad, will be sold at rate of one fare, with minimum rate of \$7. Tickets available for stop-off at intermediate stations. For detailed information, time schedules, and printed matter descriptive of the great stock-raising and fruit-growing sections of Missouri and Arkansas, address

J. E. LOCKWOOD,  
G. P. & T. A., Kansas City, Mo.

Ask your neighbor to subscribe for the KANSAS FARMER.

### SHERIFF WILKINS FREED.

Years of Slavery and How He Escaped—Health is Improving—Has Gained Fifteen Pounds in Weight—Talks About His Deliverer Daily.

URBANA, OHIO, May 13.—(Special).—This town is in quite a boil of excitement since the facts about the improved physical condition of many of our leading citizens became known. Anderson & Cramer, the old wholesale and retail druggists, were called on and frankly admitted that they were the first to start the good work, as Mr. Anderson termed it. "Yes, we introduced No-To-Bac into this town about three years ago. The demand at the start was very light; the folks had no faith in it, but we sold to a few people, and to our great astonishment every one reported a cure. Since that time we have sold hundreds of boxes, and every one under a guarantee to cure or refund the money, and strange as it may seem, we have never had a call to refund money. This is indeed a great record of merit, and it is because of this merit that the big sale has resulted. As every cure brings in at least twenty-five customers, we know that No-To-Bac can be relied upon in every respect, and No-To-Bac not only relieves the nervous irritation and makes the use of tobacco entirely unnecessary, but at the same time builds up and fortifies the general physical condition. I just saw two of our prominent merchants pass down the opposite side of the street; they were cured by No-To-Bac a year ago, and they have not used tobacco since and have been greatly improved in health. We have a great many customers, men who are well advanced in years, who have been cured of the tobacco habit by the use of No-To-Bac, and who continue taking it right along for its tonic effects. As a natural invigorator and stimulant we believe there is no preparation in America to equal it."

"You know R. P. Wilkins, our Sheriff, don't you?"

"Yes, of course I do."

"Well, you want to interview him."

Mr. Wilkins was called upon, and said: "Yes, November 4, last, I bought my first box of No-To-Bac from Anderson & Cramer. I had little faith, and to my great surprise, after using part of the third box, I was completely cured and did not have the least desire for tobacco. I had been a perfect slave to tobacco for over twenty-five years; I smoked from twelve to fifteen cigars a day; to-day I feel better, I sleep better, think better, and I have gained fifteen pounds in weight, and there is not a day passes that I do not recommend No-To-Bac to many of the tobacco-users who I know are destroying their lives and vitality by the use of the weed."

Further investigation revealed the fact that there are 500 people living in this town and the surrounding country who have been cured by No-To-Bac. If the cures go on at this rate it will not be very long before the tobacco industry is going to be seriously affected. The sale of No-To-Bac has been phenomenal.

The public should be warned, however, against the purchase of any of the many imitations on the market, as the success of No-To-Bac has brought forth a host of counterfeiters and imitators. The genuine No-To-Bac is sold under a guarantee to cure by all druggists, and every tablet has the word No-To-Bac plainly stamped thereon, and in the purchase of the genuine article you run no physical or financial risk.

You can save hard-earned dollars by buying your goods from John J. Maginnis, of Aurora, Ill., whose "ad." appeared in columns of this paper recently. A 2-cent stamp will bring you a price list that contains about everything that you could wish, and as you buy at wholesale you have no middleman's profit to pay.

**ASK for CIRCULARS; if**  
YOUR DEALER HAS NONE SEND TO US FOR THEM.  
**DAVID BRADLEY**  
MFG. CO.  
CHICAGO, ILL.

SIX Styles of  
**GANGS**  
can be used.

**TEAM**  
RAISES THE  
**GANGS**  
  
CULTIVATES  
**DEEP OR**  
**SHALLOW**

**AND LEVELS THE GROUND PERFECTLY.**



## The Veterinarian.

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

**PARALYSIS IN SOW.**—I have a young sow that has lost the use of her hind parts. I have given her arsenic for kidney worm. What can I do for her?  
Cullison, Kas. S. R.

**Answer.**—Paralysis in hogs is often due to some obscure cause, hence it is difficult to prescribe for it. Give her a tablespoonful of turpentine in swill once a day and rub pure turpentine freely across her loins. Give her good care and a dry place to sleep.

**WATER - SEED - QUESTION.**—(1) I have a horse, 3 years old, that was castrated last spring and appeared all right, but I notice there is a bunch in the scrotum; it is soft, as if filled with water. What can I do with it? (2) I have a horse, 6 years old, weighing 1,500 pounds, that I want castrated. Will you tell me the best way to have it done and how to handle him? Can a horse be given something to put him to sleep while being operated upon? Will you tell me how to do it?  
Agra, Kas. E. E. L.

**Answer.**—(1) It is a so-called water-seed, and will have to be dissected out. (2) Have the work done by an experienced operator and then follow his instructions. I have, at different times, used the clamps, the ligature, the ecraseur and the emasculator. All were successful, but I prefer the latter. A horse can be made unconscious with chloroform, but it requires experience to administer it safely. You do not need it in your case.

### Are Public Swine Sales Advisable?

**EDITOR KANSAS FARMER:**—My experience is, to sell thoroughbred swine at public sale is the proper way to dispose of a herd of swine. (1) You will dispose of your entire crop of pigs and breeders in the way you wish to dispose of in one day, if properly managed. (2) The breeders and farmers can see the breeding and the individuality of every animal he may purchase, and if he is not satisfied with the purchase, has no "kick" to make—unless he kicks himself. It also brings breeders and farmers together, where a great deal of good may be arrived at in different ways. The farmer often consults with his friend, the breeder, in regard to type of herd he has, and what kind of pig he should get to make the proper mating. The breeder points out a certain pig and tells the farmer, "that pig would make a good cross with the type of herd he has." As a rule, the farmer buys the one he has picked on and goes home satisfied with his purchase.

Selling thoroughbred swine at public sale has created a large excitement all over the United States where corn and pork are the staple products of the farm. If we look over the various swine journals and agricultural papers, it will prove to us at once that selling thoroughbred swine sold at public sales is gaining fast from year to year. I am safe in saying that there are six herds of thoroughbred swine at public sale now where one was sold four years ago, thus showing that it is a good plan to sell thoroughbred swine at public sale.

Public sales are not always a success. It depends largely on how they are managed. A breeder must not think that all he must do is to advertise and he will have a good sale. He must have good blood and good individuality, and have them looking sleek and plump when they are brought into the sale ring. Don't tell the people you have got good stuff to sell when you haven't got it. It will injure any sale. I don't wish to say that selling thoroughbred swine at public sale cannot be overdone, as the "American people" are apt to overdo a good thing. I will now leave this subject for further discussion.  
Hiawatha, Kas. ELI ZIMMERMAN.

Send for our latest premium and clubbing list.

## Horse Owners! Try GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. F. H. LAWRENCE-WILLIAMS CO., Cleveland O.

### Valuable Books Cheap.

By a special arrangement with the publishers, we are able to offer to subscribers any of the following named books at 10 per cent. less than the list price. These are new, fresh books, right up to the time, as is sufficiently guaranteed when it is known that they are put out by W. Atlee Burpee & Co., the famous Philadelphia seedsmen. Here is the list:

	Price, postpaid.
"The Beautiful Flower Garden." A delightful book by an artist.....	.50
"Injurious Insects." A valuable book.....	.50
"Selection in Seed Growing.".....	.10
"Onions for Profit." A hand-book based on modern methods.....	.50
"Manures: How to Make and How to Use Them.".....	.50
"Celery for Profit." An expose of modern methods in growing Celery.....	.30
"All About Sweet Peas." Revised and enlarged edition.....	.20
"How and What to Grow in a Kitchen Garden of One Acre.".....	.50
"The Poultry Yard: How to Furnish and Manage It.".....	.50
"How to Grow Cabbages and Cauliflowers.".....	.30
"Root Crops for Stock Feeding, and How to Grow Them.".....	.30
"How to Grow Melons for Market." Compiled from Prize Essays.....	.30
"How to Grow Onions." With a chapter on Growing by Irrigation.....	.30
"Pansies, Poppies, and Sweet Peas." A bright booklet.....	.10

### MARKET REPORTS.

**Kansas City Live Stock.**  
KANSAS CITY, May 13.—Cattle—Receipts, since Saturday, 5,098; calves, 46; shipped Saturday, 1,889 cattle; no calves. The market was slow, but generally steady in native division; Texas division slow to a dime lower. The following are representative sales:  
**DRESSED BEEF AND SHIPPING STEERS.**  
20.....1,341 \$5.50  
1.....1,300 5.15  
56.....1,056 5.00  
22.....1,194 4.95  
18.....1,213 4.85  
18.....985 4.80  
22.....1,080 4.25  
61.....897 4.10  
**TEXAS AND INDIAN STEERS.**  
65 cwt.....1,025 \$4.40  
23.....981 4.25  
50.....1,120 4.25  
48.....855 4.05  
**COLORADO STEERS.**  
40 hay.....1,186 \$4.50  
38 hay.....1,182 4.50  
43 alf.....1,107 4.15  
**SOUTHWESTERN STEERS.**  
62.....1,173 \$4.70  
4.....1,265 \$3.80  
**TEXAS AND INDIAN COWS.**  
2.....1,030 \$3.25  
31.....675 3.15  
19.....783 3.10  
11.....829 3.15  
**COWS AND HEIFERS.**  
27.....696 \$4.70  
2.....563 3.90  
1.....1,100 3.80  
27.....923 3.75  
1.....1,000 3.75  
2.....520 2.40  
11.....523 2.30  
1.....930 2.25  
5.....976 2.10  
2.....725 2.00  
**STOCKERS AND FEEDERS.**  
2.....925 \$4.00  
12.....720 3.60  
1.....820 3.55  
8 Col.....431 2.35  
Hogs—Receipts since Saturday, 3,483; shipped Saturday, 237. The market was generally steady, in a few particular cases 5c higher. The following are representative sales:  
70.....301 \$4.60  
77.....253 4.45  
57.....240 4.45  
44.....227 4.40  
23.....237 4.40  
71.....225 4.37 1/2  
53.....249 4.35  
31.....101 4.35  
38.....173 4.30  
90.....210 4.25  
25.....143 4.20  
8.....130 4.10  
87.....154 4.00  
33.....267 \$4.50  
5.....288 4.45  
73.....231 4.42 1/2  
73.....243 4.40  
65.....231 4.40  
85.....204 4.37 1/2  
89.....121 4.35  
60.....214 4.35  
77.....191 4.27 1/2  
85.....192 4.25  
12.....175 4.20  
29.....250 4.05  
59.....144 4.00  
67.....181 \$4.50  
134.....225 4.45  
49.....233 4.40  
71.....229 4.40  
62.....215 4.37 1/2  
83.....227 4.37 1/2  
4.....227 4.30  
8.....312 4.30  
78.....158 4.25  
29.....141 4.20  
59.....152 4.10  
38.....129 4.00  
4.....152 3.80

**Kansas City Produce.**  
KANSAS CITY, May 13.—Eggs—Receipts light; strictly fresh, 10c.  
Poultry—Market steady; supply fair. Hens, 6@6 1/2; springs, \$1.00@5.00 per doz.; roosters, 15c. Turkeys, coming in freely, market slow; gobblers, 7c; hens, 7 1/2c. Ducks, steady, 6 1/2c. Geese, dull and not wanted; alive, 4@4 1/2c. Pigeons, firm; \$1.00 per doz.  
Butter—Market weak on account of increasing supply. Extra fancy separator, 15@16c; fair, 12@13c; dairy, fancy, firm, 13c; fair, 8@10c; store packed, best, 10c; fair, sweet packed, 7 1/2c; packing, old, 4@5c; stale butter finds no sale.  
Strawberries—The market was pretty well supplied to-day; cold snap makes buyers a little slow; Missouri choice, \$2.25@2.50; Indian territory and Arkansas fresh, extra fancy stock, \$2.00@2.25; good to choice, \$1.50@2.00 per case; holdover stock, from 50c up, according to quality.  
Fruit—Apples, supply moderate; market steady on good apples; best fancy stand, \$1.00@7.00; common to choice varieties, \$2.00@4.00.  
Vegetables—Potatoes, market steady; ordinary kinds, 30@40c per bu.; sweet potatoes, red, supply good, market slow, 25@30c per bu.; yellow, 25@30c per bu.; Colorado, market fair; choice mammoth pearl, white, best, 70@75c; No. 2, 50@60c; Utah, 40@50c per bu.

**St. Louis Live Stock.**  
ST. LOUIS, May 13.—Cattle—Receipts, 5,700; shipments, 100; natives quiet; export steers would bring \$5.85@6.25; good to choice shipping, \$5.40@5.80; fair to medium, \$4.75@5.25; light, \$3.50@4.50; feeders, \$3.00@4.00; cows, \$2.50@3.50; Texans, active and firm; fed steers, \$3.85@5.40; grassers, \$2.75@3.75; cows, \$2.25@3.25. Hogs—Receipts, 3,100; shipments, 1,000; market steady for best, weak for others; top price, \$4.60; bulk of sales, \$4.35@4.55; light, \$4.20@4.35. Sheep—Receipts, 5,300; shipments, none; market firm for good mutations, of which there is meager supply; poor qualities dull and weak; good natives range \$4.00@4.40; fed westerns would bring \$4.50@4.75; Texas range, \$2.75@3.15; lambs, \$5.00@5.50.

**Chicago Live Stock.**  
CHICAGO, May 13.—Hogs—Receipts, 28,000; official Saturday, 9,338; shipments 2,988; left over, 1,000; market fairly active; steady to a shade lower; light, \$4.35@4.70; mixed, \$4.35@4.75; heavy, \$4.25@4.80; rough, \$4.25@4.40.  
Cattle—Receipts, 12,000, including 2,000 Texans; official Saturday, 331; shipments, 301; market slow and generally 5@10c lower.  
Sheep—Receipts, 7,000; official Saturday, 1,701; shipments, 750; market strong and 5@10c higher.

**Chicago Grain and Provisions.**

May 13.	Opened	High'st	Low'st	Closing
Wh't—May....	63 1/4	64 1/4	63 1/4	64 1/4
July.....	64 1/4	65 1/4	63 1/4	65 1/4
Sept.....	64 1/4	65 1/4	64 1/4	65 1/4
Corn—May....	50 1/2	50 1/2	50	50 1/2
July.....	50 1/2	51 1/2	50 1/2	50 1/2
Sept.....	51 1/2	51 1/2	51	51 1/2
Oats—May....	28 1/4	28 1/4	27 1/2	28
July.....	28 1/4	28 1/4	28	28 1/4
Sept.....	26 1/4	26 1/4	26 1/4	26 1/4
Pork—May....	12 02 1/2	12 02 1/2	12 02 1/2	12 02 1/2
July.....	12 02 1/2	12 10	12 10	12 17 1/2
Sept.....	12 35	12 37 1/2	12 25	12 37 1/2
Lard—May....	6 67 1/2	6 67 1/2	6 67 1/2	6 67 1/2
July.....	6 77 1/2	6 80	6 75	6 80
Sept.....	6 92 1/2	6 95	6 92 1/2	6 95
Ribs—May....	6 10	6 10	6 10	6 10
July.....	6 15	6 20	6 15	6 17 1/2
Sept.....	6 30	6 32 1/2	6 27 1/2	6 32 1/2

4.00; cows, \$2.50@3.50; Texans, active and firm; fed steers, \$3.85@5.40; grassers, \$2.75@3.75; cows, \$2.25@3.25. Hogs—Receipts, 3,100; shipments, 1,000; market steady for best, weak for others; top price, \$4.60; bulk of sales, \$4.35@4.55; light, \$4.20@4.35. Sheep—Receipts, 5,300; shipments, none; market firm for good mutations, of which there is meager supply; poor qualities dull and weak; good natives range \$4.00@4.40; fed westerns would bring \$4.50@4.75; Texas range, \$2.75@3.15; lambs, \$5.00@5.50.

**Chicago Live Stock.**  
CHICAGO, May 13.—Hogs—Receipts, 28,000; official Saturday, 9,338; shipments 2,988; left over, 1,000; market fairly active; steady to a shade lower; light, \$4.35@4.70; mixed, \$4.35@4.75; heavy, \$4.25@4.80; rough, \$4.25@4.40.  
Cattle—Receipts, 12,000, including 2,000 Texans; official Saturday, 331; shipments, 301; market slow and generally 5@10c lower.  
Sheep—Receipts, 7,000; official Saturday, 1,701; shipments, 750; market strong and 5@10c higher.

**Chicago Grain and Provisions.**

May 13.	Opened	High'st	Low'st	Closing
Wh't—May....	63 1/4	64 1/4	63 1/4	64 1/4
July.....	64 1/4	65 1/4	63 1/4	65 1/4
Sept.....	64 1/4	65 1/4	64 1/4	65 1/4
Corn—May....	50 1/2	50 1/2	50	50 1/2
July.....	50 1/2	51 1/2	50 1/2	50 1/2
Sept.....	51 1/2	51 1/2	51	51 1/2
Oats—May....	28 1/4	28 1/4	27 1/2	28
July.....	28 1/4	28 1/4	28	28 1/4
Sept.....	26 1/4	26 1/4	26 1/4	26 1/4
Pork—May....	12 02 1/2	12 02 1/2	12 02 1/2	12 02 1/2
July.....	12 02 1/2	12 10	12 10	12 17 1/2
Sept.....	12 35	12 37 1/2	12 25	12 37 1/2
Lard—May....	6 67 1/2	6 67 1/2	6 67 1/2	6 67 1/2
July.....	6 77 1/2	6 80	6 75	6 80
Sept.....	6 92 1/2	6 95	6 92 1/2	6 95
Ribs—May....	6 10	6 10	6 10	6 10
July.....	6 15	6 20	6 15	6 17 1/2
Sept.....	6 30	6 32 1/2	6 27 1/2	6 32 1/2

**Kansas City Grain.**  
KANSAS CITY, May 13.—Soft wheat met with a very urgent demand to-day and sold 2 to 3 cents higher than Saturday's prices. Only one sample was on the tables. It sold at 70c. A number of cars sold to arrive at 69c. Wheat out of store was held at 70. Hard wheat was 1 1/2c higher, but there was less demand for it than for soft wheat.  
The demand for wheat is entirely local now, so that quotations on the basis of Mississippi river are not practicable.  
Receipts of wheat to-day, 13 cars; a year ago, 60 cars.  
Sales of car lots by sample on track, Kansas City: No. 2 hard wheat, 7,500 bushels out of store 65 1/2c; No. 3 hard, 1 car 65c; No. 4 hard, nominally, 63c; No. 2 red, 1 car 70c, 7 cars 69c; No. 3 red, nominally, 67@68c; No. 4 red, nominally, 65c; rejected, nominally, 62c.  
Corn was firmly held and there was little on sale. Mixed corn was 1/2c higher. White sold at Saturday's prices.  
Receipts of corn to-day, 10 cars; a year ago, 79 cars.  
Sales by sample on track, Kansas City: No. 2 mixed corn, 2 cars 46c; No. 3 mixed, nominally, 45c; No. 4 mixed, nominally, 44c; No. 2 white, 4 cars 47 1/2c; No. 3 white, nominally, 46 1/2c.  
Oats were firmly held, but there was not much demand for them.  
Receipts of oats to-day, 8 cars; a year ago, 11 cars.  
Sales by sample on track, Kansas City: No. 2 mixed oats, 2 cars 27c, 5 cars special billing 27 1/2c; No. 3 oats, nominally 26c; No. 4, nominally, 25@23 1/2c; No. 2 white oats, nominally, 26@30c; No. 3 white oats, nominally, 28@29c.  
Hay—Receipts, 51 cars; the market is steady. Timothy, choice, \$8.75@9.25; No. 1, \$8.00@8.50; No. 2, \$7.00@7.50; fancy prairie, \$8.50@9.00; choice, \$7.00@8.00; No. 1, \$6.00@6.75; No. 2, \$4.00@5.50; packing hay, \$3.00@4.00.

**Kansas City Produce.**  
KANSAS CITY, May 13.—Eggs—Receipts light; strictly fresh, 10c.  
Poultry—Market steady; supply fair. Hens, 6@6 1/2; springs, \$1.00@5.00 per doz.; roosters, 15c. Turkeys, coming in freely, market slow; gobblers, 7c; hens, 7 1/2c. Ducks, steady, 6 1/2c. Geese, dull and not wanted; alive, 4@4 1/2c. Pigeons, firm; \$1.00 per doz.  
Butter—Market weak on account of increasing supply. Extra fancy separator, 15@16c; fair, 12@13c; dairy, fancy, firm, 13c; fair, 8@10c; store packed, best, 10c; fair, sweet packed, 7 1/2c; packing, old, 4@5c; stale butter finds no sale.  
Strawberries—The market was pretty well supplied to-day; cold snap makes buyers a little slow; Missouri choice, \$2.25@2.50; Indian territory and Arkansas fresh, extra fancy stock, \$2.00@2.25; good to choice, \$1.50@2.00 per case; holdover stock, from 50c up, according to quality.  
Fruit—Apples, supply moderate; market steady on good apples; best fancy stand, \$1.00@7.00; common to choice varieties, \$2.00@4.00.  
Vegetables—Potatoes, market steady; ordinary kinds, 30@40c per bu.; sweet potatoes, red, supply good, market slow, 25@30c per bu.; yellow, 25@30c per bu.; Colorado, market fair; choice mammoth pearl, white, best, 70@75c; No. 2, 50@60c; Utah, 40@50c per bu.

**St. Louis Live Stock.**  
ST. LOUIS, May 13.—Cattle—Receipts, 5,700; shipments, 100; natives quiet; export steers would bring \$5.85@6.25; good to choice shipping, \$5.40@5.80; fair to medium, \$4.75@5.25; light, \$3.50@4.50; feeders, \$3.00@4.00; cows, \$2.50@3.50; Texans, active and firm; fed steers, \$3.85@5.40; grassers, \$2.75@3.75; cows, \$2.25@3.25. Hogs—Receipts, 3,100; shipments, 1,000; market steady for best, weak for others; top price, \$4.60; bulk of sales, \$4.35@4.55; light, \$4.20@4.35. Sheep—Receipts, 5,300; shipments, none; market firm for good mutations, of which there is meager supply; poor qualities dull and weak; good natives range \$4.00@4.40; fed westerns would bring \$4.50@4.75; Texas range, \$2.75@3.15; lambs, \$5.00@5.50.

**Chicago Live Stock.**  
CHICAGO, May 13.—Hogs—Receipts, 28,000; official Saturday, 9,338; shipments 2,988; left over, 1,000; market fairly active; steady to a shade lower; light, \$4.35@4.70; mixed, \$4.35@4.75; heavy, \$4.25@4.80; rough, \$4.25@4.40.  
Cattle—Receipts, 12,000, including 2,000 Texans; official Saturday, 331; shipments, 301; market slow and generally 5@10c lower.  
Sheep—Receipts, 7,000; official Saturday, 1,701; shipments, 750; market strong and 5@10c higher.

**Chicago Grain and Provisions.**

May 13.	Opened	High'st	Low'st	Closing
Wh't—May....	63 1/4	64 1/4	63 1/4	64 1/4
July.....	64 1/4	65 1/4	63 1/4	65 1/4
Sept.....	64 1/4	65 1/4	64 1/4	65 1/4
Corn—May....	50 1/2	50 1/2	50	50 1/2
July.....	50 1/2	51 1/2	50 1/2	50 1/2
Sept.....	51 1/2	51 1/2	51	51 1/2
Oats—May....	28 1/4	28 1/4	27 1/2	28
July.....	28 1/4	28 1/4	28	28 1/4
Sept.....	26 1/4	26 1/4	26 1/4	26 1/4
Pork—May....	12 02 1/2	12 02 1/2	12 02 1/2	12 02 1/2
July.....	12 02 1/2	12 10	12 10	12 17 1/2
Sept.....	12 35	12 37 1/2	12 25	12 37 1/2
Lard—May....	6 67 1/2	6 67 1/2	6 67 1/2	6 67 1/2
July.....	6 77 1/2	6 80	6 75	6 80
Sept.....	6 92 1/2	6 95	6 92 1/2	6 95
Ribs—May....	6 10	6 10	6 10	6 10
July.....	6 15	6 20	6 15	6 17 1/2
Sept.....	6 30	6 32 1/2	6 27 1/2	6 32 1/2

**Kansas City Grain.**  
KANSAS CITY, May 13.—Soft wheat met with a very urgent demand to-day and sold 2 to 3 cents higher than Saturday's prices. Only one sample was on the tables. It sold at 70c. A number of cars sold to arrive at 69c. Wheat out of store was held at 70. Hard wheat was 1 1/2c higher, but there was less demand for it than for soft wheat.  
The demand for wheat is entirely local now, so that quotations on the basis of Mississippi river are not practicable.  
Receipts of wheat to-day, 13 cars; a year ago, 60 cars.  
Sales of car lots by sample on track, Kansas City: No. 2 hard wheat, 7,500 bushels out of store 65 1/2c; No. 3 hard, 1 car 65c; No. 4 hard, nominally, 63c; No. 2 red, 1 car 70c, 7 cars 69c; No. 3 red, nominally, 67@68c; No. 4 red, nominally, 65c; rejected, nominally, 62c.  
Corn was firmly held and there was little on sale. Mixed corn was 1/2c higher. White sold at Saturday's prices.  
Receipts of corn to-day, 10 cars; a year ago, 79 cars.  
Sales by sample on track, Kansas City: No. 2 mixed corn, 2 cars 46c; No. 3 mixed, nominally, 45c; No. 4 mixed, nominally, 44c; No. 2 white, 4 cars 47 1/2c; No. 3 white, nominally, 46 1/2c.  
Oats were firmly held, but there was not much demand for them.  
Receipts of oats to-day, 8 cars; a year ago, 11 cars.  
Sales by sample on track, Kansas City: No. 2 mixed oats, 2 cars 27c, 5 cars special billing 27 1/2c; No. 3 oats, nominally 26c; No. 4, nominally, 25@23 1/2c; No. 2 white oats, nominally, 26@30c; No. 3 white oats, nominally, 28@29c.  
Hay—Receipts, 51 cars; the market is steady. Timothy, choice, \$8.75@9.25; No. 1, \$8.00@8.50; No. 2, \$7.00@7.50; fancy prairie, \$8.50@9.00; choice, \$7.00@8.00; No. 1, \$6.00@6.75; No. 2, \$4.00@5.50; packing hay, \$3.00@4.00.

**Kansas City Produce.**  
KANSAS CITY, May 13.—Eggs—Receipts light; strictly fresh, 10c.  
Poultry—Market steady; supply fair. Hens, 6@6 1/2; springs, \$1.00@5.00 per doz.; roosters, 15c. Turkeys, coming in freely, market slow; gobblers, 7c; hens, 7 1/2c. Ducks, steady, 6 1/2c. Geese, dull and not wanted; alive, 4@4 1/2c. Pigeons, firm; \$1.00 per doz.  
Butter—Market weak on account of increasing supply. Extra fancy separator, 15@16c; fair, 12@13c; dairy, fancy, firm, 13c; fair, 8@10c; store packed, best, 10c; fair, sweet packed, 7 1/2c; packing, old, 4@5c; stale butter finds no sale.  
Strawberries—The market was pretty well supplied to-day; cold snap makes buyers a little slow; Missouri choice, \$2.25@2.50; Indian territory and Arkansas fresh, extra fancy stock, \$2.00@2.25; good to choice, \$1.50@2.00 per case; holdover stock, from 50c up, according to quality.  
Fruit—Apples, supply moderate; market steady on good apples; best fancy stand, \$1.00@7.00; common to choice varieties, \$2.00@4.00.  
Vegetables—Potatoes, market steady; ordinary kinds, 30@40c per bu.; sweet potatoes, red, supply good, market slow, 25@30c per bu.; yellow, 25@30c per bu.; Colorado, market fair; choice mammoth pearl, white, best, 70@75c; No. 2, 50@60c; Utah, 40@50c per bu.

**St. Louis Live Stock.**  
ST. LOUIS, May 13.—Cattle—Receipts, 5,700; shipments, 100; natives quiet; export steers would bring \$5.85@6.25; good to choice shipping, \$5.40@5.80; fair to medium, \$4.75@5.25; light, \$3.50@4.50; feeders, \$3.00@4.00; cows, \$2.50@3.50; Texans, active and firm; fed steers, \$3.85@5.40; grassers, \$2.75@3.75; cows, \$2.25@3.25. Hogs—Receipts, 3,100; shipments, 1,000; market steady for best, weak for others; top price, \$4.60; bulk of sales, \$4.35@4.55; light, \$4.20@4.35. Sheep—Receipts, 5,300; shipments, none; market firm for good mutations, of which there is meager supply; poor qualities dull and weak; good natives range \$4.00@4.40; fed westerns would bring \$4.50@4.75; Texas range, \$2.75@3.15; lambs, \$5.00@5.50.</

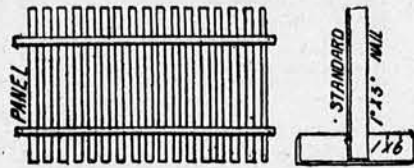


## The Poultry Yard

### PORTABLE FENCE.

Every Farmer Who Keeps Poultry Should Make One at Once.

Poultry fence-making is often considered a great task, and therefore many choice specimens are practically spoiled for breeding purposes. For portable fence construction, as shown below, take a piece 1x6 inches and 3 feet long and another piece 1x3 inches and of sufficient length to reach from ground to top of upper rail of panel. Nail these pieces together at right angles and a support is made. Drive a 30-penny spike nail into the edge of the upright deep enough to hold firmly and bend upward to form a hook on which to hang the panel. Drive the spike so that when each section rests on it the



PORTABLE, SECURE AND CHEAP.

pickets will clear the ground. I use two standards to each panel, placing them 2 feet from each end. The pickets or panel may consist of lath nailed to light scantling. By the use of this fence you can regulate the size of the yard, and if no fence is wanted it can be taken apart and stored under shelter. If desired to inclose fresh pasture it can be done in short time. Its cost need not exceed 1½ cents per linear foot at lumber yard or 1 cent per linear foot your own lumber sawed at a mill. —A. F. Whitright, in Farm and Home.

### The Cause of Small Eggs.

The steady improvement in the grade of poultry kept by farmers has resulted in the increased size of eggs. This difference is so marked that the eggs produced in the north always command in the markets a higher price than those from the south, where the improved breeds have been more slowly introduced. In that section the undersize of poultry and eggs is doubtless due chiefly to the lack of new blood. The debilitating effect of the heat is sometimes given as the explanation, but the true one is rather the lack of care and proper breeding, the indirect result of the climate, which, by permitting the birds to forage all the year round, relieves the owner of much trouble, but at the same time checks his interest in their best development.

### Keep Your Objects in View.

Hens afford a profit from eggs and flesh, and yet they excel, according to the breed used, in either direction. He who wishes to make eggs a specialty should pay but very little attention to the market qualities of the breed, while those who wish to raise the best birds for the market should make eggs a secondary matter. It should be the aim to secure both, if possible, but no breed combines in itself all the requirements for eggs and flesh. If we secure a breed that comes up to such a standard it may be lacking in some other direction, perhaps tender when young and not hardy. Always, however, have a definite object in view. —Prairie Farmer.

### Bees Divided Into Classes.

Bees are properly divided into different classes, and each performs its separate work. The comb-builders construct the comb, the honey-gatherers collect the nectar from the flowers and deposit it in the cells, the water-carriers bring in the water required for the support of the young brood, the nursing bees feed the young bees until they are old and strong enough to take care of themselves, the guards watch over the entrance to the hive to keep out intruders, the pollen gatherers gather the farina from the flowers and carry it in cavities. They all work and make no mistakes. —St. Louis Republic.

"Ten people out of a dozen are invalids," says a recent medical authority. At least eight out of these ten, it is safe to allow, are suffering from some form of blood disease which a persistent use of Ayer's Sarsaparilla would be sure to cure. Then, don't be an invalid.

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

# Do You Catch the Idea?

A chewing tobacco made to please a universal taste, must be prepared from the highest grade leaf, with a skill that can only be acquired by the longest experience. It must possess a delicious flavor, and a lasting substance, and must neither be too light nor too heavy, too sweet nor too flat. In

# Climax Plug

every element dear to the tobacco chewer is so skillfully concentrated and blended as to make the most delicious chewing tobacco ever put on the market. Try it and you're sure to catch the idea.

## It's Lorillard's.



WHAT WE SAY WE DO WE DO DO

Is experience worth anything in farming? Suppose you decide to move to town and rent the farm "on shares."

You have a chance to rent to a man who has been a storekeeper; to another who has been a stock buyer; to one who has been farming for five years, and to another who has been farming for twenty years. Other things being equal the "twenty year" man would get your farm. Greater experience—that's the reason.

**MCGORMICK**

is the name of the inventor of the first successful reaping machine.

Since 1831 that name has been identified with whatever is best in grain and grass harvesters.

The makers of the McCormick have neither been "keeping store" nor "buying cattle"—perfectly honorable lines of business but not the McCormick line. For sixty-four years they've simply been building McCormick light-running steel binders, reapers and mowers. That's greater experience than anybody else has had in this line.

That's one of the reasons why McCormick machines lead the world.

There are others; apply to the nearest McCormick agency for particulars.

WHAT WE SAY WE DO WE DO DO

**TANSY PILLS!**  
SAFE AND SURE. SEND 4c. FOR WOMAN'S SAFE GUARD. WILCOX SPECIFIC CO., PHILA., PA.  
When writing advertisers mention FARMER.

**RAW HIDE ROOFING** \$1.25 Per 100 Sq. Ft. Complete with nails and caps. Ready to put on. Anyone can lay it. Absolutely water-proof. Strong and durable. Put up in rolls of 250 and 500 square feet each.

**KEEP YOUR CHICKENS WARM.** Free from lice and vermin, by lining your buildings with CARBONIZED TARBED FELT. \$1.50 per roll, 400 Sq. Ft. each. For Wood and Shingle Roofs, Barns, Out-Houses, Etc., Etc. In barrels, 45c.; 5 and 10 gallon cans, 60c. per gallon. Will outlast any cheap paint made. Write for circulars and samples, and mention this paper. **WE PAY THE FREIGHT!** CAMPE'S SUPPLY CO., Kansas City, Mo.

**SHOEMAKER'S POULTRY BOOK** The finest on earth, 84 pages printed in colors. Photo Engravings of the largest Poultry Farm in the Northwest. Description and prices of all varieties, over 70 finest engravings you want one; only 10c. C. C. SHOEMAKER, Freeport, Ill.

**Poultry Supplies of All Kinds.**

**S. S. HAMBURGS**, the great egg machines. Eggs \$1 and \$2 per setting. For information and prices on Poultry Supplies of all kinds, address **J. P. LUCAS**, 114 W. 21st St., Topeka, Kas.

**Kansas Tannery.**

ESTABLISHED IN 1889. Does a general tanning business, including robes, rugs, etc. Tanning Galloway hides for robes a specialty. First-class work, reasonable prices. All kinds of leather in stock—best quality. Have you any oak bark? Good prices paid for it. Write me. **M. C. BYRD, Lawrence, Kas.**

**CENTROPOLIS HOTEL.**

Fifth and Grand Ave., Kansas City, Mo. A strictly first-class house at moderate rates. Central location. Half block from new million dollar court house and half million dollar city hall. On direct Fifth street cable line from Union depot and stock yards. 225 choice rooms, all newly decorated. Lighted by electricity. Rates, \$2 per day. Rooms with bath, and parlors, \$2.50 per day. **E. K. CRILEY & CO., Proprietors.**

**FOR SALE! FARMS WAY DOWN.**

I have excellent farms in Rooks county, Kansas, for sale, way down below their value. Will sell on contract for one-tenth down and one-tenth yearly, or will give deed if one-fourth or more is paid down. Write for particulars and state how much you can pay down and how you want the balance of payments. I also have several unimproved farms in central Nebraska and one large body of over 7,000 acres. I have a finely improved ranch of 1,440 acres in Rooks county, Kas. Any or all of above will be sold very low, or might exchange part or all of it for good improved property in Chicago or vicinity. Address **B. J. KENDALL**, 601 Masonic Temple, CHICAGO, ILL.

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

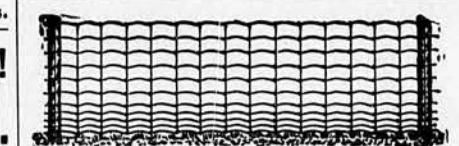
**WELL DRILLS** awarded Highest Medal at the World's Fair. All latest improvements. Catalogue free. **F. C. AUSTIN MFG. CO., CHICAGO, ILL.**

**THE KENTUCKY GET THE VERY BEST SHOE DRILL** Stands the Hardest Test. Send for New Catalogue. **BRENNAN & CO., Louisville, Ky.**

1895 Model. Mention this paper when you write.



**CABLED FIELD AND HOG FENCE;** Steel Web Picket Lawn Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free. **DEKALB FENCE CO., 23 High St., DeKalb, Ill.**



**WEAK POINTS IN WIRE FENCES.** 1st, too low! If less than 5 ft. animals reach, jump or tumble over. 2nd, cross bars too wide apart. These add nothing to the strength, simply spread the strain, like the planks on a bridge, and should be close. 3d, cheap horizontal wires. No matter how large, a moderate strain stretches them until useless. 4th, the lack of a reliable, automatic tension device. End springs, ratchets, etc., can only affect near by panels. You can learn the remedy by addressing **PAGE WOVEN WIRE FENCE CO., Adrian, Mich.**



## OSCILLATOR THRESHERS

CATALOGUE FREE  
Engines Powers Self-Feeders Etc.  
JOHN S. DAVIS' SONS.  
MANUFACTURERS. DAVENPORT IOWA

**PERINE'S  
NEW  
SUBSOIL PLOW**

Specially designed to break up the hardest subsoil. It can be run 2 feet deep which lets in all the rain, storing it up for all crops, which insures against drouth and standing water on the surface.

For further particulars address,  
**PERINE'S PLOW WORKS, Topeka, Kas.**

**WINGER'S STEEL WIND MILL**

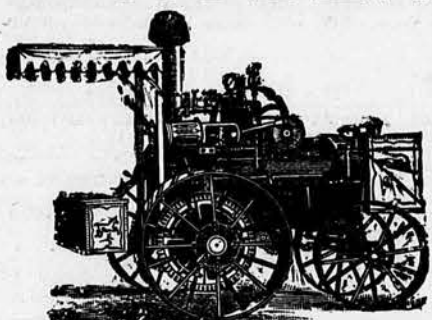
Mechanically constructed and simple. Awarded World's Fair Diploma and Medal. Galvanized Steel Tanks Flour Mills Regulators and Grinders.

**"Steel"**  
Galvanized Tanks, Round, Oblong, and Square.

**WINGER'S PUMPING WIND MILL  
FEED GRINDER**

**"A MONEY MAKER AND SAVER."**  
A double Grinder with three burrs. Center draft. Can be attached to any make of pumping wind mill. **E. B. WINGER,**  
532 Kenwood Terrace, Chicago, Ill.

## THE NEW HUBER



**WINNER** in each of the four, Engine contest at the World's Fair:

**FIRST TEST**—Economy of fuel.  
**SECOND TEST**—Speed with light load.  
**THIRD TEST**—Speed with heavy load.  
**FOURTH TEST**—Trial run through deep sand.

## NEW HUBER SEPARATOR

is the simplest and best cleaner for all kinds of grain and always gives satisfaction.

**Best Outfit on Earth!**  
For prices and catalogue, write  
**G. J. FERGUSON,**  
1217-19 Union Ave., KANSAS CITY, MO.

## Hand Carts

BEST HAND WAGON MADE...



Size. Size of Box. Diam. of Wheel.  
No. 1.....20x31 in. 8 in. deep.....30 in.....  
" 2.....20x31 in. 8 in. deep.....36 in.....  
" 3.....22x36 in. 9 in. deep.....36 in.....  
" 4.....27x44 in. 10 in. deep.....42 in.....

**"CANTON GARDEN PLOW"** with 3 Shovels and Rake Attachment, "Steel Wheel." Write for Prices.  
Send for Circulars of Plows, Cultivators, Corn Planters, Harrows, etc.

**PARLIN & ORENDORFF CO., Canton, Ill.**  
Manufacturers of Agricultural Implements.  
BRANCH HOUSES: Kansas City, Mo.; Omaha, Neb.; St. Louis; Dallas, Tex.; Des Moines and Dubuque, Iowa; Decatur, Ill.

## CLAIRETTE SOAP.

**As One Woman  
To Another:**

"Every Monday morning for two years I've used **CLAIRETTE SOAP**—always makes the clothes pure and white without hard rubbing—have my washing done by nine o'clock. This soap has never harmed the most delicate colors in my summer dresses, so it must be free from all acids. I do wish you would send down to the Grocer and get a cake to try on your next washing-day. You will find a perfect Laundry Soap. Sold everywhere. Made only by

**The  
N. K. Fairbank  
Company,  
St. Louis.**

**\$2.50 BOOK, FREE!**

**WE ARE GIVING IT AWAY**

**TO OUR SUBSCRIBERS**

AS A

**FREE PREMIUM**

100,000 sold at \$2.50

**NOW OFFERED FREE**



JOSIAH.

There has been but one book written since **MARK TWAIN'S** palmy days that has possessed his power to charm by wit, and fascinate by fidelity to nature. **THAT LITERARY SENSATION IS**

**Samantha at  
Saratoga,**

BY

**JOSIAH ALLEN'S WIFE (MARIETTA HOLLEY).**  
THE BOOK was written under the inspiration of a summer season 'mid the world of fashion at Saratoga, the proudest pleasure resort of America, where Princes of the old world, with Congressmen, Presidents, Millionaires, Railroad Kings, and Princes of Commerce of our own great nation with their wives, their beautiful daughters, and all the gayest butterflies of fashion luxuriate in balmy breezes, display their personal charms, costly jewels, exquisite equipages, and revel in

**All the Extremes of Fashionable Dissipation.**

"**JOSIAH ALLEN'S WIFE**" is in a vein of strong common sense that is pure and innocent as the prattle of a child, keeps the reader constantly enjoying

It talks of FOLLIES, FLIRTATIONS, LOW-NECKED DRESSING, DUDS, PUG DOGS, TOBOGGANING, etc., in the author's inimitable and MIRTH-PROVOKING style.

**OPINIONS**

**OF**

**CRITICS.**

**Free Unparalleled Offer Free**

Until recently this work was held at the high subscription price of \$2.50, but lately to put it in the reach of everybody it has been published in cheaper form, of which the above cut is an exact picture. It is exquisitely bound in cloth, stamped in ink and gilt, printed from new type and on fine paper. We offer this wittiest and most humorous book to our subscribers on most reasonable terms.

**OUR OFFER:** To every subscriber of **KANSAS FARMER** who will renew his own subscription for one year from the time it is now paid for, and also send us one new subscription and one dollar for it, we will send this book **FREE**. Or, send us \$1.35 for the renewal of your own subscription one year and we will send you the book post-paid. Address **KANSAS FARMER CO., Topeka, Kas.**

Please mention "Kansas Farmer" when writing to our advertisers!

**WHAT YOU  
DON'T KNOW  
ABOUT**

## California

is told in a beautifully illustrated book entitled "To California and Back." Ask G. T. Nicholson, G. P. A., Santa Fe Route, Topeka, Kas., for a copy. It is free.

Personally - conducted weekly parties leave Chicago every Saturday evening, and Kansas City every Sunday noon, for Pacific Coast, via Santa Fe Route. Special agents and porters in attendance. Pullman tourist sleepers are used, furnished with all conveniences for comfortable traveling. Second-class tickets honored.

You have been planning that California trip for several years. Why not go now, and take advantage of cheap rates? Santa Fe Route is positively the only line with Pullman tourist and palace sleepers, Chicago and Kansas City to San Francisco and Los Angeles, daily without change.

## FLORIDA.

**Through Sleeping Cars  
Kansas City to  
Jacksonville.**

Commencing Sunday, November 18 1894, the **MEMPHIS ROUTE**, Kansas City, Fort Scott & Memphis Railroad, will inaugurate a through sleeping car line, Kansas City to Jacksonville, via Memphis, Birmingham, Atlanta and Macon, arriving at Jacksonville at 9:45 a. m., making close connections there for all points in South Florida. The cars in this line will be strictly first-class in all their appointments and will run every day in the week, leaving Kansas City at 10:30 a. m.

For rates and full information, address **J. E. LOCKWOOD, G. P. A.,**  
Kansas City, Mo.

## THE GREAT ROCK ISLAND RY.

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

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

**Half Rates to Texas Points!**

**LOW RATES TO ALL POINTS.**

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

## Great Rock Island System

**JOHN SEBASTIAN,**  
General Ticket and Passenger Agent, CHICAGO.

**T. J. ANDERSON,**  
Assistant Gen'l Ticket and Pass. Agent, TOPEKA.

**H. O. GARVEY,**  
City Ticket and Passenger Agent,  
601 Kansas Ave., TOPEKA, KAS.

**Burlington  
Route**

**SOLID THROUGH TRAINS  
FROM  
KANSAS CITY TO ST. JOSEPH**

**TO  
ST. LOUIS, CHICAGO,  
OMAHA, PEORIA,  
ST. PAUL AND MINNEAPOLIS**

**WITH  
Dining Cars  
Vestibuled Drawing Room Sleeping Car  
Reclining Chair Cars (Seats Free).**

**ONLY ONE CHANGE OF CARS  
TO  
THE ATLANTIC COAST**

**THE BEST LINE FOR  
NEW YORK, BOSTON,  
Baltimore, Washington,  
Philadelphia, Cincinnati,  
Niagara Falls, Pittsburgh,  
AND EASTERN POINTS.**

For full information, address  
**H. C. ORR,**  
Asst Gen'l Passenger Agent, Kansas City, Mo.



## BREEDERS' DIRECTORY.

(Continued from page 1.)

## SWINE.

## Wildwood Herd Poland-Chinas

FOR SALE NOW: My two breeding boars, George Free Trade 21033 A., by Free Trade 4420 S.; also Gen. Wilkes 10513, grandson of George Wilkes 5950 S. Both boars are 2 years old and good individuals. Can use them no longer.  
L. N. KENNEDY, Nevada, Mo.

## ROYAL HERD

POLAND-CHINAS and Plymouth Rocks. Herd headed by Cunningham's Choice 13731, from the herd awarded grand sweepstakes at World's Fair on boar and sow; Royal King 11874. My sows are royal-bred.  
Ward A. Bailey, Callista, Kingman Co., Kas.

## MARTIN MEISENHEIMER, Registered Poland-China Swine.

Hiawatha, Brown Co., Kas.  
20 brood sows, headed by Tecumseh Free Trade 10783 S., assisted by a son of Benton's Last 8837 S. Some of best females bred to Butler's Darkness, Black U. S. Nemo (Vol. 9) and Victor M. Jr. (Vol. 9) Correspondence and inspection invited.

## 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.

## 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, Wannamaker. Aged sows, bred gilts and fall pigs for sale.

## R. S. COOK

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

## ROCK QUARRY HERD.

N. E. MOSHER & SON, SALISBURY, MO.  
Fifteen choice Poland-China sows bred to Mosher's Black U. S. and Faultless Wilkes for sale; ten choice young boars ready to go; six young Hereford bulls. Also eggs for sale from Black Langshans scoring 94 to 95% and from a choice lot of Light Brahmas and Mammoth Bronze turkeys.

## HILLHURST STOCK FARM

GARNETT, KAS., (Anderson Co.)  
Walter Latimer, Prop'r.  
POLAND-CHINA SWINE  
of the Tom Corwin and I. X. L. strain. None better. Public sale, Friday, Sept. 6, 10 a.m. Send and have your name recorded for a catalogue at once. Stock grown by Latimer are sure winners. Col. Sawyer, auc.

## D. W. EVANS' HERD REGISTERED POLAND-CHINAS.

FAIRVIEW, BROWN CO., KAS.  
250 head headed by Swi Tecumseh 11929 S., by L's Tecumseh 11413 S., and Billy Wilkes 9349 S., by George Wilkes 5950 S. A public clearance sale on Thursday, February 14, 1895, of 75 sows bred to these and other noted boars. Inspection invited.

## 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 bred and have for sale the best thoroughbred Poland-Chinas that can be obtained. Write or come and see.

## 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.

## DOGS.

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

## JONES' PIG FORCEPS.

By mail, postpaid, \$1.50. Agents wanted. Send for circular and terms. D. M. Jones, Wichita, Kas.

## The Western Trail

Is published quarterly by the Chicago, Rock Island & Pacific Railway.  
It tells how to get a farm in the West, and it will be sent to you gratis for one year. Send name and address to "Editor Western Trail, Chicago," and receive it one year free.

## JOHN SEBASTIAN, G. P. A.

Freight Saved by Buying Your

## Bee Supplies

MILLER & DUNHAM, Topeka, Kansas.

Write at once for Catalogue, also for sample copy of the Kansas Bee Journal.

When writing advertisers mention FARMER.

## TWO-CENT COLUMN.

"For Sale," "Wanted," "For Exchange," and small advertisements for short time, will be charged two cents per word for each insertion. Initials or a number counted as one word. Cash with the order. Special 1—All orders received for this column from subscribers, for a limited time, will be accepted at one-half the above rates, cash with order. It will pay. Try it!

I HAVE FOR SALE—A carload of choice high-grade Holstein-Friesian cows. Write for prices and terms. M. S. Babcock, Nortonville, Jefferson Co., Kas.

ADDRESS JOHN WISWELL, COLUMBUS, KAS., for descriptive circular of his fine-bred, registered Scotch Collie dogs. Pups for sale.

500,000 SWEET POTATO PLANTS—For sale during the months of May and June. Ten best kinds at very low rates. N. H. Pixley, Wamego, Kas.

CHAMPION WHITE PEARL SEED CORN—Never fails to give satisfaction. Stands drought well, yields 100 bushels per acre, matures quick, no chance for the worm to get in. Price \$1 per bushel, sacked. Also full-blooded Bronze turkey eggs, \$2 per eleven. Order soon. A. Ostertag & Bro., Tevis, Shawnee Co., Kas.

ALFALFA.—Choice \$4, prime \$3.50 per bushel, f. o. b. cars, sacks included. Also large stocks cane, millet, Kafir corn, buckwheat, sweet potato plants, etc. Kansas City Grain & Seed Co., Kansas City, Mo.

REDUCED PRICES—PRIZE-WINNING POULTRY.—M. B. Turkey eggs from World's Fair and Missouri State poultry show prize-winners, \$3 per twelve. Light Brahmas eggs from selected birds in flock of two hundred and fifty, \$2 per fifteen. Choice selected Barred Plymouth Rocks, eggs \$1.50 per fifteen. Address Mrs. Thomas W. Ragsdale, Paris, Monroe Co., Mo.

LANGSHANS, LEGHORNS AND BRAHMAS.—Eggs from prize stock. James Burton, Jamestown, Kas.

FOR ALFALFA SEED, DIRECT FROM THE grower, address E. G. Jones, Syracuse, Kas.

BERDEEN-ANGUS BULLS—Sired by the \$850 A. Erica Boy and out of imported cows. Two and three-year-olds. Individually very choice. Wm. B. Sutton & Son, Russell, Kas.

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

PURE SCOTCH SHEPHERD PUPS FOR SALE. Females \$2, males \$3.50. Very choice. G. W. Sherman, Garnett, Kas.

EGGS—Buff Cochins eggs for sale. Price \$1 for thirteen. Call on or address Peter Gray, Bendena, Kas.

PATENTS. PRACTICAL IDEAS WORKED OUT on any patterns and models at Topeka Foundry Co., cor. Second and J. streets, Topeka, Kas.

SUB-IRRIGATION PIPE.—Do not be disappointed for not ordering 100 feet of 4-inch galvanized sheet-iron pipe. Cost, \$1.25. Address Alex Richter, Hollywood, Kas.

WHITE PLYMOUTH ROCK ONLY—At Nottawa farm. Eggs fifteen for \$1. Mrs. W. P. Popence, Berryton, Shawnee Co., Kas.

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

EGGS FOR SETTING—From Light Brahmas, pure Feltch strain, \$1.25 for thirteen. J. E. George, Burlingame, Kas.

LIGHT BRAHMAS AND S. L. WYANDOTTES.—Eggs from pure Feltch strain Light Brahmas and selected S. L. Wyandottes at \$1 per fifteen or \$1.75 per thirty. Wm. Plummer, Osage City, Kas.

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

BERKSHIRE SOWS—Safe in pig to imported Lord Comely. Individuality and breeding the best. Wm. B. Sutton & Son, Russell, Kas.

LISTED CORN CULTIVATOR.—We have for sale fifty listed corn cultivators at \$5 each. Former price \$10. Only fifty will be sold. Blue Valley Foundry Company, Manhattan, Kas.

FOR SALE—The tried and grand breeding boar, Kansas King 8911 S., sired by Dandy Jim 5442 S. and out of Broadback (11913). Weighs 700 pounds. He is a desirable-bred hog, extra good in conformation, having broad back and extra good ham. Sunny Slope Farm, Emporia, Kas.

VALLEY FALLS POULTRY YARD—Light Brahmas, Buff Cochins, Partridge Cochins, Black Langshans, White and Barred Plymouth Rocks, S. and R. C. Brown Leghorns, White and Black Minorcas, Silver-spangled Hamburgs. Choice birds, \$1 each. Eggs, \$1 per fifteen. W. B. McCoy, Valley Falls, Kas.

THREE HOLSTEIN BULLS—A two-year-old, a yearling and one 6 months old. Registered and belong to the Korndyke family. For further particulars write H. L. Liebfried, Emporia, 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.

SWEET POTATOES FOR SEED—All leading varieties. Plants in their season. Lowest prices. Correspondence solicited. B. F. Jacobs, P. O. Box 122, Wamego, Kas.

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

40 POLAND-CHINA FALL OF 1894 PIGS—Both sexes, for sale, sired by Riley Medium 12306 and Tecumseh J. Corwin 10744. Cannot well use the latter boar longer, hence will sell him. E. T. Warner, Princeton, Franklin Co., Kas.

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

250 Farms for Sale—On eastern shore of Maryland and Virginia. Climate mild. Land cheap and productive. Send stamp for descriptive price list and map of peninsula. F. H. Dryden, Pocomoke City, Maryland.

## Farmers, Spay Your Sows

Mares, Cows and Gilt Dogs with Howley's Spaying Mixtures. No knife, so no deaths. Easy to use and absolutely sure. Price, large bottle with syringe, \$3; small bottle \$1, syringe 25 cents extra. Large bottle spays thirty to fifty head of sows. Write us for testimonials and particulars. Corresponding office, New Orleans, La. Sole manufacturers THE HOWLEY SPAYING CO. L'D., Kansas City, Mo. New Orleans, La.

## WANTED MILLET AND CANE

## SEEDS J. G. Peppard

1400-2 Union Avenue, KANSAS CITY, MO.

## SEEDS. ALFALFA SEED A SPECIALTY

Cane and Millet Seeds, Kafir Corn and Jerusalem Corn, Seed Wheat and Oats. All crops of 1894. Write for McBETH &amp; KINISON, Garden City, Kansas.

## KANSAS SEED HOUSE.

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.

F. BARTEDES &amp; CO., Lawrence, Kas.

## Catalogues of Cherry Orchard Poland-Chinas

Will be ready for free distribution about June 1, that will show the breeding of about 120 spring pigs sired by the two highly-bred boars, Corwin Whiteface 9924 and Wren's Medium 12387, and out of as fine a lot of matured sows as can be found in any herd, East or West, and will be priced as low as their breeding and quality will allow. Correspondence and inspection invited.

W. H. WREN, Marion, Marion Co., Kansas.

## THE UNION STOCK YARDS, CHICAGO.

(Consolidated in 1865.) The largest live stock market in the world. The center of the business system from which the food products and manufactures of every department of the live stock industry is distributed.

Accommodating capacity: 50,000 cattle, 200,000 hogs, 30,000 sheep, 5,000 horses. The entire railway system of Middle and Western America center here, rendering the Union Stock Yards the most accessible point in the country. The capacity of the yards, the facilities for unloading, feeding and reshipping are unlimited. Packing houses located here, together with a large bank capital and some one hundred different commission firms, who have had years of experience in the business and are strictly cash market. Each shipper or owner is furnished with a separate yard or pen for the safe keeping, feeding and watering of his stock, with but one charge of yardage during the entire time his stock remains on the market. Buyers from all parts of the country are continually in this market for the purchase of stock cattle, stock hogs and sheep. Shipper should ask commission firms for direct information concerning Chicago markets.

The Greatest Horse Market in America, the Dexter Park Horse Exchange.  
N. THAYER, President. JOHN B. SHERMAN, Vice President and Gen. Manager. J. C. DENISON, Secretary and Treasurer. D. G. GRAY, Asst. Superintendent.  
WALTER DOUGHTY, Asst. Secretary and Asst. Treasurer. JAS. H. ASHBY, General Superintendent.

## The Kansas City Stock Yards

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

	Cattle and calves.	Hogs.	Sheep.	Horses and mules.	Cars.
Official Receipts, 1894.....	1,772,545	2,547,077	589,555	44,237	107,494
Slaughtered in Kansas City.....	869,640	2,060,734	387,570		
Sold to feeders.....	308,181	11,496	69,816		
Sold to shippers.....	409,965	468,616	45,730		
Total sold in Kansas City, 1894.....	1,677,792	2,530,896	503,116	28,903	

CHARGES: YARDAGE, Cattle, 25 cents per head; Hogs, 8 cents per head; Sheep, 5 cents per head. HAY, \$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, Assistant Gen. Manager. EUGENE RUST, Gen. Superintendent.

## VETERINARY SURGEON.

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

## THE STRAY LIST.

FOR WEEK ENDING MAY 1, 1895.  
Atchison county—Chas. H. Krebs, clerk.

TWO COLTS—Taken up by Amos Raasch, in Grasshopper tp. (Muscotah P. O.), two colts—one bay, with white star on forehead, the other black, both 3 years old; valued at \$14 each.

Cherokee county—P. M. Humphrey, clerk.  
PONY—Taken up by Charley M. Yount, in Garden tp., P. O. Galena, in April, 1895, one iron-gray mare pony, fifteen hands high, 5 years old, left hind and fore feet white.

Montgomery county—John W. Glass, clerk.  
MARE—Taken up by P. M. Lee, in Cherokee tp., one brown mare, 3 years old.

MARE—By same, one bay mare, 3 years old.  
MULE—Taken up by S. M. Smith, in Cherry tp., one bay mare mule, fourteen hands high, 2 years old; valued at \$25.

MARE—Taken up by James Gullkey, in Cherokee tp., one bay mare, fifteen hands high, three white feet, white in forehead and on nose.

FILLY—Taken up by C. Dickey, in Rutland tp., one brown filly, 4 years old, white spot in face.

FOR WEEK ENDING MAY 8, 1895.  
Rush county—W. J. Hayes, clerk.

MARE—Taken up by P. A. Wright, in Belle Prairie tp., six miles southwest of Flaxins, April 20, 1895, one sorrel mare, 3 years old, a heavy scar on right shoulder, left hind foot white, no brands; valued at \$25.

Osage county—E. C. Murphy, clerk.  
MARE—Taken up by S. C. Peterson, in Olivet tp., P. O. Osage City, April 18, 1895, one roan mare, four feet four inches high, branded with a key on left shoulder; valued at \$11.

Morris county—June Baxter, clerk.  
PONY—Taken up by C. F. Anderson, in Four Mile tp., one sorrel mare pony, about 6 years old, white spot in forehead, white hind feet; valued at \$20.

MARE—By same, one bay mare, about 5 years old, white spot in forehead, right feet white, branded on right hip with figure 4; valued at \$25.

Cherokee county—P. M. Humphrey, clerk.  
MARE AND MULE COLT—Taken up by Joseph

Harwell, in Spring Valley tp., one sorrel mare and mule colt, mare weighs 700 pounds, hind feet white, star in forehead; valued at \$20.

COLT—Taken up by J. R. Hodson, in Garden tp., one dark bay horse colt, fourteen and a half hands high, 3 years old.

## FOR WEEK ENDING MAY 15, 1895.

Labette county—J. F. Thompson, clerk.

MARE—Taken up by John Blackberry, in Mount Pleasant tp., April 20, 1895, one sorrel mare, 2 years old.

MARE—By same, one bay mare, 2 years old, bell and halter on.

MULE—By same, one mare mule, 1 year old, with headstall on.

Crawford county—Peter McDonnell, clerk.  
MARE—Taken up by Ezra Babcock, in Sherman tp., P. O. Farlington, April 22, 1895, one sorrel mare, 5 years old, fifteen hands high, star in forehead, white speckled on hip and back.

MARE—By same, one bay mare, 4 years old, fifteen hands high, star in forehead; two animals valued at \$50.

Neosho county—W. P. Wright, clerk.  
MARE—Taken up by M. C. Rice, in Erie tp., one roan mare, fourteen hands high, branded on left shoulder and hip with A. D. B. and on right shoulder A., 15 years old.

FILLY—By same, one black mare colt, 3 years old, fourteen and a half hands high.

Phillips county—I. D. Thornton, clerk.  
MARE—Taken up by Levi Mullican, in Arcade tp., April 30, 1895, one brown mare, fifteen hands high; valued at \$25.

Rawlins county—A. K. Bone, clerk.  
MARE—Taken up by George W. Davis, of Atwood, April 22, 1895, one light gray mare, sixteen hands high, weight 1,000 pounds, no marks or brands; valued at \$30.

## SAVE \$50 A COMBINED HAY LOADER AND STACKER.

retail price \$65, furnished direct for \$15, freight paid, for next thirty days, and it's the best made, too. Write for circular.

M. P. GATES, Box 568, Kansas City, Mo.

## VICTOR COW CLIP

Holds cow's tail to her leg and keeps it out of the milk and milker's face. All dealers sell it. 30c. Single; Four \$1.

Sent by mail free on receipt of price by manufacturers.

Victor Novelty Works, 832 Austin Av. Chicago



## PILES, FISTULA,

And all Diseases of the Rectum cured by Drs. THORNTON & MINOR, Kansas City, Mo. without knife, ligature or caustics—no fee accepted 'till patient is cured. Other Specialties: Diseases of the Skin and Women. Ask for our circulars. They contain testimony from leading business men and high officials—tell how to avoid quacks, sharpers and doctors who ask for fees or a note in advance. OFFICES: 30-31-32 Bunker Building, 100 West Ninth Street.