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BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the Breeder's Directory for \$15 per year or \$5.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent to the advertiser during the continuance of the card.

HORSES.

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

FOR SALE—Three Red Polled bulls; two 2 years old past and one aged. Imported. Price of latter \$75; the young ones \$50 per head. Can spare some heifers. D. Stainbrook, LaCygne, Linn Co., Kas.

SWINE.

FANCY Poland-China—J. H. Taylor, Pearl, Kas.

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

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

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

SWINE.

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.

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.

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.

CATTLE AND SWINE.

ASHLAND STOCK FARM HERD OF THOROUGHbred Poland-China hogs, Short-horn cattle and Plymouth Rock chickens. Boars in service, Admiral Chip No. 7919 and Abbottford No. 28851, full brother to second-prize yearling at Worlds Fair. Individual merit and gilt-edged pedigree my motto. Inspection of herd and correspondence solicited. M. C. Vansell, Muscotah, Atchison Co., Kas.

POULTRY.

FIRE BURNED MY HOME—And all my grain January 24, so I will sell eggs from Knapp strain S. C. White Leghorns, \$1 per thirty, \$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. Chickens at all times. Eggs in season.

SWINE.

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

TOPEKA BERKSHIRE HERD. Let me send you some sample pedigrees and a list of premiums taken at the Kansas State fair in 1894. H. B. COWLES, Topeka, Kas.

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

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.

JAMES QUORLO, MOSCOW, MO. Breeder and shipper of prize-winning Large Berkshire Swine. S. C. Brown Leghorns and Bronze Turkeys. Headed by King Lee II. 28801, Mephistopheles 32412.

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.

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 gilts, by Model Duke II. 22407, and 9 fall of 1894 farrows, both sexes, for sale. Write or come.

BOURBON COUNTY HERD, English or Berkshire or 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.

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.

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.

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

D. W. EVANS' HERD REGISTERED POLAND-CHINAS. FAIRVIEW, BROWN CO., KAS. 250 head headed by Swi. Tecumseh 13929 S., by L's Tecumseh 11418 S., and Billy Wilkes 9300 S., by George Wilkes 6550 S. A public clearance sale on Thursday, February 14, 1895, of 75 sows bred to these and other noted boars. Inspection invited.

JOHN KEMP, North Topeka, Kas., breeder of Improved Chester White Swine. Stock of both sexes for sale. Correspondence invited.

MAINS' HERD OF POLAND-CHINAS. JAS. MAINS, Okaloosa, 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.

J. T. LAWTON, North Topeka, Kas., breeder of Improved Chester White swine. Stock for sale. Pairs or trios not akin shipped. Correspondence invited.

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. Black Langshans scoring 94 to 95, and from a choice lot of Light Brahmas and Mammoth Bronze turkeys.

Poland-China Hogs, Holstein Cattle and B. P. Rock chickens of the choicest strains. Butler's Darkness No. 6846 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. Write your wants. Satisfaction guaranteed. Sixth Annual Clearance Sale, Sept. 17, 1895. BERT WISE, Reserve, Brown Co., Kas.

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

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 21227. The females belong to the best strains. Come or write.

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

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 8827 S. Some of best females bred to Butler's Darkness, Black U. S. Nemo (Vol. 9) and Victor M. Jr. (Vol. 9). Annual Clearance Sale, September 18, 1895.

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

"WILDWOOD" POLAND-CHINAS. WILKES, FREE TRADE and U. S. BLOOD. Everything reserved for Public Sale, October 30, 1895. Catalogues ready in September. L. N. KENNEDY, Nevada, Mo.

CATTLE.

SUNNY SLOPE FARM, C. S. CROSS, Proprietor, Emporia, Kas. Breeder of PURE-BRED HEREFORD CATTLE. Herd headed by Wild Tom 5152, a son of Bear Real 1055 and assisted by sons of Cherry Boy 26475, Archibald 1st 39258 and Washington 22615. 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, Philbert, Cragg, Princess, Gwynne, Lady Jane and other fashionable families. The grand Bates bull Winsome Duke 11th 115137 and Grand Duke of North Oaks 11th 115735 at head of the herd. Choice young bulls for sale now. Visitors welcome. Address W. L. CHAFFEE, Manager.

SWINE.

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 Star 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.

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, Hurston, Kas. Secretary Kansas Swine Breeders' Association.

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 12279. 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.]

Evergreen Herd Poland-Chinas. Winterscheidt Bros., Prop'r., Horton, Kas. Headquarters for Admiral Chip pigs. The great \$250 boar, Admiral Chip 7919, heads the herd, assisted by Kansas Chief 13676, Winterscheidt Victor 13294, Geo. Wilkes Jr. 11835. Also pigs from Orient's Success 27259 and Banner Chief 12714. Sows of following strains: Tecumseh, Nemo Such, Wilkes, Admiral Chip, etc. Prices reasonable. Write or come.

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.

HILLHURST STOCK FARM. GARNETT, KAS., (Anderson Co.) Walter Latimer, Prop'r. POLAND-CHINA SWINE of the Tom Corwin and L. K. 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.

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 gilts yet on farm. Write or come and visit me.

SUNNY SLOPE FARM, EMPORIA, KANSAS. 200 head of Poland-China hogs, headed by Longfellow 25855 O. (who has the best Columbian record west of the Mississippi), J. H. Sanders Jr., Hadley Jr. 27505, Sir Charles Corwin. We also combine the blood of Black U. S., Ideal U. S. and Wilkes. 100 head of brood sows. Also 100 head of Berkshires, headed by the well-known boar, Major Lee 31139. We have 25 gilts bred by him to General Lee of Gentry breeding and Royal Peerless the Great. We have one of the largest herds of hogs in the United States. Why not come to the fountain head for brood sows? 200 head of fashionably bred Herefords. H. L. LEIBFRIED, Manager.

(Breeder's Directory continued on page 18.)

The Stock Interest.

THOROUGHbred 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.
SEPTEMBER 18—Martin Melsenheimer, Hiawatha, Kas., Poland-China swine.
OCTOBER 4—Winterscheidt Bros., Horton, Kas., Poland-China swine.
OCTOBER 9—Geo. W. Null, Odessa, Mo., Poland-China swine.
OCTOBER 10—J.R. Killough & Sons, Richmond, Kas., 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 29—Chas. Cannon, Harrisonville, Mo., Poland-China swine.
OCTOBER 30—L. N. Kennedy, Nevada, Mo., Poland-China swine.

EXPERIMENTS IN SWINE FEEDING.

By Prof. W. A. Henry, in Eleventh Annual Report Wisconsin Experiment Station.

The following trial was conducted for the purpose of ascertaining the food of growth with full-blood pigs.

The breed, age, etc., of the animals used were as follows: Poland-China boar, farrowed May 24, 1890, C. M. Brigham, Hebron, Ill.; Poland-China sow No. 1, farrowed April 11, 1890, Theo. Louis, Louisville, Wis.; Poland-China sow No. 2, farrowed March 28, 1890, Theo. Louis, Louisville, Wis.; Poland-China sow No. 3, farrowed April 4, 1890, Geo. Wylie, Leeds, Wis.; Poland-China sow No. 4, farrowed April 4, 1890, Geo. Wylie, Leeds, Wis. Berkshire boar, farrowed February 25, 1890, A. J. Lovejoy & Son, Roscoe, Ill.; Berkshire sow No. 1, farrowed April 7, 1890, A. A. Arnold, Galesville, Wis.; Berkshire sow No. 2, farrowed March 11, 1890, A. A. Arnold, Galesville, Wis.; Berkshire sow No. 3, W. H. Jacobs, Madison, Wis.; Berkshire sow No. 4, W. H. Jacobs, Madison, Wis.

These animals were choice representatives of the breed, selected for us by the breeders themselves; they may therefore be considered representative according to the judgment of friends of the breed. The animals reached the station in August, and beginning with the 13th of that month, for 224 days thereafter each was fed separately, all feed being carefully weighed and recorded.

The sows ran together on a good short blue grass pasture until winter, when they were confined in a roomy pen, being separated only at time of feeding. The grain fed during the whole trial consisted of half wheat shorts and half corn meal. The milk was separator skim-milk, containing very little fat, and the whey was from our dairy school cheese-room. During periods II. and III. two sows from each breed received half a pound of cottonseed meal daily, while two sows and the boar received an equal weight of oil meal. At the beginning of period III. these two feeds were reversed, so as to give a fair average for the whole time.

The following table summarizes the feed consumed during the three periods, covering 224 days in all, the weights of the several animals at the beginning of the trial, and the gains for each period. The sows were all bred during the month of January.

Table showing food eaten and gains made by Poland-China and Berkshire pigs.

	Length of period— days.....	FEED EATEN.				ORIGINAL WEIGHT AND GAINS.				
		Grain.....	Cottonseed meal and oil meal.....	Skim-milk...	Whey.....	Boor.....	Sows.			
							1	2	3	4
A.—Poland-China.										
Period I.....	154	2,747		6,122	2,600	70	103	121	105	102
Period II.....	35	616	*82	400	1,640	33	36	45	38	37
Period III.....	35	613	†88		2,640	31	31	44	40	31
Total.....	224	3,976	170	6,522	6,880	223	232	245	237	231
B.—Berkshire.										
Period I.....	154	2,617		6,136	2,644	172	99	85	86	65
Period II.....	35	616	†92	400	1,640	30	37	38	34	34
Period III.....	35	583	*88		2,630	25	35	33	38	50
Total.....	224	3,816	180	6,536	6,814	208	236	220	256	247

* 55 pounds oil meal. † 35 pounds oil meal. ‡ 37 pounds oil meal. § 53 pounds oil meal.

The above figures, though greatly condensed and carefully arranged, are still not in shape to be easily studied; to make the results of our work plainer let us further condense and rearrange.

To this end we note the total gains of

the two lots for each of the periods. This was as follows:

	Poland-China (1 boar, 4 sows).	Berkshire (1 boar, 4 sows).
Period I., 154 days, gain made.....	Pounds. 802	Pounds. 813
Period II., 35 days, gain made.....	189	173
Period III., 35 days, gain made.....	177	181
Total, 224 days.....	1,168	1,167

We note that five full-blood Poland-Chinas, one boar and four sows, gained 1,168 pounds in 224 days, while five Berkshires gained 1,167 pounds in the same time, or within one pound of what the Poland-Chinas gained, an agreement quite surprising.

Let us next note the food required for 100 pounds of gain during all the periods, which is shown in the following table:

	Poland-China (1 boar, 4 sows).	Berkshire (1 boar, 4 sows).
Grain.....	Pounds. 340	Pounds. 327
Cottonseed meal and oil meal.....	15	15
Skim-milk.....	553	560
Whey.....	589	584

The striking similarity of the two columns of figures may be made more apparent if we can substitute a grain equivalent for the skim-milk and whey fed. Fjord of Denmark, as the result of a large number of feeding experi-

of Poland-Chinas consumed thirteen pounds or 2.7 per cent. more feed while making 100 pounds of gain than did the Berkshires. This difference is so small that it is believed to come entirely within the limits of error for this class of work. By this it is meant that were we to conduct a similar trial where both lots of pigs were Poland-Chinas or both lots Berkshires, there might be as large or even a larger difference in the weight of food required for a given gain with the two lots as is here shown.

Our aim in this experiment was to so feed as to keep each animal in the best possible growing condition, not getting too fat. Weight considered, it was found that the daily food consumption of the animals on this trial was practically the same in amount one with another, and this uniformity continued throughout the whole trial. No animals were ever sick or off feed, all of which goes to show that they were vigorous animals, well-selected by the breeders, and that the feeding was carefully conducted. The data of this trial occupy nineteen closely-filled pages of figures and the tables here given are the summaries of several thousands separate weighings of food and animals.

Our trial shows that Berkshire and Poland-China pigs used for breeding purposes after reaching a weight of about 100 pounds can be carried up to a weight of over 300 pounds on feeds which favor and promote bone and muscle growth, with a requirement of



GEORGE W. BERRY.

ments with swine concludes that one pound of barley or rye meal equals twelve pounds of whey or six pounds of skim-milk. If we substitute these meal values of the whey and skim-milk we have:

POLAND-CHINAS.

	Pounds.
Corn meal and shorts as above reported.....	340
Cottonseed meal and oil meal.....	15
Meal equivalent of 553 pounds skim-milk.....	93
Meal equivalent for 589 pounds whey.....	49

Total grain and equivalent for 100 lbs. gain. 497

about 500 pounds of meal or meal equivalent for each hundred pounds of increase in live weight.

A Thoroughbred Kansas Breeder.

On the historic banks of the Wakarusa, in Shawnee county, Kansas, on the morning of April 10, 1860, there was rejoicing over the birth of George W. Berry, the subject of our illustration, and one of the reputable breeders of Kansas to-day. Kansas-born and Kansas-bred, he is a typical native as well as a successful and illustrious breeder. His education was acquired in his native county, where he prepared himself for teaching in the public schools. From his birth to the present time he has lived on a Shawnee county farm. His father and grandfather were stock-raisers and breeders before him, and his whole life has been identified with improved stock, especially fine horses, Short-horn cattle and his present specialty, Berkshire swine, and with this breed he has achieved great success and is recognized to-day as one of the foremost breeders.

In recognition of his services in the behalf of improved stock and his fame as a prominent and conscientious breeder, the American Berkshire Association has selected him as the Kansas Vice President of that association. Mr. Berry also helped organize the Kansas Improved Stock Breeders' Association, as well as the Kansas Swine Breeders' Association, and is an executive officer of each to-day, having also filled the office of President and Secretary of the Swine Breeders' Association. To a KANSAS FARMER scribe, Mr. Berry says: "The Berkshire interest has grown in popularity, and, judging from the receipts by the Secretary of the American Berkshire Association, the Berkshire breeders of Kansas will make a better showing in the advance-

SPECIFIC FOR SCROFULA.

"Since childhood, I have been afflicted with scrofulous boils and sores, which caused me terrible suffering. Physicians were unable to help me, and I only grew worse under their care. At length, I began to take



AYER'S

Sarsaparilla, and very soon grew better. After using half a dozen bottles I was completely cured, so that I have not had a boil or pimple on any part of my body for the last twelve years. I can cordially recommend Ayer's Sarsaparilla as the very best blood-purifier in existence."—G. T. REINHART, Myersville, Texas.

AYER'S

THE ONLY WORLD'S FAIR
Sarsaparilla

Ayer's Cherry Pectoral cures Coughs and Colds

ment of registered Berkshires during the year 1895 than ever before."

Referring to his experience and success with his herd of thoroughbred Berkshires, he said:

"I laid the foundation for the Select Herd of Berkshires in 1885—ten years ago—by buying a pair of matured sows from the Manhattan herd, and the noted boar, British Champion III. One of the sows was Sally Girl, a prize-winner, sired by Sovereign Duke. Sally Girl was mated to British Champion and produced Silver Tips I, Silver Tips II and Silver Tips III. and Silver Face, the foundation of my 'Silver Tips' family of Berkshires, which have, under my breeding and management, attained a national reputation. Several other strains of new blood were added to the herd. I generally bought matured breeders, and paid thousands of dollars to the best breeders in the world for foundation stock. Charmer VI. was mated to a British Champion boar. One of the produce was the all-round prize-winning sow, Empress. She was bred to the Silver Tips boar, Royal Champion, and the result was Royal Empress I, the foundation of the family of Royal Empress. Thus another family, possessing a type much like in uniformity of quality to the Silver Tips, was originated in the Select herd. In addition to the Silver Tips and Royal Empresses, other distinct families of the breed are kept, and new blood added every year. The chief stock boar for a number of years, and at present, is Longfellow's Model. It was of this boar that N. H. Gentry said: 'He is the heaviest I ever produced at the age of ten months, and he has a better head and finer finish than his sire, Longfellow.' 'During the first year and a half after I began handling them, I sold pedigreed Berkshires to no less than eighteen close neighbors, at once attaining a local popularity for the large-boned Berkshires of the Select herd, rarely attained by most breeders of any class of improved stock.

"I have sold Berkshires in about seventy counties in the State of Kansas, and eleven different States and Territories. I manage about twenty brood sows, and aim to send out pigs of quality rather than numbers."

Such, in brief, is the career of one of our native Kansas breeders, and clearly indicates the possibilities in store for the devotees of the improved stock interests of this State who take pride in the worthy and profitable occupation of rearing first-class stock.

"One of my sick headaches," you will hear people frequently say, as if the complaint was hopelessly incurable. As a matter of fact, Ayer's Pills not only relieve sick headache but effectually remove the cause of this distressing complaint, and so bring about a permanent cure.

From St. Louis to the East.

Daily trains to Pittsburgh, Harrisburg, Baltimore, Washington, Philadelphia, New York, leave St. Louis Union Station over Vandalla-Pennsylvania Lines at 8:12 a. m., 8:40 a. m., 1 p. m., and 10:30 p. m. Brunner, 509 Chestnut street, St. Louis, will answer inquiries for further information.

Agricultural Matters.

THE GROUND MOLE.

[We are indebted to L. H. Olmstead, of Hasebrouck Heights, N. J., manufacturer of the "Reliable Mole Trap," for the following excellent paper on the mole.]

Of all insect-eating animals, there is none which is better known by name than the common mole, and very few which are less known by their true character.

On inspecting a living mole that has been captured on the surface of the earth, and comparing it with the multitudinous creatures that find their subsistence on the earth's surface, rejoicing in the full light of day and free to wander as they please, we cannot but feel some emotion of surprise at the sight of a creature which is naturally debarred from all these sources of gratification, and which passes its life in darkness below the surface of the ground.

Yet this pity, natural though it be, will be entirely thrown away, for there is scarcely any creature that lives which is better fitted for enjoyment, or which is urged by more fiery passions. Dull and harmless as it may appear to be, it is in reality one of the most ferocious animals in existence, and will engage in the fiercest combats upon very slight provocation. While thus employed, its whole faculties are so intensely absorbed in its thirst for revenge, that it will leave its subterranean shafts, which it has been so busily excavating, and join battle with its foe in full light of day. Should one of the combatants overpower and kill the other, the victorious mole springs upon the vanquished enemy, tears its body open, and eagerly plunging its nose into the wound, drinks the blood of its slaughtered enemy and feasts richly on the sanguine banquet.

We are told that if two are shut up together without food, the strongest will devour the weakest, even to the bones—nothing but the skin is left, which they never eat, and which, when one has killed the other, is always seen to be ripped up along the belly.

They are incapable of long fasting; if kept ten or twelve hours without food, it is said they die of starvation.

With the exception of sight, the senses of the mole seem to be remarkably developed.

The sense of scent is singularly acute, and enables the animal to discover the presence of the earth-worms on which it feeds, and to chase them successfully through their subterranean meanderings.

They have been tamed to follow a person's hand by the scent, and feed freely on fresh meat. One that was so tamed would burrow in loose earth, and, after making a short circuit, return to its keeper.

The hearing of the mole is proverbially excellent, and it is probable that the animal is aided in its pursuit of worms by the sense of hearing as well as that of smell. It has no external ears, but the auricular apparatus is highly developed. Much of the mole's safety is probably owing to its exquisite hearing, which gives it timely notice of the approach of any living being, and enables it to secure itself by rapidly sinking below the surface of the earth. To tread so softly that the blind mole may not hear a footfall, is an expression which has become a household word.

The sense of touch is peculiarly delicate, and seems to be chiefly resident in the long and flexible nose, which is employed by the mole for other purposes than those of scent. When the creature is placed upon the surface of the ground, and is about to sink one of its far-famed tunnels, it employs its nose for that purpose almost as effectually as its armed fore-paws.

It seldom happens that all the senses of an animal are developed to an equal extent, so that where one or two are singularly acute, it is generally at the expense of the others. Such is the case with the mole, for, although the scent, touch and hearing are remarkable for their excellence, the sight is so extremely defective, that it may almost be considered as a nullity. It is true that the mole possesses eyes,

and that they can project them outward at will, but these organs of vision are so small and so deeply hidden in the fur, that they can be but of little use to the owner, except to mark the distinctions between light and darkness. The eyes are so exceedingly small that their very existence has been denied, and it is only by a careful search that they can be seen at all.

The body is thick and cylindrical, and they are from five to six inches in length. The head is much prolonged, especially the muzzle, which projects far beyond the jaws and is very flexible, strong, and tendinous, serving to convey food to the mouth. The head is not distinguished from the body by any appearance of neck. The legs are so short as scarcely to project perceptibly from the body. The fore feet are turned rather obliquely outward in order to give free scope to their exertions, and are excessively strong and broad, and furnished with very large and stout claws, so as to give the animal the power of working under the surface with the utmost rapidity.

The hind feet are small in proportion to the fore feet, and are calculated for throwing back with ease the mould from behind during the animal's subterranean labors.

The rapidity with which the mole can make its way through a favorable soil, often burrowing one hundred feet in length a night, would be quite astonishing, did not its whole conformation and great molecular strength account for it. The tail is short and small. The skin is much thicker and tougher in proportion than in other quadrupeds, and the fur with which it is covered is close set and soft as the finest velvet. The paws are devoid of the soft fur which shields the rest of the body, and are covered with a thick but naked skin. It is chiefly to these paws that any mould is found adherent when the mole is captured, for the soft and velvet-like fur permits no earthy stain to defile its glossy smoothness.

The mole has thirty-six teeth, all sharp-pointed. Even the molar teeth are covered with sharp points, which are admirably suited for piercing and retaining their active prey, as well as for tearing it to pieces when it has been killed.

It is plantigrade in its walk.

The mole is said to be an excellent swimmer, and to be able to cross rivers, when led to such an act by any adequately powerful motive.

From all accounts, the mole seems to be a thirsty animal, and to stand in constant need of water, drinking every few hours in the course of the day. In order to supply this want, it is in the habit of sinking well-like pits in different parts of its runs, so that it may never be without the means of quenching its thirst.

Everything the mole does is marked with an air of desperate energy. The fierceness of its temper, the voracity of its appetite, and wonderful talents it exhibits as a miner and engineer in constructing its underground fastnesses, ditches and highways, combine to give this animal an extraordinary character.

It will work for three hours with all its energy, and then rest for three hours, laboring and resting alternately, and with admirable perception of time.

It continually shifts its domicile from one place to another, overcoming every obstacle, such as wells, ditches and canals, and to avert perishing in the water, or wasting its strength on embankments, which often intercept its passage, it knows how, by a wonderful industry, to work its way at a very great depth, under rivers and broad foundations. Should it meet with an insurmountable impediment, it almost like a human engineer explores the ground, examines the ways, winds around hills, rocks, and employs all resources at its command to open a path.

The food of the mole consists chiefly of earth-worms and the larvæ of insects, but it is not confined to them; for during the summer months it not unfrequently leaves its subterranean retreat, and wanders upon the surface in quest of prey, such as birds, mice, frogs, snails, etc., and during these

nocturnal excursions it often meets with a vigilant and successful enemy in the owl.

During the winter, when the cold forces the worms down deeper into the ground, it follows them to their retreats, driving galleries and alleys to a corresponding depth.

The well-known mole-hills which stud certain lands, and disfigure them so sadly, are of various kinds, according to the sex and age of the miner. The small hillocks which follow each other in rapid succession are generally made by the female mole before she has produced her little family, and when she is not able to undergo the great labor of digging in the harder soil.

Sometimes the run is so shallow as to permit the superincumbent earth to fall in, so that the course which the mole has followed is little more than a trench. This is said to be produced by the little coquetries that take place between the mole and its future mate, when the one flies in simulated terror, and the other follows with undisguised determination.

Deeper in the soil is often found a very large burrow, sufficiently wide to permit two moles to pass each other. This is one of the high roads which lead from one feeding ground to another, and from which the different shafts radiate. But the finest efforts of talpine architecture are to be found in the central fortress, from which the various roads diverge, and the nest which the maternal mole forms for the security of her young.

The fortress is of a very peculiar construction, and is calculated to permit the ingress or egress of the mole from almost any direction, so that when its acute senses give notice of the approach of an enemy, it can make its retreat without difficulty.

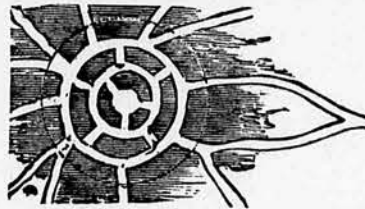
The first operation is to build a tolerably large hill of compact and well-trodden earth. Near the summit of this mound the excavator runs a circular gallery, and another near the bottom, connecting the two galleries with five short passages. It then burrows into the center of the mound, and digs a moderately large spherical hole,



FORTRESS OF A MOLE.

which it connects with the lower gallery by three passages. A very large passage, which is a continuation of the high road, is then driven into the spherical chamber by dipping under the lower gallery, and is connected with the circular chamber from below. Lastly, the mole drives a great number of runs, which radiate from the rest in all directions, and which all open into the lower circular gallery.

It will be seen from this short description, that if a mole should be surprised in its nest, it can withdraw through its central chamber, and so reach the high road at once, or even slip through either of the short



GROUND PLAN OF FORTRESS.

connecting galleries and escape into any of the numerous radiatory runs.

In the central or middle chamber of the edifice the mole places a quantity of dried grass or leaves, upon which it sleeps during its hours of repose. This complicated room is seldom used during the summer months, as at that time the mole prefers to live in one of the ordinary hillocks.

The nest which the female contrives is not so complicated as the fortress, but is well adapted for its purpose. The hillock in which the nest is made is always a very large one, and is generally placed at some distance from the fortress. Its interior is very large and is generally filled with dried grass,

moss or other similar substances, and it is said that in some of these nests have been found certain roots on which the young moles can feed during the first weeks of their existence. The young are usually born about April, but their appearance in the world is not so determinately settled as that of many animals, as young moles are found continually from March until August. The average of their number is four or five, although as many as seven young have been found in one nest. There is but one brood in a year.

The color of the mole is usually of a blackish gray, but it is extremely variable in the tinting of its fur, and it is not uncommon to find in a single locality specimens of every hue from brown to white.

The fur is so beautifully smooth and soft that it has sometimes, though rarely, been employed as an article of wearing apparel, as well as a light and delicate coverlet. The fur, as felt, is best and most glossy if the animal is taken in the winter.

But it is a destructive enemy, that never marches without spreading desolation wherever it passes.

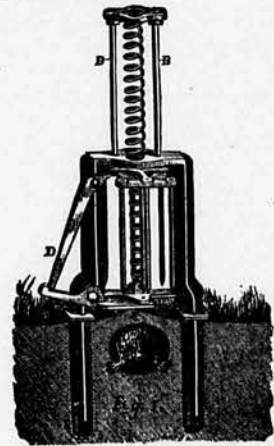
On account of the injury which it causes, it finds in man a persistent and relentless enemy, who pursues it with every means that can insure its destruction.

Moles are numerous in England and on the continent of Europe, and on account of their destructiveness some governments offer and pay a royalty on all moles that are caught and brought to the government inspector, who cuts off the right foot. In Holland, the government pays 8 cents for each mole caught. The inspector receives one penny and the mole-catcher 7 cents. There are persons who make it their occupation to catch moles, and who make a good subsistence in trapping them.

The means employed in Holland for catching moles is as follows: Two loops of wire are attached to one end of a pole. The other end is forced into the ground at a distance from the run, so that when the pole is sprung down the loops will be over the run. Four sticks are laid across the run, in pairs, each pair being staked fast to the ground (about four inches apart) by means of crooked sticks. Each loop is passed through between each pair of sticks to the bottom of the run, and the pole is held down by being attached to an ingenious combination of stakes and sticks, arranged so that when the mole passes through his run, he loosens them, the pole springs up, and the loops hold him fast.

It requires much skill and time to set a trap of this kind, and disfigures the ground by digging and driving stakes.

To obviate this difficulty, a trap has been invented which is simply forced into the ground by hand over the mole's run, and is sprung by the mole passing under it.



THE RELIABLE MOLE TRAP.

This trap has proved to be absolutely reliable. No mole can pass under it and not be caught.

These traps are sold at a low price, considering the style and finish with which they are made, the price being \$1.75 in New York. At a distance from the manufactory, an additional charge will probably be made by dealers to cover freight charges.

These traps are sold by nearly all seedsmen and dealers in agricultural implements and hardware in the United States.

Irrigation.

Area Irrigated.

It will be remembered by readers of this department of the KANSAS FARMER, that some of the positions taken by the editor, in an article headed "Great Expectations," were promptly challenged by Hon. M. B. Tomblin, Commissioner of Irrigation. Mr. Tomblin was asked for specific information as to irrigation plants in Kansas. This he has furnished as to a good many plants, and it is hoped that much wider and more exact information will be developed in course of the work now in progress under direction of the Kansas Commissioners of Irrigation.

Mr. Tomblin's reports begin with those of his own (Sherman) county. These Sherman county reports are prefaced with the following remark:

"Most of the plants in our county have only been in operation this year, and the amount of water applied depends on the rainfall. For most crops one irrigation so far this year [June 8] has been all that was necessary, and thoroughly soaked as the ground now is with the recent heavy rains, one more irrigation at most is doubtless all that will be required to mature most crops."

The Sherman county reports in detail are:

A. B. Montgomery, Goodland.—Depth of well, 205 feet; size of windmill, sixteen feet. Acres irrigated, ten. Crops raised, potatoes, sweet potatoes, alfalfa. Average gross crop value will depend altogether on prices, but in the past has run from \$40 per acre for alfalfa to \$400 on onions.

M. B. Tomblin, Goodland.—Depth of well, 180 feet; size of windmill, sixteen feet. Acres irrigated, twelve. Crops raised, potatoes, sweet potatoes, celery, cabbage and melons. "Average gross crop value per acre," at fair prices will pay for plant and expense first year.

J. Bray, Charlotte.—Depth of well twenty feet; size of windmill, fourteen feet. Acres irrigated, ten.

C. M. Knight, Goodland.—Depth of well to water, thirteen feet; size of windmill, ten feet. Acres irrigated, eight.

J. McAdams, Shermanville.—Depth of well to water, fifteen feet; size of windmill, twelve feet. Acres irrigated, eighteen.

Percy Judd, Goodland.—Depth of well to water, twenty-four feet; size of windmill, twelve feet. Acres irrigated, six.

Jas. Crosby, Cheyenne county.—Depth of well to water, seventeen feet; size of windmill, sixteen feet. Acres irrigated, twenty.

B. G. Hoover, Big Springs, Neb.—Depth of well, twenty feet; size of windmill, twelve feet—capacity in ordinary wind 130 gallons per minute, 180 gallons per minute in strong wind. Acres irrigated, fifteen.

E. H. Goodwin, Larned.—Depth to water, seven feet; size of windmill, twelve feet; size of pump, eight-inch Frizell with six-inch suction pipe and six-inch by eight-foot sand point—bottom of sand point fifteen feet under water. Number of acres irrigated, ten. Crops raised, general market garden.

It is hoped that Commissioner Tomblin will continue this investigation and make it even more specific. Experience as to what is actually being done and how, is more satisfactory than anybody's theory or guess as to how much ought to be done.

Practical Irrigation.

A writer in the *Californian* describes several methods of applying water to the land and then says of the "flume" method:

"This excels everything in the world. No other system produces such heavy results with so little water and so little work. A small flume, eight or ten inches square, of common redwood, is laid along the upper side of a ten-acre tract. At intervals of one to three feet, according to the nature of the ground and the stuff to be irrigated, are bored one-inch holes, with a small wooden button over them to regulate the flow. This flume costs a

trifle, is left in position, lasts for years, and is always ready. Into this flume is turned from the ditch an 'irrigating head' of twenty, twenty-five or thirty inches of water, generally about twenty inches [about 180 gallons per minute]. This is divided by the holes and the buttons into streams of from one-sixth to one-tenth of an inch, making from 120 to 200 streams. These are run across the tract in small furrows leading from each hole. From five to seven furrows are made between two rows of trees, two between rows of grapes, one furrow between rows of corn, potatoes, etc. It may take from fifteen to twenty hours for one stream to get across the tract. They are allowed to run from eighteen to seventy-two hours. The ground is thoroughly wet in all directions and three or four feet deep. As soon as the ground is dry enough, cultivation is begun and kept up from six to eight weeks before water is used again. For trees a year old, one furrow on each side the row will do; for two years old, two furrows, and so on. On very sandy or thirsty soil this method will not do, and basins, or irrigation by seepage from larger ditches, must be used. But much of the soils in fruit-growing districts are either red granite land or adobe and of the same nature as the Riverside soil. Under these systems no leveling of the ground is necessary, but rolling country, like Redlands, may be irrigated as well as a level plain.

"Sub-irrigation and all other systems, ancient and modern, European, Asiatic, or American, are far behind this flume method. They have been thoroughly tested in southern California for many years by people of unlimited means and most inquiring minds. It is quite useless now for any one to experiment or try to work out any system for himself. This is in effect exactly like the natural rainfall, ordered to suit yourself, and the full power of the soil can be shown in no other way.

"Under these systems the duty of water—the amount of work it will perform—is far greater than it would be at first supposed. Those whose ideas are taken from the wasteful systems of flooding or soaking from big ditches have something to learn in southern California.

"The standard of measurement is here the miner's inch under four-inch pressure. It is the equivalent of a constant flow through a hole one inch square under a head of four inches. This equals 1,728 cubic feet, or 12,960 gallons in twenty-four hours, and is one-fiftieth of a cubic foot a second. It will cover ten acres about eighteen inches deep in a year, which being equal to eighteen inches of rain used just when and where you want it, of which nearly every drop is utilized, it equals about fifty inches of rainfall as it generally comes. This amount, in addition to the regular winter and spring rainfalls, is enough for orange and lemon trees in full bearing, and for corn and even alfalfa on the uplands and soils not too sandy, and is too much for grapes and all the deciduous fruits. On clay and other subsoils very retentive of moisture this amount will often keep the ground wet.

"They will tell you at Riverside that they use an inch of water to five acres, and some say an inch to three acres. But this is because they charge to the land all the waste on the main ditch, and because they use 30 per cent. of the water in July and August, when it is the lowest. But this is no test of the duty of water; the amount actually delivered on the land should be taken. What they actually use for ten acres at Riverside, Redlands, etc., is twenty inches of three days' run five times a year, equal to 300 inches for one day, or one inch steady run for 300 days. As an inch is the equivalent of 365 inches one day, or one inch for 365 days, 300 inches for one day equals an inch to twelve acres. Many use even less than this, running the water only two or two and one-half days at a time. Others use more head, but it rarely exceeds twenty-four inches for three days and five times a year, which would be seventy-two multiplied by five, or 360 inches, a little less than a full [miner's] inch for a year for ten acres."

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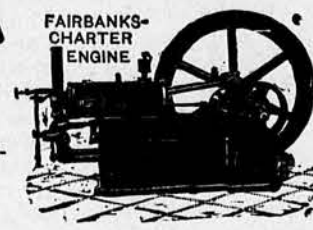
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In a Year From Now.

Intended exhibitors of fruit, grain and agricultural products at the International Mining and Industrial Exposition, to be held in Denver, next year, are reminded that the greater part of the exhibit must come from this year's crops, as the exposition opens on July 1. An especial feature is to be made of agricultural and horticultural products at this exposition, and exhibits are being sought from every State and Territory west of the Mississippi river. It is expected that the irrigation feature will prove especially valuable, as, for the first time in the history of the United States, the great science of irrigation will be exemplified upon a scale commensurate with its growing importance. It will be a prominent educational feature of the exposition. A large portion of ground will be used exclusively for the purpose of showing all irrigation processes and the various instruments for recording the volume of water in irrigation canals and rivers. The evolution of irrigation will be demonstrated from the most ancient to the most modern systems. It will naturally attract many collateral displays, such as engines, pumps, windmills and other irrigation appliances. Many varieties of fruit trees, grains and grasses, vegetables, melons and vines will be grown, including the hop, tobacco, cotton, canaigre and other growths which constitute the basis of large manufacturing interests. As no two crops require the same amount of water and each one is irrigated independently of the other and at different periods of the same season, this interesting process will be shown in all its important features.

Arizona, Colorado, Kansas, California, Idaho, Wyoming, New Mexico, Nevada, Utah, Washington, Montana and Oregon are expected to make valuable displays of agricultural crops grown by irrigation.

Twenty Acres.

The question of how much land an irrigated farm should contain and how it should be apportioned, has received considerable attention. Indeed some of the promoters of irrigation insist that the sociological aspects of the case are of more real importance than the purely practical. In answer to inquiries intended to elucidate some of the sociological aspects of irrigation, a California farmer has written as follows:

"The amount of land required to provide a moderate living depends much on the size of the family. For an ordinary family I would recommend twenty acres, with the following arrangement: In November, I would seed ten acres to wheat or barley, following it with alfalfa in March. In May I would expect to harvest one and one-half tons per acre, or fifteen tons of grain hay. I would then flood the land, which would yield three crops of alfalfa before frost. From the first

crop I would expect one ton per acre and from the last two crops one and one-half tons, in all thirty-five tons of alfalfa and fifteen tons of grain hay. I would reserve one acre for house, barn, poultry yard, vegetable garden, etc. Also one acre for family orchard, one-fourth of which I would plant to small fruit, from which I would expect small returns the first year.

"Peaches and apricots will yield small returns the second year and the third a paying crop. The remaining eight acres I would plant four to corn and four to pumpkins, each one separate. Corn may be expected to yield from 1,500 to 2,000 pounds per acre and pumpkins from eight to ten tons per acre.

"As soon as those crops were matured I would purchase a sufficient number of hogs to consume the pumpkins and part of the corn. After harvesting my last crop of alfalfa I would fence one acre and a half into three divisions—one to be used for a cow and the others for hogs. Four acres of pumpkins and 500 pounds of corn can be relied on to fatten twenty-five head of hogs, averaging from 175 to 200 pounds live weight, which last winter were ready sale at 5½ cents. My experience last year with hogs more than bears me out in the above statements.

"In regard to irrigation, I would recommend flooding the whole surface of the land, except corn and potatoes, and the land should be well plowed before planting those two crops. I am in favor of small holding, timely planting and gilt-edge cultivation. It is the work done at the proper time that pays."

Low Rates to Boston.

The B. & O. R. R. Co. will sell round trip tickets from all points on its lines west of the Ohio river, to Boston and return, for all trains July 5 to 9, inclusive; valid for return passage until July 22, with privilege of an additional extension until July 31, if desired. Tickets will also be placed on sale at all prominent points in the North and Northwest. The rate from Chicago will be \$22, and correspondingly low rates from other points.

A double daily service of fast express trains is maintained from Chicago to all points in the East. Tourists will bear in mind that all B. & O. trains between the East and West run via Washington. For full particulars write L. S. Allen, A. G. P. Agent, Chicago.

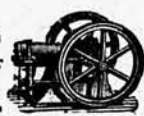
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IRRIGATION.

ONE CENT PER HOUR IS CHEAP.

That is what "WEBER" GASOLINE ENGINES COST to run per horse-power. Simple, Safe, Reliable, Economical. GET POSTED.

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Irrigation for Fruit.

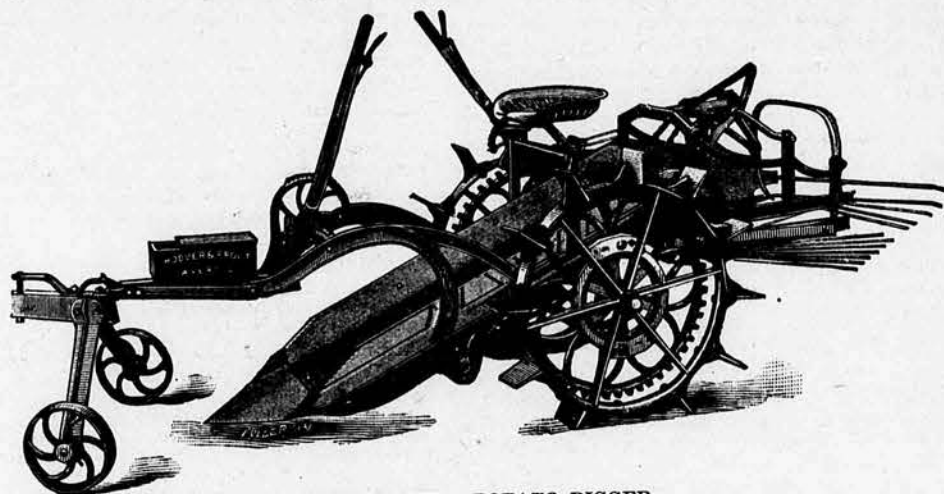
While a great deal is being said about the possibilities of irrigation in Iowa, I would like to see an experiment in the irrigation of an orchard. I am of the opinion that our apple trees would stand the winter much better were we so situated that we could thoroughly irrigate before going into winter quarters. The dry, piercing winter winds are the bane of the apple tree in winter time, and the dry, scorching winds of the summer destroy what escapes the winter, whereas by irrigation the drought might also be avoided. An orchard will yield a much greater return for irrigation than any of the hoed crops. I have long been of the opinion that it is the dry winds of both winter and summer that plays havoc with the Iowa orchard, and that temperature and soil conditions do not stand in the way of successful apple culture.—Prof. D. A. Kent, in *Rural Life*.

Every corporation, farmer, or individual who appropriates water from the streams of Nebraska, and constructs works for its utilization, whether it be for irrigation, water power or other useful purpose, is sowing seed that is likely to produce a harvest in the shape of a law suit. Although there is comparatively little land under irrigation or water power developed in the State at the present time, yet it is doubtful if there is a stream of any size within its jurisdiction upon which water rights are not claimed far in excess of the water available. What this condition of affairs will result in when water becomes

Reckoning according to population, Kansas' portion of this increase is about \$2,250,000. There is nothing in this showing to make the American eagle crow.

Kansas Hard Wheat Not Deteriorating.

EDITOR KANSAS FARMER:—I notice your request regarding the hard wheat of the Southwest deteriorating by becoming softer. I have been handling these hard varieties of wheat, as well as all other varieties, in this market since 1876, and from all parts of Kansas, and for the last few years from Nebraska and Oklahoma, and if there is less hard wheat in proportion to quantity than there was when the hard wheat first began coming to market, I have failed to notice the change. The crop of 1894 seemed to me to have a greater proportion of extremely hard wheat than usual, if any difference. The wheat coming to Kansas City market south of a line running directly west, averages much harder than that which comes from points north of that line. The Nebraska hard wheat is all or nearly all quite soft and much lighter in color than Kansas wheat. The original seed is doubtless the same. My belief is that the hardness of the berry is due to either the soil or climate, and is local instead of general, and that no matter where Nebraska farmers get their seed or how hard it may be, the result of the first crop will be a comparatively soft, round-berried, amber-colored wheat. And while I do not know this to be a fact, I believe if a southern Kansas farmer should procure seed from Nebraska of the quality above described, his produce would be



THE HOOVER POTATO DIGGER.

scarce and valuable requires no prophet to foretell. It means litigation of the most exhaustive and expensive character with the certainty of irreparable loss to some one interested. Unfortunately, the last Legislature failed to appreciate the necessity of action in the premises, but it is to be sincerely hoped that the one to be elected this fall will not refuse to grant such legislation as the upbuilding and protection of the irrigation industry of the State demands.—*Western Resources*.

At Goodland.

The State Board of Irrigation will formally open for public inspection and exhibition, pumping station No. 4, at Goodland, Sherman county, Kansas, on the 9th day of July. This is the first plant completed and consists of a six-inch tubular well, 180 feet deep, fitted with a cylinder 54x60 inches, operated by a ten-horse-power gasoline engine. Reservoir 80x125 feet. A suitable program will be provided for the entertainment of all who attend. Invitations are extended to State officers, United States Senators, Members of Congress and Legislature, the press, prominent promoters of irrigation and all interested persons. A very large attendance is expected.

June 30 is the close of the fiscal year. Government revenues, expenditures and debts are all accounted for by fiscal years. The United States Treasury statement shows an excess of expenditures over revenues of \$43,250,000 for the fiscal year just closed. One year ago the deficit was nearly \$70,000,000, so that in the last two years the country has got into debt, or rather has increased its debt by about \$113,000,000.

a hard, dark-colored wheat. I am of the opinion, therefore, that it would be a useless expense and trouble to import fresh seed from Russia. If necessary at all it would have to be done often and would be attended with considerable extra expense.

I am an enthusiast on pure seed and pure blood and would not discourage any effort on the part of our farmers to improve their seed. If the wheat-raisers of Kansas will pay close attention to the cleanliness and purity of their seed, its absolute freedom from mixed varieties, rye and other seeds, and sow only such seed as is fully matured, coming from fields of strong growth and good yield—in other words, selecting the best for breeding, as we do with our stock—they will have made a longer step in the right direction than in leaning on Russia for a constant renewal of their seed. I believe we can improve the quality and quantity of any cereal by proper selection.

H. M. KIRKPATRICK.
Kansas City, Mo.

That Trip East

May be for business or pleasure, or both; but pleasure comes by making a business of traveling East over the Santa Fe Route as far as Chicago.

Thirty miles the shortest line between Missouri river and Chicago; that means quick time and sure connections.

Track is straight, rock-ballasted, with very few crossings at grade.

No prettier, cozier, or more comfortable trains enter Chicago than those over the Santa Fe. They are vestibuled limited expresses, with latest pattern Pullmans and free chair cars. Meals in dining cars served on plan of paying for what is ordered.

Inquire of nearest agent, or address G. T. Nicholson, G. P. A. Santa Fe Route, Monadnock building, Chicago, or W. J. Black, A. G. P. A., Topeka, Kas.

Fertilizers for Fall Crops

should contain a high percentage of Potash to insure the largest yield and a permanent enrichment of the soil.

Write for our "Farmers' Guide," a 142-page illustrated book. It is brim full of useful information for farmers. It will be sent free, and will make and save you money. Address,

GERMAN KALI WORKS, 93 Nassau Street, New York.

A Word About Binders and Mowers.

The moral of a fable with which we used to tussle in an old elementary Latin reader, was summed up in the two words *experientia docet*—experience teaches. As the years go by, we are more and more impressed with the force of these words, and the advent of the annual harvest season suggests the wealth of experience that has befallen the McCormick Harvesting Machine Company, of Chicago, manufacturers of the McCormick line of grain and grass cutters. The encyclopedias state that the first successful reaper was invented, built and operated by Cyrus H. McCormick in 1831. This, then, was the beginning of the history of the modern binder and mower, and although followers of the McCormick come and go, they fail to bring us any innovations of real and lasting merit, just as they fail to dispense with the underlying principles of Mr. McCormick's old "Virginia Reaper" of sixty-four years ago; in fact, these principles cannot be dispensed with "without wiping every reaping machine out of existence," is the forcible recognition accorded Mr. McCormick's invention by Knight's New Mechanical Dictionary. With all this practical experience, reaching from 1831 down to the present time, there is nothing strange in the fact that McCormick machines to-day hold the highest rank. In every country where grain and grass are grown, the McCormick is a favorite, and the manufacturers assert that of all harvesting machines sold annually, more than one-third are of the McCormick make. It is a matter of history that at every World's Fair they have won the highest honors, and at those expositions where field trials have been held, the value of these honors has been especially enhanced, as it is in the field—in actual work, that the McCormick experience is seen.

Experience has taught them the practical requirements of the grain and grass grower. Their machines are, therefore, simple in construction, most perfect in operation, light, yet strong and durable, and for lightness of draft are unexcelled. All manufacturers are prone to make extravagant claims for their machines, but the McCormick Company's readiness to prove all claims at all times is a well-known exception to the general rule—an exception which was peculiarly emphasized at the World's Columbian Exposition in 1893, when the awarding committee asked all manufacturers to operate their machines in the field; the McCormick Company complied—the others did not. It is easy to make claims in an advertisement, and easy for agents to talk about the particular binders and mowers represented by them, but it is difficult to prove claims, and that the McCormick Company should have done so in these World's Fair field tests is a striking illustration of their watchword—"What we say we do we do." Our readers will be gratified to know that the McCormick Company are building a corn harvester and binder, which is as great a success as their grain harvester. It is highly commended by practical farmers who have seen it work, and although thousands of them will be built this season, the demand promises to out-run the supply. Those interested will do well to make further inquiry at once, either of the nearest local agency, or at the general offices in Chicago.

The Hoover--A Nineteenth Century Improvement.

The Hoover Digger is the only one that separates the potatoes from the vines and other foul matter, the potatoes being delivered behind the machine, in a narrow row, on clean ground, while the vines are carried to the left side, the upper set of rods doing this work, with the aid of the constantly moving forks. Growers should give this improvement great weight in buying a digger.

It will be noticed by the cut that the power is taken by a drive-chain from the large sprocket wheel on either side and immediately transmitted to the shaft at the upper end of the elevator; this in turn sets the back rack in motion, also the forks. Two sets of drive-chains accompany each machine. The forward lever, so convenient to the driver, regulates the depth, while

the side lever regulates the position of the back rack. The digger is provided with dirt-proof, reversible brass boxes, which are in turn provided with five-inch oil tubes, thus affording great service where it is most needed. The Hoover is changed to dig any depth while in motion.

Write to Hoover, Prout & Co., Avery, O., for free pamphlet and testimonials.

Enclose a stamp to any agent of the Nickel Plate Road for an elaborately illustrated Art Souvenir, entitled "Summer Outings." Address J. Y. Calahan, General Agent, 111 Adams street, Chicago, Ill. 70

Special Service to Cleveland.

The fast train on the Nickel Plate Road, leaving Chicago at 1:30 p. m., arriving Cleveland 11:30 p. m., is the best day train between Chicago and Cleveland. Give it a trial and be convinced. Uniformed colored porters in charge of day coaches. Lowest rates to all points. For further information address J. Y. Calahan, General Agent, 111 Adams St., Chicago. 77

Summer Tours.

You can get more for your money in the sure return of health and enjoyment at any of the many resorts on the Union Pacific System than anywhere else on this continent. See your nearest Union Pacific agent. Summer tour tickets on sale to September 30.

F. A. Lewis,
City Ticket Agent, Union Pacific System,
525 Kansas avenue, Topeka, Kas.

A Liberal Offer.

Messrs. F. W. Bird & Son, East Walpole, Mass., offer to send entirely free to any of our subscribers a full line of samples of their Neponset Red Rope Roofing Fabric. This fabric is water-proof, wind-proof, frost-proof. Cheaper and better than shingles. Takes the place of shingles or clapboards on out-houses and back plaster in dwellings. Any one can put it on, and we advise our readers to send for a line of their samples.

Reduced Rates to Baltimore.

On account of the meeting of the Baptist Young People's Union at Baltimore, July 18 to 21, the Baltimore & Ohio railroad company will place on sale at all ticket stations on its lines west of the Ohio river excursion tickets at one fare for the round trip. These tickets will be sold July 16 to 17, valid for return passage until August 5. The rate from Chicago will be \$17.50 and proportionately low rates from other points. Tickets will also be placed on sale at all coupon offices west of Chicago.

Whatever point you start from be sure your ticket reads via B. & O. In addition to the historic country through which the B. & O. runs, the B. & O. is the only line from Chicago to Baltimore running via Washington, a double daily service of fast express trains run between the West and East.

For full particulars address L. S. Allen, A. G. P. A., Grand Central Station, Chicago.

KEYSTONE
Corn Huskers and
Fodder Shredders

are further improved for 1895. Better than ever before. You can learn all about them from the free book

"The Great Leak
On The Farm."

Send for it now.

KEYSTONE MFG. CO.,
Sterling, Ill.

We have branch houses.

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 PINK WILD ROSE.

An old log house in the pasture stands,
Shattered, forsaken and brown,
Its windows gone, its broken door
And its door-step tumbled down;
But a spirit lingers near the spot
With a sweet, old-time repose,
For in tangled masses round about
Blossoms the pink wild rose.

I gather a bunch of the fragrant flowers,
And a picture seems to rise:
I stand in the past a hundred years,
And see 'neath the sunset skies
The housewife stand by her spinning-wheel,
Toiling at twilight's close;
An old brown jar on the window sill
Is filled with the pink wild rose.

The husband sits on the door-step there,
With the children playing near;
And then time marches with silent tread,
Till it passes year by year,
And the old log house deserted is,
A prey to the rains and snows,
While the only voice of the days gone by
Is the voice of the pink wild rose.

—Florence Josephine Boyce.

WHY SHOULD WE CARE?

Though the tree be not just for the bird to
nest in,
She sets the twigs and the nest is there;
Though the world be not just for man to be
blest in,
He walks her green ways and breathes her
sweet air.

The rich days open and spill their splendor;
Night shoes with silver the foot on her stair;
Aye, life has all that glory can lend her;
So, what it all means, pray, why should we
care?

The green lands blossom and the blue skies
hover;
The warm winds blow and the song birds pair;
Under love's window, comes flitting, the lover,
And the loved one leans, with his rose in her
hair.

The sun's plunge over the hill to the water;
The stars are sure; God gives and to spare;
The man-child thrives, and beauty's fair daugh-
ter;
So, what's it all for, pray, why should we care?
—Harper's.

SOCIALISM IN THE UNITED STATES.

Abstract of graduating thesis of E. J. Smith, of
Morganville, at Agricultural college commence-
ment, 1895.

We are slow to admit that in a land
where, by declaration, the people are free,
having the inalienable rights of "life, lib-
erty and the pursuit of happiness," there
should develop a system of economics like
socialism. The fact of the matter is, that
socialists have been among us for many
years, and are ever increasing in numbers
as well as aggressiveness. The increase
can no longer be said to be wholly due to
immigration, but largely to the inevitable
outgrowth of our own society. The conflict
of capital and labor is responsible for its
development. The toiler, oppressed as he
in so many instances is, turns a listening
ear to any reform which promises him bet-
ter rewards for his labor.

Thus, when the disciples of Marx sowed
among our discontented citizens the seed of
socialism, flavored, as it was, with prom-
ises of a better day, and taught so that it
would appeal to the prejudices of the work-
ing class, it soon took root and grew vigor-
ously. Eventually, in 1879, it led to the
organization of the Socialist Labor party,
which rapidly gained in followers; but owing
to its radical tendency it soon lost favor,
though not before adopting political plat-
forms and nominating Presidential candi-
dates.

Through the organization of co-operative
societies another attempt was made to
bring about a change of conditions. Some
of these, bound by religious ties as well as
a desire to better their lot, proved beneficial
and lasting. The good they did, however,
was necessarily limited to those of their
number. Among these organizations should
be mentioned the Shakers, the Harmonites,
the colony at Amana, O., and another at
Economy, Pa.

A movement very prominent for a time
was that inaugurated by the Frenchman,
Fourier, a firm believer in co-operation
entertaining the hope that all humanity
would adopt his scheme. One "barrack"
as he called it, was formed, but it proved
entirely unsuccessful.

Still there are among us those who follow
this course, but the greater number of
American socialists are employed in other
lines. They can no longer be called dream-
ers and visionaries. Among them we find
some of our most intelligent and patriotic
citizens, who are laying aside Utopian
schemes and working upon a practical
basis. Education is their watchword.
They gain converts no longer by exhorta-
tion, but by teaching and preaching social-
ism in plain English. They do not expect
to bring about radical changes suddenly,
but will abide their time in the belief that
what they are teaching will come about
naturally. In the meantime, they are not
idle, but encourage reform from whatever

source or in whatever form it may come.
They look with pleasure upon the forma-
tion of trades unions, confederations, and
combines, for they say these are drifting in
their direction. They are making smooth
the way for national co-operation. The
cities, they tell us, in obtaining control of
gas and water-works, street railways, etc.,
are doing nothing less than putting into
practice their doctrine. They point with
pride to our public school system and our
postoffice department as representing the
practicability of socialism.

What the outcome of this work will be,
the wisest cannot judge. At any rate it is
significant enough to command our atten-
tion and study.

LIGHT AND VENTILATION IN SCHOOLS.

Abstract of graduating thesis of E. P. Smith, of
Manhattan, at Agricultural college commence-
ment, 1895.

It may be a commonplace expression, but
it is a profound truth, that we are living
to-day in the midst of a revolution. The
opening up of new fields of scientific truth,
leading in their application to thousands of
new inventions and improvements in meth-
ods, forces us to analyze and readjust our
industrial life and our educational ideas.
Education never leads in the development
of these readjustments, but to-day it is fol-
lowing closely the newest and the best and
is working out great changes.

As to the subject matter taught in our
schools, we boast of being well to the front
in the race; our subject matter is reality;
our method consists in doing things with a
view of gaining intellectual grip and power
and getting into living relationship with the
world around us. In no country is educa-
tion more universal or extensive than in our
own, but in no direction are we perfect;
there is yet much to learn.

The tendency in schools and colleges is
towards educating exclusively in the arts,
sciences and languages, while that impor-
tant branch—how to care for the body, its
physical needs and necessary conditions for
the enjoyment of perfect health—is sadly
neglected. Upon the preservation of the
physical health of the child depends largely
the development of the intellect and the
mental abilities and faculties in the man,
and the health of the child depends upon
the conditions that surround him and to
which he is subjected in the school-room.

Of all classes of buildings in the United
States, probably none are so unsatisfacto-
rily lighted and ventilated as public schools;
and there are none that deserve more care-
ful attention to improved sanitary require-
ments. Their importance cannot be over-
estimated. No trick of construction can
bring cheer and brightness into a school-
room as sunlight and fresh air in abun-
dant. The place where children should
be eager to go, where they should be happy
and content, is more like a dungeon from
which they are glad to escape.

The lack of wholesome lung food is dan-
gerous and its evil effects life-enduring. It
is the cause of many diseases, ill-health,
weak constitution and premature death.
Many of the fatal epidemics that have
taken thousands of human lives before
their destructive course is checked may be
traced directly to improper sanitary condi-
tions.

One of the greatest difficulties in securing
good lights and proper ventilation is the
inertia of those who should be the most in-
terested—the public. We need to be
aroused to a lasting activity, not an evan-
escent one; an activity that will never
weary in its efforts to secure the comfort,
for promoting the welfare of children in the
schools; an activity that will devote time
and fortune, if need be, for the generation
that shall fill our places in the years to
come. When this reform has been accom-
plished, when school days are made
brighter by pleasant surroundings, when
more elevating influences are introduced,
when teachers are more thoroughly in-
structed as to the physical needs of chil-
dren and school boards and society in
general become more enthusiastic and em-
phatic in their demands, then we will have
a race of men strong in body and soul, brave
and true in adhering to convictions, ener-
getic in every action, holding in the highest
degree of reverence the supreme laws of
God and nature.

Blood-purifiers, though gradual, are rad-
ical in their effect. Ayer's Sarsaparilla is
intended as a medicine only and not a stim-
ulant, excitant or beverage. Immediate
results may not always follow its use; but
after a reasonable time, permanent benefit
is certain to be realized.

The Christian Endeavor Convention for
1895 will be held at Boston, Mass., in July,
and the Nickel Plate Road has effected ar-
rangements by which the lowest rates will
be offered, either going or returning, by di-
rect lines or returning by different routes.
The following points of interest may be
visited without extra charge: Chautauqua
Lake, Niagara Falls, Thousand Islands,
Rapids of the St. Lawrence, Saratoga, Pal-
isades of the Hudson and the Hoosac Tun-
nel. For further information address J. Y.
Calahan, General Agent, 111 Adams street,
Chicago, Ill.

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

Royal Baking Powder

ABSOLUTELY PURE

ONE-PIECE GARMENT.

Why Its Fair Inventor Considers It the
Ideal Bicycle Skirt.

Three "bicycle women" were talking
the other day, and, of course, it goes
without saying that they were talking
of wheels and of the time they had
made, and above all they were talking
of this season's bicycle gowns. They



AS A WALKING
SKIRT.

DRAWN UP FOR
BICYCLE.

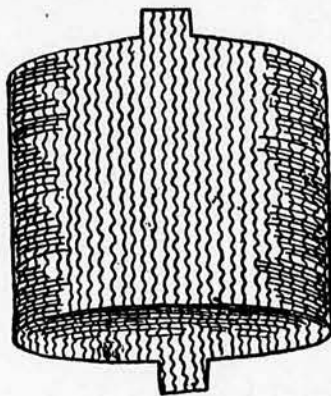
waxed excited over this last topic.
Finally one of them said she had a
costume in process of construction that
met all objections. She said:

"The costume is a one-piece garment,
and makes a splendid walking skirt.
There are a pair of elastic cords ar-
ranged skillfully at the side, and when
a body wants to mount all she has to
do is to pull at these nice little cords,
and behold, the skirt rises in graceful
folds on each side, leaving the limbs in
the trousers unimpeded while on the
wheel. And the costume isn't immod-
est a bit. It really is pretty. You can
wear any kind of waist with it that
you wish. I bought a skirt, and I'm
going to wear my Norfolk jacket with
it. The skirt is light as can be, and is
made so that it has a sheer effect in
front, and when it is drawn up and
back there is but little cloth to blow
about. And I'll tell you further, dear
ladies, that I'm going to wear my
'zalkri' on every racing day this season.
No more muddy skirts and dragged
gaiters for me. And the best of it all
is that it doesn't appear a bit like dress
reform, and you can thus have all the
gain of comfort without the fame
which you ladies and your husbands
seem to find so stringently objection-
able."—Chicago Tribune.

STOMACHER FOR BABIES.

Cholera Infantum Said to Be Unknown
Where It Is Used.

An article highly recommended by
mothers and physicians is the knitted
band or stomacher, which takes the
place of the old-time flannel band, now
a thing of the past. Made of Saxony
yarn, it is light, warm and elastic, and



It has been claimed that cholera in-
fantum is unknown where the knitted
band is used.

The construction is quite simple. An
idea of the shape may be formed from
the accompanying drawing. The tabs,
back and front, are pinned to the cloth-
ing with safety pins, and the band is
kept in place. Cast on sixty stitches,

and knit a strip in ribbed stitch, join-
ing the ends, when the strip is large
enough, and knitting the tabs on after-
ward. The first bands are quite small,
but larger ones can be made as the
child increases in size. They can and
have been worn up to two years of age.
—A. Olivia Longacre Wertman, in
Home Queen.

A Dainty Turkish Dessert.

If you would some day like to try a
Turkish dessert, you will find the fol-
lowing dainty and nutritious: Heat a
pint of milk in a double boiler, moisten
three tablespoonfuls of rice flour with a
little milk or cold water, and use to
thicken the milk. Add four table-spoon-
fuls of granulated sugar, cook until a
smooth, thick paste, then flavor with a
teaspoonful of rosewater and two table-
spoonfuls of chopped nuts. Use almonds,
English walnuts, or the two nuts mixed.
Pour on a flat dish and sprinkle with
whole almonds. If you wish to be very
truly Turkish, cut the almonds on top
in crescent shape.

An Old Custom Dying Out.

The custom of writing "Present,"
"Addressed," "Kindness of" and "Fav-
ored by" on letters sent by private
messenger is said to be going rapidly
out of fashion. The name of the per-
son, the street and number are all that
is now usually written.

Hall's Hair Renewer contains the natural
food and color matter for the hair, and
medicinal herbs for the scalp, curing gray-
ness, baldness, dandruff, and scalp sores.

Limited Time, Unlimited Pleasures.

Leave St. Louis Union Station 8:12 a. m.
to-day; arrive Pittsburgh 2 a. m.; Harris-
burg 9:30 a. m.; Baltimore 12:20 p. m.;
Washington 1:25 p. m.; Philadelphia 12:17
p. m.; New York 2:33 p. m. to-morrow.
This is the famous solid vestibule train run-
ning over Vandalia-Pennsylvania Lines.
You can find out all about the unlimited
pleasure by addressing Brunner, 509 Chest-
nut street, St. Louis.

A TRUE STORY

Last month I cleared, after paying all expenses,
\$235.38; the month before \$186.86 and have at the
same time attended to my regular business. I be-
lieve any one, anywhere, can do as well, as I have
not a particularly good location and not much expe-
rience. 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., 637 3rd 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 pub-
lish your experience for the benefit of others.

ALICE O.

HIRES'

Rootbeer contains enough sarsa-
parilla alone to give it the highest
place as a promoter of good health.
To this, add the most delicious herbs,
roots, barks and berries and you have
the reason why millions of people
drink and grow healthful on Hires'

Rootbeer

A 25c. package makes 5 gallons
CHAS. E. HIRES CO., PHILA.

RETAINS RUPTURE

WHEN ALL OTHERS FAIL.

PAT. DEPT. 600,000

The Dr. Harvey
Human Hand Truss.

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

For Descriptive Circulars Address
H. I. PEARSON & CO., SOLE MAN'G'RS.
Rialto Building, KANSAS CITY, MO.

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—
When tired 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 their way.
But when they sleep and when they dream
Away they float on the gliding stream
To Grandma-Land! To Grandma-Land!
—Harper's Young People.

THE GAY KINGFISHER.

One of the Most Brilliant Members of the Feathered Family.

The gayly-feathered kingfisher, which is almost tropical in the brilliancy of its hues, has, if old traditions are to be relied on, been for a long time associated with summer weather and green leaves in those brightest of all short seasons poetically known as halcyon days.

It is even now, in some remote places, believed in as an accurate prophet, or gauge, of the weather. It is supposed that if the bird is hung up by a thread its beak will always indicate the point where the wind will come from. I have often heard, too, in past times—forty years ago, that is—of the various ingredients necessary in order to embalm the body of a kingfisher so that it may serve in this way. It was not consid-



KINGFISHER AND PREY.

ered as a matter to laugh at, and I never smile in listening to bird lore of this sort; I have the recipe still by me, and a most fearful one it is. There are details about it not fit to be mentioned—such as would be enough to disgust a polecat, if I may be allowed to use so homely a simile. It is curious, but the measures that were resorted to in past times were pretty sure to be very strong ones.

In my boyhood there were surely more of those halcyon days, when the tasselled reeds are reflected in the calm water, the surface of which is only broken by the rise of a giant trout; when the clack of the millwheel is softened by the slush of the water that sends it round; when the dark green leaves of the hoary-stemmed alders are motionless, save when the red-polls that have bred somewhere in the alder swamps move them, in their flittings to and fro, to cling on the dark twigs.

Old posts are in the stream, that have been placed there in past times to prevent men netting the trout. They are moss-covered now, thick and green. On one of them sits a kingfisher, his bright, red breast brought out vividly by the green moss on the stump.

Dick—dick! he has plunged; there is a splash of water, you see a flash of rainbow hues, and there he is on his stump again, with a minnow.

The bird's movements are so rapid, there is little more to be said about them. It is there, and gone, and there again. When it flights, all you will see will be the vivid line of turquoise blue on its upper plumage.

Great brambles hang over streams, loaded in their season with luscious blackberries; such places are favorite perching places for our bright fisher, for there he is practically invisible, the richly-tinted, trailing stems of the brambles and their bright leaves falling in with his gay plumage well.

I have found his nest, if a hole in a bank which was frequented also by sand martins could be called one, by the side of a well-frequented cart road. For some reason only known to the bird itself it has left the vicinity of the water in order to nest here.

So far as the fish bones forming the foundation for the nest, so called, are concerned, insect-feeding birds cast up pellets of the indigestible parts of their prey, and as the fish bones have been scattered all over the floor of the tunnel, it may be that they are, more or less, indiscriminate castings. I do not assert this as a fact, only venture an opinion on the subject.

Young kingfishers require a lot of feeding from their parents; and it is only to the calls of the nestlings at times that the nests have been found where they were least expected to be. A saw-pit was one place where a couple brought out their brood. Some time back, it may be some four or five years now, the watercourses for miles, in country districts, were quite cleared of kingfishers, in order to supply ladies' hat plumes; but this fashion, I think, has been altered. So much the better, for we can ill spare the bright kingfisher.—Pall Mall Magazine.

DAINTY FOR ELEPHANTS.

The Big Fellows Like Oranges Better Than Anything Else.

If there is anything in the world that an elephant loves better than a peanut it is an orange, and if any boy who reads this wishes, when he goes to the circus, to give the massive creature an especial treat, instead of paying five cents for a bag of peanuts to put in the elephant's trunk, let him purchase for the same money one good-sized orange, and present that to the small-eyed, flat-eared monster. A number of years ago, in a book which was called "Leaves from the Life of a Special Correspondent," Mr. O'Shea, the author of the book, gave the following description of an adventure he had with a herd of elephants. Said he: "A young friend once asked me once to show him some elephants, and I took him along with me, having first borrowed an apron and filled it with oranges. This he was to carry whilst accompanying me in the stable, but the moment we reached the door the herd set up such a trumpeting—they had scented the fruit—that he dropped the apron and its contents, and scuttled off like a scared rabbit. There were eight elephants, and when I picked up the oranges I found I had twenty-five. I walked deliberately along the line, giving one to each. When I got to the extremity of the narrow stable I turned and was about to commence the distribution again, when I suddenly reflected that if elephant No. 7 in the row saw me give two oranges in succession to No. 8 he might imagine he was being cheated, and give me a smack with his trunk—that is where the elephant falls short of the human being—so I went to the door and began at the beginning as before. Three I went along the line, and then I was in a fix. I had one orange left, and I had to get back to the door. Every elephant in the herd had his greedy gaze focussed on that orange. It was as much as my life was worth to give it to any one of them. What was I to do? I held it up conspicuously, coolly peeled it and ate it myself. It was most amusing to notice the way those elephants nudged each other and shook their ponderous sides. They thoroughly entered into the humor of the thing."—Harper's Round Table.

A Little Philanthropist.

"Why, Robbie, where are your rubbers? Didn't you wear them to-day?" "Yessum; but comin' home I met a poor man who hadn't had anything to eat for two days, and as I hadn't any money, I gave him my rubbers."—Harper's Young People.

AN OCEAN LETTER BOX.

How Australian Sailors Send and Receive Their Mail.

A peculiar custom prevails among the skippers and fishermen in Australian waters. These hardy mariners are often for months at a time away from their homes, cruising to and fro in search of fish, shells, coral or sponges. Away from all communication with the civilized world they have erected on points of vantage situated near much frequented ocean highways high stones, to which they attached an empty barrel at a convenient height. Here they deposit all letters they wish to mail, with money for the postage, and a pearl or a bit of coral as a reward for the one collecting this mail. In fact, it is noth-



THE SAILORS' LETTERBOX.

ing less than a letterbox on the corner of the street. Regular steamers passing weekly call at those of the silent stations that are most patronized, and a system has been found to leave some mail there. All that is required is the previous announcement at what mail-post letters are to be left, and the heart of the lonesome mariner may be gladdened with news from home every week. A special tax is now collected for calling at such points.

THE CIRCUS GROUNDS.

Clever Work Done by the Man Who Lays Them Out.

"Out of the way, you boys," says Hunt, tape measure in hand, as he starts forward to mark the long diameter of the "big top." Two men trot beside him, their arms filled with iron rods two feet long and pointed at one end. Two others help him with the measurements, holding one end of the tape while he runs out the necessary distances. He locates first the five center poles of the big tent, an iron bar being driven at each point. Then in the same way he marks the circumference of the tent, indicating the points where the 208 poles will stand. A little red or blue flag flutters at the top of each iron rod, making the plan of the tent stand out on the sod like a geometrical pattern.

The "big top," 440 by 180, being thus laid out, Hunt and his men hurry to the side of the menagerie tent, which is connected with the main tent by a neck of canvas. This they mark out in the same way, the iron rods being topped with white flags. All is done with incredible rapidity, the plan of the two great tents being finished within eight minutes from the start. In other parts of the field are as quickly laid out the dressing-room tent, two horse-

Long Life

to leather: 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.

tents, the wardrobe tents, the side-show tent, the freaks' tent, the freaks' dressing-room and half a dozen smaller tents for the blacksmith shop, the repair shop, etc. Thus, by four o'clock, Jack Hunt, who never went to college, has disposed of enough angles, circles, diameters and radii to drive a professor of mathematics frantic; and he has made no mistakes, there being no provision in the programme of a great circus for mistakes.—McClure's Magazine.

At a Church Wedding.

She—The groom seems quite cool.
He—The bride is from Boston.—Life.

Nicotinized Nerves.

Men old at thirty. Chew and smoke, eat little, drink, or want to, all the time. Nerves tingle, never satisfied, nothing's beautiful, happiness gone, a tobacco-saturated system tells the story. There's an easy way out. No-To-Bac will kill the nerve-craving effects for tobacco and make you strong, vigorous and manly. Sold and guaranteed to cure by druggists everywhere. Book, "Don't Tobacco Spit or Smoke Your Life Away," free. Address Sterling Remedy Co., New York city or Chicago.

"Hitch Your Wagon to a Star,"

as Emerson said,—that is, don't be content with any bicycle except the best one made—the COLUMBIA. Matchless as these famous bicycles have been in past years, you will rub your eyes when you see the quality and beauty of the 1895 models—\$100.

POPE MFG. CO.

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You need the Columbia Catalogue, a work of art that shows every detail of peerless Columbias and superb Hartfords. The book is free if you call at a Columbia agency; by mail for two 2-cent stamps.



WM. TAYLOR,

Agent for Columbia and Hartford Bicycles
TOPEKA, - KANSAS.

RHEUMATISM

Is often caused by a bad Liver. How is your Liver? Are your Kidneys all right? Does your sleep rest you? Does your back ache? Are you weak and thin? Are you dull and bilious? Marvelous success has attended the use of

Dr. J. H. McLean's Liver & Kidney Balm.

All who use it say it is the "PEERLESS REMEDY" for curing ailments of the Liver, Kidneys and Bladder, Female troubles, Rheumatism and Bright's Disease. For sale everywhere at \$1.00 per bottle.

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



KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Wednesday by the

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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.

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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 Breckers' 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.

We have received the seventh annual report of the Kansas Experiment Station. It is a pamphlet of forty-six pages. It contains brief outlines of the three bulletins issued during the year and short outlines of "other work." The report is signed by the seven members of the station council.

The Commissioners appointed by Governor Morrill to represent Kansas at the Cotton States and International Exposition, which opens at Atlanta, Ga., on September 18, have issued an address requesting that any and all persons in the State who have or will have anything which they desire to have exhibited at such exposition, to prepare it for exhibition and have it ready for transportation when they shall be called upon by the Kansas Commission. The officers of the Commission are O. E. Learnard, President, Lawrence, and Jno. Q. Royce, Secretary, Phillipsburg.

Hon. Martin Mohler, who needs no introduction to Kansas farmers has been appointed general field agent of KANSAS FARMER and is canvassing the central and western counties of the State, where irrigation, subsoiling and alfalfa-growing are of special interest. He will contribute an article each week to the columns of the FARMER and will give to its readers the newest clean-cut thoughts and ideas on these very interesting and important subjects as they are gleaned from those who are producing them, the live progressive farmers of Kansas, in their experimental work. Mr. Mohler's large experience in farming and his extensive knowledge of conditions in Kansas gained during his six years experience as Secretary of the State Board of Agriculture, enable him to do valuable service in promoting advanced ideas along the lines of the new departure in agriculture.

The eleventh annual report of the Wisconsin Experiment Station is a book of 388 pages, comprising records of experimental work so interesting and valuable that the editor would like to begin at the first and reproduce in the KANSAS FARMER everything in the book. Under the energetic leadership of Prof. W. A. Henry, Director of the station, every member of the station staff is incited to do and achieve. Bad seasons, untoward circumstances, elements of discouragement of every kind are met by experimental investigations as to what is best for the farmer, the stock-raiser, the gardener, the orchardist, the dairyman to do under such circumstances. The work of Prof. F. H. King, of this station, in relation to soils and moisture, is of enduring value and has developed information which is helping the farmers on the arid plains, as well as those on our wet lands, to meet the conditions under which his success must be attained. But it is not possible here to particularize as to the excellent work presented in the Wisconsin report. We shall make use of its contents from time to time for the benefit of the farmers of Kansas.

PATRIOTISM.

The sentiment of patriotism is an inherited one, having been handed down through many generations in civilized nations. The policy of patriotism grows out of self-interest—out of the protection which institutions give to persons and their belongings. Where patriotism implies loyalty to a sovereign, the sentiment is adroitly cultivated and the policy is kept prominently in view. In countries so governed, the amount of oppression the people will bear, the amount of extortion they will endure to enrich their sovereign, or to contribute to his excesses, depends upon the intensity with which the fires of patriotism can be kept burning in the hearts of the people, or in the minds of those who control them. Thus, this, one of the noblest of human impulses, is cultivated for the advantage of the oppressor.

In more advanced nations, portions of the stronger of the people have thrown off the yoke of the oppressor, generally to become in some sense his co-partner and ally. Caste, rank and privilege have become a part of their institutions, and the fires of patriotism have been fanned for the benefit of the classes.

That the lower classes are, even under these unfair conditions, better off than without government admits of no doubt.

But, when the fathers of this country made it independent, they not only established a government for the good of all, but they also eliminated the classes, intending that all should share alike the common good. They abolished class distinctions, class privileges, and the unfairness of the right of primogeniture, and expected that the successive distributions of estates and the frequent returning of official powers to their source—the people—would prevent the accumulation of oppressive fortunes and the arrogation of great powers of government and their use for purposes of oppression.

That there has been some disappointment in both of these directions cannot be honestly denied. The corporation and the trust, and the system of great credits have enabled the accumulation of fortunes in magnitude surprising to the privileged classes in all countries. The profits made possible on account of policies of government have whetted the appetite of avarice and emboldened schemers to demand legislation and administration in special interests. Patriotism does not consist in granting such demands, but rather in guarding vigilantly at the ballot-box the sacred interests of all the people.

The Fourth of July, the day on which the fathers declared their independence of oppression, is a good time to contemplate the perpetuation of the institutions they founded, the perpetuation of good and strong government and its preservation from the use of every oppressor.

CAUGHT A "LAMB."

The public will never know how many people throughout the country contributed, during the late excitement in wheat, to the exchequer of the grain gamblers, nor how much hard-earned money went into that rapacious maw. A case came to light, however, in Shawnee county, last Saturday. Wesley Davis was a grain dealer at Rossville. He had the confidence of the entire community. Farmers stored their grain in his elevator, or, if they sold it, left their money in his hands until needed. He was supposed to be fairly well off and prospering. Some knew that he was "dealing" on the Kansas City and Chicago "boards" occasionally, but he was supposed to be always making money. Those who desired to "make a little on the side" gave their money to Davis to "invest" in "wheat" for them. When wheat was selling around 80 cents he thought it would go higher and "bought" largely. His purchases are estimated at 77,000 bushels. How much more he bought nobody appears to know. Of course, he paid only the margins on this wheat, and as prices came down instead of going up, more margins had to be paid. Finally he could

raise no more money to pay margins and his "deal" was closed out at a loss of some \$7,000. The collapse came and the sequel proved that he owed his home bank (in which he was a director) and his neighbors and friends about \$40,000. He had some \$14,000 worth of property, which he made over to the bank, and with \$60 in his pocket and leaving \$3 with his wife, left for parts unknown. His indebtedness to the bank was \$9,500 and to the President of the bank for endorsement \$3,000. This will probably exhaust his property, leaving his friends and neighbors to mourn the loss of a formerly good man and between \$25,000 and \$30,000. Where did this money all go? Into the pockets of the "talent" on the grain boards, to which he and his friends are simply other "lamb" shorn.

The KANSAS FARMER believes that higher prices for wheat are coming, but the Rossville experience confirms the position that this paper has always taken, that he who gambles in wheat is but trying to beat professional gamblers at their own game. As a matter of policy it is better to keep out. As a matter of conscience no man of right motives can engage in it.

"PROTECTION FOR FARMERS."

A new feature of the political doctrine of "protection" has lately been brought to light in the West. The chambers of commerce of San Francisco, Portland and other Pacific coast cities have adopted resolutions, as follows:

WHEREAS, Agricultural staples being exports, cannot be protected by a tariff on imports as are manufactures; and,

WHEREAS, American ships in the foreign trade, being built of protected material, and under protection wages, are at a disadvantage in the world's competition with ships constructed and operated in cheap-labor or free-trade countries, such advantage being beyond the reach of protection by a tariff on imports; therefore, be it

Resolved, By the Chamber of Commerce of Portland, that the depressed condition of the staple agricultural and shipping interests demands the enactment of such legislation as will put both these great industries upon a footing of equality with those now specially fostered by the government; be it further

Resolved, That, since neither of the two great unprotected industries can derive any benefit from a tariff on imports, we call upon Congress to equalize the protection system by extending to agricultural staples and American shipping that just measure of protection which they are entitled to as long as protection is the controlling and public policy of this nation, and that this be done by an export bounty on the staples of agriculture, and to American shipping in the foreign trade, either by a bounty on tonnage or a differential duty which shall discriminate in favor of American as against foreign ships, all to the end that a restoration may be brought about of our merchant marine, and that the independent land owning farmers of the nation may not be driven into bankruptcy and ruin by the competition of cheap land and labor countries of the world; be it further

Resolved, That the efforts of the Chamber of Commerce be pledged to the furtherance of a union between shipping and agricultural interests in an endeavor to secure equitable protection for both at the hands of the government.

The addresses delivered in presenting these resolutions to the commercial bodies which adopted them, present circumstances attending the administration of protection to manufacturing industries which have been generally omitted, and they constitute "mighty interestin' readin'" for farmers. They can be had by addressing David Lubin, Sacramento, Cal.

The KANSAS FARMER suggests that in undertaking to secure such legislation as would be necessary to carry out these resolutions, the promoters of these views have undertaken a task of more than a lifetime. Much that they present is eminently correct, and yet their proposition is in the nature of counteracting the evil of unfairness by making universal a policy under which unfairness has prevailed. All legislation for the promotion of private interests at public expense is certain to be unfair and in favor of the strongest or most concentrated combination in this proposed universal game of grab. In such games the farmer is always at a disadvantage on account of the difficulty which farmers have in maintaining compact organization. The farmer is not, therefore, usually a promoter of schemes upon the general public, and is more likely to be found, and is more rationally, an individualist, and is naturally an objector to the schemes

of schemers. His objections may be overcome and he may, indeed, be induced to support by his vote measures in the interest of others and at his expense, but he cannot be relied upon to organize and carry forward a scheme like that set out in the foregoing resolutions.

POTASH IN KANSAS SOILS.

Geologists have described the formation of the soils of the plains of Kansas as having taken place in a shallow fresh water lake or lakes. The physical analyses of our plains soils recently made by the Soil Division of the United States Department of Agriculture have shown them to be composed to a very large degree of silt, and that often as high as 70 per cent. is of the same material as sand but worn so fine as to apparently lose the texture of sand.

This agrees with the theory of the geologists as to the method of formation. The source of this lake water—whether it accumulated from water which fell on the region or came down from higher levels west of us—may be an unsettled question. But that the water was chased back and forth over the bed of the lakes, and ground the materials of that bed to powder, and that this lake afterwards dried, either through the formation of outlets and by drainage or through evaporation, or by both of these methods combined, is not questioned. It may be reasonably conjectured that the region received at no time more rain than now and that the shallow lake resulted from the damming up of the waters from the mountains and from the rainfall. In wearing to silt the coarser materials over which this water was driven, there was no carrying away of the soluble materials derived from the rocks but they remained in the silt and were deposited with it as the lake dried up. This cannot take place in regions where the rainfall is so excessive as to continually run off from the surface, for in that case the dissolved portions of the rocks go with the run-off water.

Among the soluble constituents of rocks which were thus left undiminished in the soil of Kansas plains is potash, an element of fertility which is purchased and applied to the land at great expense in regions where commercial fertilizers are bought. The fact of the existence of large quantities of this essential element of fertility in our soils has just been emphasized by accounts of poisoning cattle through the consumption of potassium nitrate in corn fodder. These are given in Bulletin No. 49 of Kansas Experiment Station, by Dr. N. S. Mayo, Professor of Veterinary Science. The bulletin is an exceedingly valuable and interesting one from the veterinary side, but some of the facts as they bear on the question of fertility of the soil are of even greater and more lasting importance than the question of occasional poisoning.

Recent agricultural science has pointed out methods by which the farmer may increase or replenish from the atmosphere the stock of nitrogen in his soil by judicious cropping in the clovers and other legumes. But potash, if not in the soil, can be had only by transporting it to and scattering it on the soil. Saltpeter, the combination of these with ever-present oxygen, constitutes a fertilizer for which Eastern and Southern farmers are annually expending immense sums. We may, for present purposes, omit the discussion of the probable manner of production of the nitric acid found in the cases to be now described. The first case mentioned in the bulletin is from the farm of Mr. Erickson, near Olesburgh, Potawatomi county, who, in August, 1894, lost seven out of twelve head of cattle from this poison, which they had eaten in corn fodder. Of this fodder Dr. Mayo says:

"A casual examination of the samples of corn stalks received, revealed the presence of large quantities of nitrate of potash (saltpeter). Beneath the leaf sheath which surrounds the stalk just above the joints the nitrate had crystallized in fine white crystals which resembled a white mould, but was easily recognized by tasting with the tongue. Around and in the cut ends of the stalks were solid masses of almost pure potassium nitrate. If a stalk was cut in two and tapped lightly upon a table, the crystals of potassium nitrate would be

jarred loose and fall as a fine powder upon the table. Upon splitting a corn stalk the crystals in the pith of the stalk could easily be seen with the unaided eye. The bitter cooling taste, so characteristic of potassium nitrate, could be obtained by placing a small bit of the stalk in the mouth. On lighting a bit of stalk with a match it would deflagrate, burning rapidly like the fuse of a fire-cracker. A chemical examination of a quantity of stalks gave 18.8 per cent. of the dry weight of the stalk nitrate of potash."

This fodder was grown upon a small lot which had been used for a number of years as a hog yard. Agricultural chemists will readily see how the nitrogen may have been derived. It is, also, to be expected that the percentage of potash in this particular soil was greatly increased by that carried to it in the manure.

The next case mentioned is also an account of saltpeter poisoning, on the farm of a Mr. Williams, near Grainfield, Gove county, which was investigated several years ago by Prof. Failyer and Willard, who reported that the corn fodder of a portion of the field was so impregnated with the nitrate that many of the stalks would burn like a fuse, sometimes flashing into a blaze. On the outside of the stalks and just under the cuticle a white deposit of the nitre was visible on many stalks. An analysis of one stalk that may have been more than commonly charged with the salt, showed that one-fourth of the total weight of the stalk was saltpeter. At this rate a ton of the fodder would contain 500 pounds of the compound. Here, too, there may have been and probably was a concentration of the potash above the normal quantity in the soil, for the ground upon which this fodder grew had been some years before used as a corral for cattle.

The third case reported is one investigated by Dr. Mayo, near Winfield, Cowley county. Several cattle had died. Of the cause of their death, the bulletin says:

"The corn fodder which had been scattered about the yard had been eaten very clean, only heavier portions of the stalk remaining. An examination of these revealed the presence of nitrate of potash. It could readily be detected by tasting the stalks, or upon lighting a piece of stalk with a match it would burn with the characteristic 'sizzing' due to the presence of nitrate of potash. These corn stalks were grown in a field, and, as far as I could learn, there had been no feed yard or other place where circumstances would be favorable to the formation of potassium nitrate. Corn fodder from this field had also been fed to other cattle previously without ill effects, and I am informed that the corn fodder was fed to the remainder of these cattle later and no further bad results followed. It seems probable, however, that the combination of circumstances, the cattle being thin in flesh and probably eating the first stalks fed them more greedily than after they had become used to the change, is an explanation of this. It seems probable that the large amount of coarse fodder eaten also affected them, as there was impaction of the manfolds, or omasum, but not severe, in the steer examined."

While in the first two cases there is a decided suggestion of soil strong in potash, this last case leaves no other alternative. There was no unusual concentration of this fertilizer in the soil on which the fodder grew and yet enough of both potash and nitric acid were present to form saltpeter in poisonous quantities in the corn fodder. The three localities mentioned are widely scattered in Kansas and they form cumulative evidence of the excessive strength of our soils. They also fit well into the geologist's theory of the formation and richness of our soils. The excess of potash explains our phenomenal crops of grain and fruits and suggests that with the timely application of water and with farming of the kind which scientific investigation is rapidly pointing out, the plains will produce of the most valuable crops such yields as will not only astonish tillers of lands not rich in potash but will be the means of a prosperity not now dreamed of.

The United States Department of Agriculture has published a statement showing that the weather service costs less in that department than when conducted by the War Department. The annual saving averages \$75,138.22, while the work done by the Weather Bureau has been greatly increased.

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

GOVERNMENT REPORT ON THE WHEAT CROP.

The report of June 1—just issued—consolidated from the returns of the correspondents of the United States Department of Agriculture, makes the acreage of winter wheat at present growing, after allowing for abandonments, 96.1 per cent. of area harvested in 1894.

The percentages of winter wheat acreage of the principal States, upon the basis indicated, are as follows: Ohio, 95; Michigan, 90; Indiana, 93; Illinois, 95; Kansas, 87, and California, 115. The percentage of spring wheat area for the entire country is 99.5 per cent., being but a slight reduction from last year's area. The percentages of spring wheat acreage of the principal States are: Wisconsin, 107; Minnesota, 100; Nebraska, 101; North Dakota, 100; South Dakota, 100.

The condition of winter wheat has fallen decidedly since last report, being 71.1 per cent., against 82.9 on May 1. The condition reported June 1, 1894, was 83.2 per cent. The percentages of the principal States are as follows: Ohio 70; Michigan, 77; Indiana, 56; Illinois, 51; Missouri, 70; Kansas, 37; Nebraska, 37; California, 102.

The condition of spring wheat shows an average for the whole country of 97.8 per cent., and for the principal spring wheat States as follows: Minnesota, 109; Wisconsin, 97; Iowa, 101; Nebraska 60; South Dakota, 98; North Dakota, 99; Washington, 96; Oregon, 99. The average percentage of all wheat acreage is 97.1, and the condition of same is 78.6 per cent.

As will be seen by a glance at the tables, the condition of winter wheat has suffered a marked deterioration since the last report. This is due to the fact that the temperature of the month of May alternated between extremes of heat and cold and to deficiency of rainfall in most of the principal States. In the early part of the month the temperature was high, followed by cold, which, considering the season, was very severe; the month, however, ended with a very high temperature. These fluctuations of temperature, with other unfavorable meteorological conditions, were very trying to the crop. In addition, and perhaps as consequences, the reports show injury from rust and insects, such as chinch bug and Hessian fly.

Weekly Weather-Crop Bulletin.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending July 1, 1895—T. B. Jennings, Observer Weather Bureau, Director:

CONDITIONS.

Very warm with strong south winds prevailing the first of the week, followed by cool, damp weather, giving good rains generally in the western division, and southern counties of the middle and southeastern counties of eastern division, and in Marshall and Washington, with light to fair rains over the rest of the State.

RESULTS.

EASTERN DIVISION.

The corn presents a fine appearance, with its dark color, even stand and clean ground, and is beginning to tassel generally, except the late planting. Wheat harvest over and oat harvest begun, the oats having improved greatly during the past two weeks. Tame haying has begun but the crop is generally light. Fruit is fine, peaches and apricots ripening. Pastures, meadows and gardens improving.

Allen county.—Crops doing well; oats being cut.

Anderson.—All crops fine; never better prospects for corn.

Atchison.—Wheat harvested, oats ripening, corn magnificent; apples abundant; everything in fine shape.

Brown.—Corn made fine growth, is clean, and much of it laid by; oat harvest begun; chinch bugs bad; pastures in poor shape.

Chautauqua.—Corn doing finely; grass better than anticipated; wheat threshing from two to thirty-five bushels per acre, average ten bushels.

Cherokee.—Too much rain to cultivate; corn growing finely; wheat threshing from four to twenty bushels per acre.

Coffey.—All crops doing finely; oat harvesting begun; grass good; corn fine; wheat threshing out better than expected.

Douglas.—Oats being cut; timothy hay light crop, is being cut.

Franklin.—Crops doing finely; oats nearly a full crop.

Geary.—Crops beginning to suffer for rain; chinch bugs injuring corn; gardens doing indifferently well.

Greenwood.—Splendid crop conditions; fruits doing well.

Jackson.—Corn in fine condition; oat harvest begun; hay will make half a crop.

Johnson.—Favorable week for harvest.

Labette.—Oat harvest progressing; corn growing rapidly; some wheat sprouting in shock.

Leavenworth.—All crops growing finely; tame hay light.

Linn.—Corn excellent; oats light; flax looking well; pastures good; meadows improving.

Lyon.—Crops doing fairly well; oats short and light.

Marshall.—Wheat harvest over, yield light, berry good; corn splendid; oats will make large crop, good quality.

Miami.—Hail damaged corn and oats; early apples in market at 40 cents per bushel; corn and hay doing finely.

Montgomery.—Good growing week; oat harvest progressing; early corn silking.

Morris.—All crops but corn hurt some first of week by heat.

Oaage.—Hail of 22d cut much corn and stripped some orchards; all crops improving; corn and pastures fine; stock water abundant.

Pottawatomie.—Corn doing fine; oat harvest begun; early apples and peaches in market; pastures good.

Riley.—Corn in fine condition; oat harvest begun; new potatoes and apples in market.

Wabunsee.—Good corn-growing weather; oats light and short.

Wilson.—Wheat surprising us by good yield, running from twenty-five to forty bushels per acre.

Woodson.—Corn curled badly first of

ing; oats looking fine; potatoes large; grass good; fruit scant; rain needed for corn.

Osborne.—Hot winds two days cooked tops of some corn; oats ripening short.

Phillips.—Everything doing nicely; wheat and oats supposed to be dead before the rains will make a fair crop.

Republic.—Hot winds slightly injured cane, oats and grass, which have been greatly benefited by showers and damp weather since.

Reno.—Corn good, oats fair; grass good; wheat harvest this week; potatoes and gardens doing well.

Rice.—Corn fine and growing rapidly; oats fair but weedy.

Rooks.—Favorable for growing crops.

Russell.—Last three days good; prospects for corn good; no wheat cut yet; millet light; oats short.

Saline.—Hot and dry till Friday, last two days good; corn growing finely.

Smith.—Corn making rapid growth; will have some oats and a little wheat; plenty of grass.

Sedgwick.—Everything growing finely.

Stafford.—Wheat ripening now; grasshoppers bad.

Sumner.—Hot winds first of week hurt corn; sorghum and Kaffir corn being planted on some stubble ground; oats doing fairly.

Washington.—Corn doing well; oats not doing as well as expected—too many chinch bugs.

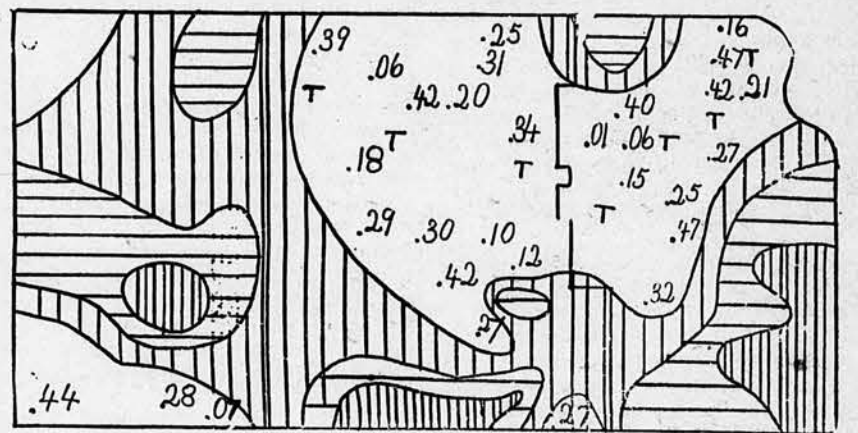
WESTERN DIVISION.

The heat of the first days did some injury to small grains, but it has been fully repaired by the cool, damp days following, and the farmers all over this division are greatly encouraged by the outlook at close of the week.

Cheyenne.—Wheat dying rapidly; corn and other crops growing well.

Clark.—Wheat, rye and barley being harvested.

Decatur.—Hot and dry first of week,



Scale of shades less than 1/2 inch, 1/2 to 1, 1 to 2, over 2, Trace. ACTUAL RAINFALL FOR WEEK ENDING JUNE 29.

week, but doing finely since the rains.

MIDDLE DIVISION.

The strong hot winds first of week injured the grains in a measure, but the cool damp days following have repaired the damage generally and place crops in a better condition. The rains in the southern counties have very materially helped all crops there. Harvesting of wheat progressing, with oat harvest beginning.

Barber.—Rain and cool weather have placed everything in good condition.

Barton.—Wheat harvest commenced; barley and oats look well; corn tasseling pretty short; pastures good.

Butler.—Early flax ripening and will be a little short of full crop, later sown promises better; millet doing fine; wheat and oats poor; corn needs rain.

Clay.—Harvest progressing; corn growing finely; oats much improved; fruit doing well.

Cloud.—Corn in excellent condition; wheat and oats being harvested, light crop; second crop of alfalfa good; wild grass short.

Cowley.—Dry for corn; stacking and threshing wheat.

Dickinson.—Good growing week; early corn in tassel; big oat harvest will begin next week; peaches ripe.

Harper.—Corn prospects never better. Harvey.—Harvest nearly over; abundance of apricots, peaches and plums; oats are ripening very fast.

Kingman.—Corn doing well; oats improving; grass good.

Kiowa.—Hot winds on Monday and Tuesday; corn, oats, barley and pastures in good condition; wheat nearly ready to cut.

Lincoln.—Corn in good condition; wheat harvest begun; potatoes suffering from dry weather and bugs.

Marion.—First of week hot and dry, last good growing weather.

Mitchell.—Corn and potatoes doing well; corn, oats and alfalfa needing rain.

McPherson.—Harvesting progress-

injury late spring wheat; corn clean, good stand and all right.

Finney.—Sorghum fine; second crop of alfalfa very heavy; barley promises full crop; oats and wheat improving; gardens fine.

Ford.—All crops look fine; pasture first-class; fruit prospects good; oats never better.

Gove.—Weather improving; grass never better.

Graham.—These rains have put crops in most excellent condition; corn, potatoes and gardens extra fine.

Grant.—Sprouted crops are growing nicely; grass still growing well.

Gray.—Crops all improved this week; the rains this week insure a plump berry in all small grains; farmers much encouraged.

Kearney.—Week closes with excellent results, and good prospects for all growing crops.

Lane.—Fine weather since May 29 and all crops in fine condition.

Meade.—The last days of the week make the crops show up well, and there will be good corn in most localities.

Ness.—Outlook for small grains is growing brighter each day; everything points to a good corn crop.

Norton.—Crops in fine shape.

Rawlins.—Corn doing finely but weedy; not much wheat here.

Sheridan.—All crops will do fine unless affected by drought.

Thomas.—The heat of 23d and 24th hurt small grains; corn that is clean is doing well.

Trego.—Hot first days, cool and damp last days; rice and Kaffir corns good stand and growing well; buffalo grass taller and thicker than usual.

Wallace.—Small grains damaged some by excessive heat first of week; all crops doing finely since; alfalfa almost ready for second cutting.

Ask your neighbor to subscribe for the KANSAS FARMER.

Horticulture.

ARTIFICIAL FOREST GROWTH IN KANSAS.

By J. B. Thoburn, of Peabody, read before the Kansas State Board of Agriculture.

In accepting an invitation to write on the subject of practical forest culture in Kansas, it was with the express understanding that there was to be no attempt to enter upon a general discussion of the whole forestry question—that were impossible in the limited time at my disposal—and that I was to avoid "glittering generalities," and tell the people something new on an old subject.

In this practical age, fewer theories and more facts are wanted. To the theorist, with whom miscalculation is impossible, facts are as nothing, and natural conditions as a thing of naught—who can argue from the special premise of a healthy, young sapling, grown under unusually favorable conditions, to the general conclusion that any quantity of trees equally as good can be grown with equal assurance of success—such a theorist is apt to prove detrimental rather than beneficial to any cause which he espouses, and, unfortunately, forestry has already received entirely too much of that kind of support. The theorist is useful only in so far as his theory proves to be of value when put to a test.

Among the first settlers in Marion county, away back in the early 70's, was a man who purchased 1,280 acres of railroad land, besides entering a homestead on an adjoining section of government land. Of 640 acres of this land the owner determined to make a forest. Accordingly, he plowed the ground in parallel strips, ten feet wide and two rods apart, and planted a row of trees in each strip. But the hot winds arose, and the locusts descended, and the prairie fires came and beat against that forest, and great was the destruction thereof. That man had a theory. Why he failed may best be explained by a description of another forest plantation which I visited several months since, in company with Prof. Charles A. Keffer, of the forestry division of the federal department of agriculture. It is situated about seventeen miles south of Fort Scott, on a tract of land one mile square, which adjoins the town of Farlington, Crawford county, and is the property of the Kansas City, Fort Scott & Memphis railroad company.

The surface of the tract is well-drained, rolling upland, and the soil is a light, sandy loam. The first planting was done by the company in 1877, and thereafter it was continued by that justly renowned firm of tree-growers, Robert Douglass & Son, of Waukegan, Ill., and by them completed in 1882.

Of the whole tract, about 400 acres are planted in catalpa exclusively, and nearly ninety more in ailanthus. The rest of the plantation consists of Osage orange, white ash, black walnut, butternut, pecan, box elder, black cherry and chestnut, some planted in blocks of one variety exclusively, and others again with several varieties mixed. With the exception of about twenty acres of grass land, forty acres of broken ground along the ravines, and five acres of water surface in a reservoir, or artificial pond, the entire tract is covered with timber. The trees were originally planted in rows four feet apart, the distance between the trees in the row being the same. After planting, cultivation was continued for three years, since which time the ground has been so shaded by the trees as to prevent the growth of most weeds and grasses and obviate the necessity of further cultivation; in fine, forest conditions have been so far established that, aside from a scattering growth of the shrubs and herbs which usually constitute a forest undergrowth, there is very little vegetation under the trees. The crowns of the trees, being crowded closely together, have little chance to spread; consequently there are very few lateral branches, and no pruning is required.

The plantation was thinned out by the use of the axe three years ago, but the natural thinning—the larger and stronger trees overshadowing and crowd-

ing out those that are smaller and less vigorous—is going on all the time. For this reason there will be a great apparent increase in the average size of the trees in one year's time, as many of the stunted specimens which would be included in the average measurements of one year would be dead, and consequently not included in the measurements of the following year.

It is to be regretted that there were not more blocks planted with several varieties mixed. Yet the few acres which are planted in a mixed growth serve to form a very favorable comparison with the larger areas in which one variety was planted to the exclusion of all others.

The measurements made consisted in ascertaining the height of the tree and its circumference at a point three feet from the ground. In order to arrive at the fairest results, measurements were made in series in different locations as regards roads, ravines and exposure.

Nine series of twenty-five trees each were measured in a block of catalpas which had been planted in 1879. The average height ranged from 20 to 30 feet and the average circumference from 8.4 to 19.4 inches. Of catalpas planted in 1878, the average height varied from 23.5 to 35 feet and the average circumference from 12.5 to 19 inches, while individual specimens measured 38 feet high and 27 inches in circumference. These were all of the species known as *Catalpa speciosa*. There is also a block of ground planted with *C. bignonioides*, but it is inferior in size, and of it no measurements were made.

The white ash, in several different series, averaged 26 feet high and from 9 to 11 inches in circumference, single individuals attaining a height of 31.5 feet and a circumference of 14 inches.

The average height of fifteen pecan trees was 18 feet, and average circumference 10 inches. One of the largest specimens measured was 25 feet high and 13 inches in circumference.

Of the many thousands of ailanthus trees none were measured, it being evident to the most casual observer that the growth is of a very inferior and unsatisfactory character.

A small block of box elder by its scrubby growth seemingly shows that it does not thrive when crowded so closely.

A mixed growth of several acres, consisting of black cherry, black walnut and chestnut, forms what is perhaps the most interesting feature of the whole plantation. Near by is a small block planted exclusively with black walnut. In the block of mixed growth the walnut grows tall and straight with very few lateral branches, while in the pure walnut growth numerous branches were thrown out, those of neighboring trees interlocking. Having such an abundance of lateral branches, the stem or trunk is never of great length and seldom straight. Twenty-five walnut trees in the mixed growth averaged 13 inches in circumference and from 28 to 30 feet high, with individual specimens that have attained a height of 36.5 feet and a circumference of 17 inches. In the pure walnut growth adjoining, with soil, exposure and all other conditions similar, thirty-five trees averaged 11.3 inches in circumference and 24 feet in height.

The difference between the walnut in the pure and mixed plantations is due to the fact that the black cherry has a very dense shade, and the walnut, being a light-loving tree, is forced to shoot straight upward. The few lateral branches that do form soon lose their vitality, and ultimately die and drop off. Walnut will not grow tall and free from branches when surrounded by others of its kind, even when crowded, because it is so thin foliated that it does not afford sufficient shade to discourage the growth of lateral branches. Thus, to secure trees with uniformly straight trunks and free from knots, such as are required for logs to be used in the manufacture of merchantable walnut lumber, they will have to be grown for a number of years with others, like the black cherry, which may then be cut out and allow the walnut to mature.

Twenty-five chestnut trees in this

same block of mixed growth ranged from 15 to 33 feet in height, the average being 25 feet. The greatest circumference was 19 inches, the average being 9.66 inches.

Fifty cherry trees in this block averaged 32 feet in height and 10 inches in circumference, single individuals attaining a height of 39 feet and 8 inches, and having a circumference of 20 inches.

In a block of less than half an acre of butternut, or white walnut, the trees are small and many of them apparently in a dying condition, as the result of insect ravages and sun scalds. In fairness, it should be said, however, that these trees are growing under very unfavorable conditions, being thin foliated and unmixed with other trees, and also having a southern exposure. Had they been planted under the same conditions as the chestnut and black walnut, in the block of mixed growth already described, they would undoubtedly present a very different appearance now.

The Osage orange is not a success as a forest tree when planted unmixed with other trees, as is the case at Farlington. What it might do under other conditions is conjectural, although there is reason to believe that the character of its persistently branching habit of growth might be radically modified.

A careful study of the results of this forest experiment leads to several very pertinent conclusions: (1) That in order to secure a forest growth on treeless land, forest conditions must be established by shading the ground, and for this reason the trees must be planted close together and gradually thinned, either naturally or by artificial means. (2) That in order to secure the best results, both in the form of the tree and in shade effects on the ground, it is best to plant two or more varieties together. (3) That it is of questionable expediency to plant very extensively of an untried exotic such as the ailanthus.

It is a matter of regret that there was not a larger variety made in the selection of trees for planting on this tract. It would be particularly interesting to know what the shellbark hickory, several of the more valuable varieties of oak, and the Scotch, Austrian and Southern hard pines would have demonstrated in such an experiment. But as it stands to-day, too much cannot be said of its value as a proof of what is possible in Kansas forestry. As yet unproductive, it has been an expensive piece of property to its owners, whose public spirit in this matter is deserving of liberal recognition. The time is coming when similar plantations will have to be established in different parts of the State at public expense. Our people have never been brought to a realization of the necessity of a large forest area within the bounds of this commonwealth. With no forest resources of our own, we have drawn liberally, if not prodigally, from the supplies of other States, but they will soon be exhausted. Then the people of the plains will be compelled to plant forests for economic considerations, where they should have planted years before for the purpose of ameliorating climatic conditions.

Forestry in Kansas must, at best, present a very complex problem for solution. With a territorial extension from east to west of over 400 miles, it has an altitude varying from 750 feet, at the Missouri river in the east, to nearly 4,000 feet on the Colorado boundary in the extreme west. With a gradual diminution of atmospheric humidity, it changes from the fairly well-watered country east of the "rain belt" to a semi-arid region west of that ill-defined and really unknown line of demarkation, presenting a wide diversity of natural conditions. Successful forestry in western Kansas, which it will be difficult to inaugurate, will not be impossible, and that region has fully as much interest in the development of forestry as the rest of the State. Irrigation is the slogan by which the people will rally for the reclamation and improvement of western Kansas; yet the most eminent authorities on the subject of irrigation

are agreed that the proximity of forest growth is necessary for the reduction of excessive surface moisture to the minimum, and consequently raise the duty of water to its highest efficiency. An intelligent view of the irrigation question necessarily leads one to favor a liberal forest policy, both State and national.

While the possibilities of forestry in western Kansas are practically untouched, it may be truthfully said that its impossibilities have been thoroughly demonstrated. Practical experimental plantations are needed, not in ornamental parks of ten and fifteen acres, but in solid blocks that will shade the ground over several hundred acres. Every dollar invested in such an experimental plantation will be worth more than \$100 expended on a public forest tree nursery for the production and gratuitous distribution of deciduous trees which were never designed by the Creator to grow on the high, dry plains of western Kansas. No effort has yet been made to establish a permanent plantation of hardy conifers in western or central Kansas. The few isolated specimens of the Scotch and Austrian pines and red cedar show that the growth of a coniferous forest is possible even under existing conditions. Other varieties are known to grow in the yet more arid regions farther west, nor is this strange when we remember that the conifers only transpire from 10 to 17 per cent. of the moisture given off by deciduous trees under the same conditions.

The forest-producing possibilities of Kansas must be developed sooner or later, and the present generation can do nothing that will add more luster to the grand heritage which it will leave to posterity than to undertake this work. The motto of forest vandalism in America has been, "He that lives the longest, let him haul wood the farthest." Let us seek to reverse this sentiment. Let our watchword be, "Plant a tree for posterity," and may the time speedily come when no eye will look upon a treeless landscape in Kansas.

Shawnee Horticulturists.

The June meeting of the Shawnee County Horticultural Society was held at the farm of W. P. Popenoe, near Berryton, Kas., on June 27, where the contents of bountiful baskets of viands were spread on a long table and the picnic feast was the first thing on the order of exercises. The first and seasonable fruits were on exhibition.

After the feast the meeting was called to order and the topic of the day—"Raspberries and Blackberries"—was opened for general discussion by J. F. Cecil, of North Topeka. The best varieties for profit are in the order named: Kansas, Hopkins and Gregg, the Hopkins being the earliest variety. Where the fungous growth is liable to affect the plants they should be sprayed as soon as the foliage starts in the spring. At least five good crops should be secured during the life of the plant before renewing with new ones. Good soil and cultivation are necessary requisites for a profitable vineyard. The Snyder blackberry was found to be the popular variety.

Judge Wellhouse reported the apple crop as the most promising for years and the trees were well filled and of good size and no trouble from blight. He made a rule to spray his orchards early in the season with London purple, as a protection from codling moth and other insects. The cost was trifling—only 15 to 25 cents per acre. In regard to the Bordeaux mixture for small fruits, it was a good preventive for the fungous growth but not a cure if the plants were affected.

Mr. Jackson said that dwarf pears can be successfully grown and promised an unusual crop this season. Mr. E. Marple had grown pears since 1869 and in his early experience had trouble with blight because of cultivation, but since seeding down in blue grass never had any trouble, and his pears at the World's Fair were regarded as the best from the State.

Mr. Jackson was anxious to hear from any one who had early fruits suitable for exhibition at the Atlanta exposition.

The Committee on Program an-

nounced that the July meeting of the society will be held at Scott Kelsey's, near Oakland, the last Wednesday in July, with the following subjects for consideration: "The Peach," G. W. Berry; "The Plum," Frank Babcock; "The Cherry," A. H. Buckman, and "Window Gardening," by Miss Lucy Popenoe.

Senator Peffer was called on for a speech at the close of the regular program and made a very interesting talk about his experience and observations in Kansas regarding horticultural matters. He very warmly commended the idea of organizations like this society. He was followed by Hon. J. G. Otis, who strongly advocated the great value of organization among farmers and expressed the belief that the time will soon come when farmers will be as thoroughly organized as the workers in any other occupation.

In the Dairy.

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

One Day's Testing of Cows Valueless.

The World's Fair dairy tests held at Chicago have demonstrated beyond possibility of question the absolute unreliability of a test by churn or oil test for one single day as an evidence of the capacity of the cow for, say, a week or a month. The data obtained in these tests clearly show that a cow which was making an average of two pounds per day, without the slightest evidence of any cause therefor, will make as high two and a half to two and three-quarters, and sometimes close to three pounds, in twenty-four hours. There is no apparent reason why such should be the case, but there are always causes for results in dairy cows. It may be the forerunner of some sickness, something that has excited the cow, which causes the butter fat to be abnormally great upon that particular day; it may be a sudden change in feed which disturbs her, and while such change may not prove beneficial, the result of it is that for that particular twenty-four hours it does not decrease the flow of milk, but, being a disturbing element, increases the fat in the milk.

It was very noticeable that when a cow was shipped by express to the barn, and was tested the day following her reaching there, she almost invariably gave a larger percentage of fat than at any time subsequent. The question that arises is, how far are tests that have been conducted at fairs throughout the country of any value as a criterion of the butter capacity of the cows? Cows are at times shipped some considerable distance, and are tested the next day, and if not tested on that day, then within a few days after arrival. All the time the cows are subjected to excitement and other disturbing causes, which would certainly have a tendency to the production of an excess amount of fat in the milk, as compared with their normal condition. For these reasons it is claimed that a one-day's test of a cow is practically valueless as a basis for judging her capacity for any more lengthened period, and the facts of the World's Fair dairy tests bear this out.

Export of Dairy Products.

Figures furnished by the National Dairy Congress concerning the exports of dairy products deserve careful attention. They indicate that this country is losing its standing in the foreign markets. Exports of oleomargarine average 90,000,000 pounds annually, while of pure butter there is shipped out of this country just one-tenth of this amount, or 9,000,000 pounds. Shipments of both articles for the calendar year of 1894 were above the average. Oleomargarine exports footed up 118,195,049 pounds and pure butter shipments 10,088,152 pounds. The value of the oleomargarine exported was \$11,265,010 and of pure butter \$1,730,210. The trade in oleomargarine is of comparatively recent origin. In 1878 there was none of it shipped to foreign countries, but the value of pure butter ex-

ports for that year was \$3,750,771. The development of the oleomargarine industry has therefore added about \$9,000,000 to the value of these two articles exported in the course of the year.

Of cheese there were exported in 1894, 69,306,654 pounds, of the value of \$6,682,294, while in 1878 the exports of cheese consisted of 123,783,736 pounds, of the value of \$14,103,529. Six years afterwards the exports of cheese had shrunk to 112,869,575 pounds of the value of \$11,663,713. In 1890 there was a further decrease to 95,376,053 pounds of the value of \$8,591,042. These figures would indicate a constant and steady decrease in the exports of cheese as well as of pure butter. The loss in both has been much greater than the gain in oleomargarine has offset.

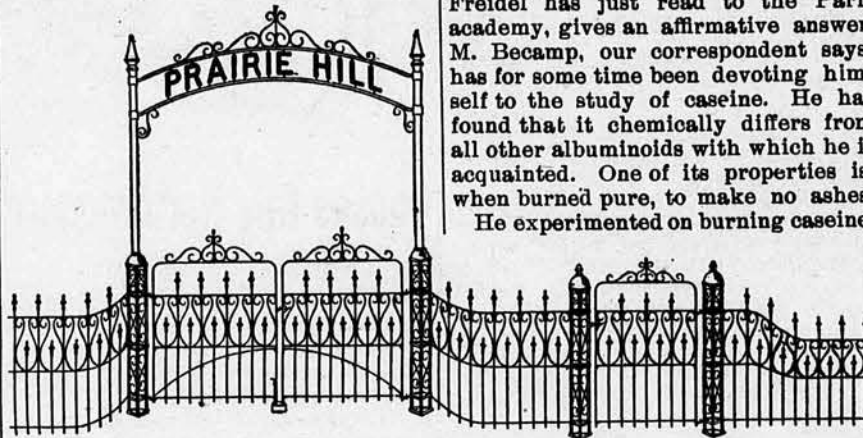
This loss is doubtless largely due to the fact that dairy farming has been receiving more attention in other parts of the world. The American article is being crowded out of foreign markets. Great Britain in 1892 and 1893 bought of other countries an average of \$60,000,000 worth of butter and \$25,000,000 worth of cheese each year. Canada supplied the mother country \$10,000,000 worth of cheese in each of these years, and France, Sweden and Denmark had a practical monopoly of the English butter market. The secret of the decline in American exports seems to be too much adulteration. Oleomargarine as pure butter and skim-milk cheese will not go in foreign markets

butter should be made, Jersey cream can be handled so as to produce an article of butter superior in texture and solidity to that made from the cream of the other breeds. Had this occurred in only one or two cases it could not be claimed as a breed characteristic; but inasmuch as it was universal throughout the period of the tests, it proves that it is a characteristic of the breed. This is a very important matter for dairymen who have a hot climate to contend with, and who are not always able to maintain their room at as low a temperature as is desirable, as, for instance, in the Southern States. It is a matter of grave import to them to know what breed will produce a cream and butter that, being from force of circumstances worked in too hot a room, will retain the texture and solidity that is desirable in the highest class butter. The records of these tests show that the Jersey cow is pre-eminent in these essentials, and this characteristic of the breed is to be commended to the earnest and thoughtful consideration of all Southern dairymen.

Another feature of the Jersey cream was that it could be churned at a very much higher temperature than that of the other breeds. This is another matter proved by these tests that may well engage the attention of Southern dairymen.

Milk and Cheese are Brain Food.

Is skim-milk or cheese brain food? A paper by M. Becamp, which M. Freidel has just read to the Paris academy, gives an affirmative answer. M. Becamp, our correspondent says, has for some time been devoting himself to the study of caseine. He has found that it chemically differs from all other albuminoids with which he is acquainted. One of its properties is, when burned pure, to make no ashes. He experimented on burning caseine,



SPECIMEN OF FENCING MADE BY W. J. ADAM, JOLIET, ILL.

when the genuine article is to be obtained more readily nearer home.

At the session of the Dairy Congress at Washington the Dairy Commissioner of Massachusetts, Mr. Whitaker, gave some statistics of the consumption of milk in Boston from which it is possible to draw some interesting conclusions. A very close calculation places the annual milk consumption of Boston at 82,000,000 quarts. At the same ratio the people of the United States, who live in cities, would consume the enormous total of 3,241,500,000 quarts of milk, for which, calculated at the rate of about 6 cents per quart, they pay about \$209,000,000 per annum.

Solidity of Jersey Butter Proven in Chicago Tests.

While Chief Buchanan and all the authorities of the World's Columbian Exposition did all in their power against the obstacles they had to contend with to give the cows engaged in the World's Fair dairy tests a chance for as good production as was possible, there were many conditions that were unfavorable to attaining the best results, not only as far as regards the production from the cows, but also in the making of the butter. The dairy itself was far too warm to allow the production of as fine an article of butter as the cream was capable of making. The temperature at all times during the heat of the summer was very excessive, and the butter had, in many cases, to be put into the refrigerator twice before it could be properly worked. These conditions did not tend to produce a butter good in texture and in solidity. But, notwithstanding these adverse conditions, the texture of the Jersey butter, and the solidity of it, as compared with that of the other breeds, were most marked at all times; so much so, that it established the fact that, in a temperature higher than that in which good

not with the view of coming to the conclusion he now enunciates, but to an opposite one, namely, that there is no phosphorus in caseine. In a number of experiments he found that absolutely pure caseine contains 753 parts out of 1,000 of organic phosphorus. He has also demonstrated the presence in caseine of sulphur, and, therefore, that this substance is made up of carbon, hydrogen, nitrogen, phosphorus, sulphur and oxygen. Milk and cheese are accordingly brain restorers.—*London Daily News*.

In another column you will find the advertisement of W. J. Adam, for woven wire fencing. Mr. Adam has been placing this line of fencing on the market for the last four years, and his styles of fencing are having a large and increasing sale, and each year he has been adding something more to the line until now almost all kinds of fencing can be had from his factory, from the cheapest grade of slat fencing to the highest grade of ornamental steel fencing for churches, schools, cemeteries, public parks and buildings, and at very reasonable prices. We give herewith an illustration of one of Adam's cemetery fronts, and call the attention of our readers to it with the suggestion that if your church or cemetery fence needs repairs, the cheapest way would be to replace it with a new one, and before doing so it would be well to get

Adam's catalogue. Write to W. J. Adam, Joliet, Ill., and you will receive a catalogue giving the greatest variety of styles made by any manufacturer, and you will also receive prompt, courteous and honest treatment.

Deafness Cannot be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the eustachian tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free.

F. J. CHENEY & CO., Toledo, O.

Sold by druggists, 75c.

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

Tickets and Baggage Checks.

If you're going east send destination, your name and address, number of passengers and pieces of baggage, and date you wish to start, to Brunner, 509 Chestnut street, St. Louis. He will supply tickets and arrange to check baggage through to destination. You can go to the station with tickets and baggage checks in your pocket and sleeping car accommodations arranged for. He's reliable, and represents a reliable route—the Vandalia-Pennsylvania, shortest from St. Louis to the East.

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. GRISEA, Prop'r Kansas Home Nurseries, Lawrence, Kas., grows trees for commercial and family orchards—the Kansas Raspberry, Blackberries, standard and new Strawberry—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.

CHEESE APPARATUS

Cheese-Making is More Profitable Than Butter-Making.

The process is easy. Machines are complete and substantial. A ten-pound cheese made at each operation. Nothing like it on the market. Simple directions sent with each apparatus.

No. 1, 10 Gal. with 1 press and 1 hoop, \$15.00
No. 2, 20 " " " " " " " " 25.00
No. 3, 30 " " " " " " " " 32.00
Further information cheerfully sent by mail.
H. McK. WILSON & CO., St. Louis, Mo.

DAVIS CREAM SEPARATORS

Combined Separator, Feed Cooker, and Churn Power.

Simple, Practical, Effective, Durable, Cheap and Good. Complete Dairy in itself. Saves Time, Labor and Money. Book Mailed Free, write for it. AGENTS WANTED. DAVIS & RANKIN, BLDG. & MFG. CO., Chicago, Ill.

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.

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Sharples Separators. We are headquarters for Ventilated Chicken Coops and Farmers' Egg Cases.

Creamery and Dairy

Apparatus and Supplies.

BUTTER PACKAGES of every kind.

HAND SEPARATORS

For Small Dairy Farmers. Every farmer having six or more milch cows should have one of these machines—the saving of butter alone in a single year will pay for it. For information, prices, etc., address

Creamery Package M'fg Co., Kansas City, Mo. Department B.

Dates Claimed for Public Sales.

Col. Jas. W. Sparks, the popular and well-known live stock auctioneer, of Marshall, Mo., sends us the following list of dates for which he is engaged to sell for the parties named. This will give those who intend to hold public sales an idea that it is important that they claim their dates early in order to get one to suit them:

September 25.—Poland-Chinas, for T. A. Pew, Gamma, Mo.
 September 27.—Poland-Chinas, for E. W. Robinson & Sons, La Belle, Mo.
 October 2.—Poland-Chinas, for W. J. Miller & Sons, Windsor, Mo.
 October 4.—Poland-Chinas, for H. & A. C. Loomis, Revere, Mo.
 October 8.—Poland-Chinas, for Geo. W. Falk, Richmond, Mo.
 October 9.—Poland-Chinas, for Geo. W. Null, Odessa, Mo.
 October 10.—Poland-Chinas and Chester Whites, for C. L. Gibson, Odessa, Mo.
 October 12.—Poland-Chinas and Jersey cattle, for Armstrong Bros., Clinton, Mo.
 October 15.—Poland-Chinas, for Goodding Bros., Atlanta, Mo.
 October 16.—Poland-Chinas, for J. E. Summers, Huntsville, Mo.
 October 18.—Poland-Chinas, for H. L. Adair, Clayton, Ill.
 October 22.—Poland-Chinas, for F. M. Lall, Marshall, Mo.
 October 23.—Poland-Chinas, for C. G. Sparks, Mt. Leonard, Mo.
 October 23.—Poland-Chinas, for G. L. Davis, Elmwood, Mo.
 October 30.—Poland-Chinas, for L. N. Kennedy, Nevada, Mo.
 November 5.—Poland-Chinas, for Gartin Bros., Ford City, Mo.

Gossip About Stock.

DR. ORR'S BOOK.—Readers of the KANSAS FARMER will be pleased to know that arrangements have been made whereby they can obtain this concise and well nigh invaluable "Farmer's Ready Reference or Handbook of Diseases of Horses and Cattle" in combination with this paper at a slight saving in cost.

The separate prices of these are:
 Dr. Orr's Book.....\$1.25
 KANSAS FARMER, one year.....1.00
 Total.....\$2.25

Two dollars sent either to the Kansas Farmer Co., Topeka, or to Dr. S. C. Orr, Manhattan, will secure both, making a saving of 25 cents.

H. L. Leibfried, manager of the Sunny Slope Farm, Emporia, Kas., reports a lively business, as follows: "We have made the following sales within the last few weeks: To S. B. Steele, Waterville, Kas., the young Hereford bull, The Admiral, 11 months old, sired by Wild Tom, out of Belle Monde 8th, for \$150. Mr. C. H. King, Burlington, Kas., the young bull, Herington, 9 months old, sired by Archibald V., out of Mary Broad-gauge, price \$150. A. R. Palmer, Bazaar, Kas., the bull, Belvidere, sired by Good Lad out of Gracie 2d, 7 months old, price \$100. We sold a nice foundation herd to Captain L. T. Heritage, of Emporia, who intends to start a small herd to raise cattle for a profit. He intends to breed nothing but the best of Hereford cattle. We sold to him Belle Monde 9th 33516, sired by Beau Monde 9908 out of Myrtle 29170, who has proven to be a great breeder; Modest 25404, the Sir Bartle Frere cow, which combines the blood of Lord Wilton and Horace; Miss Wellington 8d 42310. The price of these three cattle was \$400. We sold to Adams & Son, of Severy, Kas., two fine Longfellow sows for \$55. To C. L. Clark, of the same place, a Longfellow boar for \$20."

"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.

Publishers' Paragraphs.

Dr. W. T. Kirkpatrick's remedies, advertised in our columns, are tested and found valuable by many years' use in skillful physicians' general practice.

We can furnish you KANSAS FARMER and Peterson's Magazine, each one year, for \$1.75. Or KANSAS FARMER and Arthur's Home Magazine for \$1.65. Send to this office amounts above named.

FARM RECORD.—Our "Farm Records" have been such a splendid seller because of their practical value that our supply is now quite limited. We have a number of the best binding only, which the KANSAS FARMER will deliver to any address for only one dollar.

Although two years have elapsed since the close of the World's Fair, at Chicago, yet the interest in its memories has increased continually with the many thousands who saw it, as well as the many other thousands who did not. The "Book of the Fair," published by the Bancroft Co., Auditorium building, Chicago, is the only successful one of many that have endeavored to put in pleasing and lasting shape, for reference, the beautiful scenes of the "White City." Agents who desire

to canvass for a popular work would do well to write the publishers for terms and territory. Address Bancroft Co., Auditorium building, Chicago, Ill.

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.

The Nickel Plate Road has published a map of Boston, Mass., showing the location of the Christian Endeavor Convention hall and State headquarters of the fourteenth International convention, July 10th to 15th, and presenting the merits of their through Drawing Room Sleeping Car Line between Chicago and Boston. Write for a copy to any agent of the Nickel Plate Road or J. Y. Calahan, General Agent, 111 Adams street, Chicago, Ill.

Homes for the Homeless.

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

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

Solid Comfort Route From St. Louis.

The Vandalla-Pennsylvania Lines connect that city with principal cities and towns in Indiana, Ohio, Pennsylvania, and the East; run through Indianapolis to Columbus and to Pittsburgh, and form the shortest route to Harrisburg, Baltimore, Washington, Philadelphia, and New York. Fast daily trains leave St. Louis Union Station. Apply to Brunner, 509 Chestnut street, St. Louis, for further information.

"Among the Ozarks,"

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

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. F. A. LEWIS, City Agent, Topeka.

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

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.

A WONDERFUL SUCCESS.

Dr. Hartman's Free Treatment for Female Diseases Attracting Wide Attention.

Chronic invalids who have languished for years on sick beds with some form of female disease begin to improve at once after beginning Dr. Hartman's treatment. The Doctor's experience and knowledge of this class of cases enable him to discern with great accuracy the wants of each. These patients apply for treatment by letter, giving all their symptoms. The Doctor then writes them what to do and what to get. Thousands have already applied, and still there is room for more. Each case receives careful and separate attention. In writing be sure to give all the symptoms and a complete history of the case, so as to make sure of valuable advice. Dr. Hartman's address is Columbus, Ohio.

For a short time the Pe-ru-na Drug Manufacturing Company, of Columbus, Ohio, are sending free to any address Dr. Hartman's hand-book on female diseases, devoted entirely to the description and cure of diseases of the female sex.

For free book on cancer address Dr. Hartman, Columbus, Ohio.

If the farmers of the Northwest knew the truth about Alabama's climate and the possibilities of her soil, there would not be enough land to go 'round. Write D. H. ROGAN, Colonization Agent, Q. & C. R. R. Birmingham, Ala.

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

Send postal for a copy of the
Kansas Bee Journal,
 Devoted to the interests of
 Bee-keepers.
 Our catalogue of BEE-KEEP-
 ER'S SUPPLIES free for the
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 MILLER & DUNHAM,
 Topeka, Kansas.

THE Kansas City Northwestern RAILWAY COMPANY

Is now running its trains to and from the UNION DEPOT in KANSAS CITY without transfer of passengers or baggage, and connecting with all lines for

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As good service and low rates as offered by our competitors.

For tickets or full information, call on any Agent of the Company, or

H. C. TOWNSEND, M. K. FLEMING,
 Gen'l Passenger Agt., Asst. Gen. Pass. Agt.
 ST. LOUIS, MO. KANSAS CITY, KAS.

Are You Sick?

Dr. Kay's Renovator is the very best medicine known for Dyspepsia, Constipation, Liver and Kidney diseases. The many bad symptoms produced by the above diseases are too numerous to mention here. (See our circular.) We do not hesitate to pronounce this the most valuable medicine discovered in modern times. It cures when all others have failed. It increases the appetite, promotes digestion, enriches the blood and strengthens and invigorates the whole body. It increases all the secretions, restores the stomach and bowels to their natural condition, and has a marvelous effect by renovating the whole system. Dr. Kay's Renovator is very mild in its action, but certain to effect a cure in constipation, dyspepsia, etc., for it renovates, renews and invigorates all the internal organs.

READ THIS TESTIMONIAL.

OMAHA, NEB., June 24, 1895.
 Dr. Kay Medical Co., Omaha, Neb.:
 GENTS:—I was sick with a very severe headache, pain in my chest, stomach and bowels, hot flashes over my body, dizziness, which was much worse when I would stoop down, severe pain through my back, extending down through my thighs and limbs into my feet, and was wholly unable to do any kind of work. I had taken quinine and several other medicines, which failed to give me any relief. I procured a trial size box of your Dr. Kay's Renovator and began taking two tablets before each meal. It helped me from the first dose, and on the second day I was able to attend to my usual duties. It stopped my suffering and effected a cure so speedily and efficiently that I was very much pleased with the results, and cheerfully recommend it to others. It did me more good than all the doctors I ever employed and all other medicines I have ever taken.
 AXEL PETERSON.
 856 South Nineteenth street.

To give all an opportunity to try this remarkable medicine we have put up a TRIAL SIZE FOR 25 CENTS, containing thirty-five doses, and all who cannot get it of their druggist can enclose 25 cents in a letter and send to us and we will send it to them by return mail, postage prepaid. Address our Western office:

DR. KAY MEDICAL CO.,
 620 South Sixteenth St., OMAHA, NEB.

Chichester's English Diamond Brand.
PENNYROYAL PILLS
 Original and Only Genuine.
 SAFE, always reliable. LADIES ask Druggist for Chichester's English Diamond Brand Red and Gold metallic boxes, sealed with blue ribbon. Take no other. Beware of dangerous substitutions and imitations. At Druggists, or send 4c. in stamps for particulars, testimonials and "Relief for Ladies," in letter, by return mail. 10,000 Testimonials. Name Paper. Chichester Chemical Co., Madison Square, Philadelphia, Pa.
 Sold by all Local Druggists.

A NEW BOOK FREE

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

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

EMERY, BIRD, THAYER & CO.

Successors to

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KANSAS CITY, MO.

THE STRAY LIST.

FOR WEEK ENDING JUNE 19, 1895.

Coffey county—T. N. Bell, clerk.

MARE—Taken up by R. H. Happy, in Pottawatomie tp., May 7, 1895, one gray mare, 3 years old, no marks or brands; valued at \$20.

Cheyenne county—G. Beukelman, clerk.

MARE—Taken up by O. P. Edmonds, in Calhoun tp., (P. O. St. Francis), May 17, 1895, one brown mare, fourteen and a half hands high, about 6 years old, crop off right ear, branded P on left shoulder; valued at \$25.

MARE—By same, one bay mare, fifteen hands high, about 6 years old, branded P on left shoulder; valued at \$25.

MARE—By same, one bay mare, fifteen hands high, about 9 years old, branded P on left shoulder; valued at \$25.

STALLION—By same, one sorrel stallion, 2 years old, fourteen hands high, white strip in face; valued at \$20.

Rawlins county—A. K. Bone, clerk.

MARE—Taken up by Peter Peterson, in Jefferson tp., (P. O. Achilles), May 31, 1895, one light iron-gray mare, 6 years old, height five feet, right hind foot white, silt in right ear, no marks or brands; valued at \$12.

HORSE—By same, one iron-gray horse, 5 years old, five feet high, left hind foot white, lump on right side of nose, no marks or brands; valued at \$14.

Douglas county—F. D. Brooks, clerk.

MARE—Taken up by August H. Boehle, in Willow Springs tp., May 23, 1895, one mare, between bay and roan in color, about 8 years old, about fifteen hands high, both hind feet white, white spot in forehead; valued at \$30.

FOR WEEK ENDING JUNE 26, 1895.

Ford county—J. H. Leidigh, clerk.

MARE—Taken up by E. S. Ralston, in Fairview tp., (P. O. Dodge City), one brown mare, 11 years old, branded lazy 3 (3) on left shoulder and half circle on left hip; valued at \$12.

Cherokee county—P. M. Humphrey, clerk.

PONY—Taken up by S. D. Harvey, in Lowell tp., May 15, 1895, one horse pony, blaze face, right hind foot white, saddle and harness marks, about 7 years old; valued at \$20.

HORSE—Taken up by J. W. Howell, in Lowell tp., June 8, 1895, one black gelding, fifteen hands high, weight 255 pounds, white spot in forehead about three inches in diameter—nearly round, about 4 years old; valued at \$20.

MARE—Taken up by Aaron McKinney, May 13, 1895, one sorrel mare, thirteen hands high, white in face, hind feet white, branded H on left hip, about 11 years old; valued at \$10.

Labette county—J. F. Thompson, clerk.

HORSE—Taken up by G. J. Sharp, in Hackberry tp., May 25, 1895, one bay horse, fourteen hands high, 6 years old, star in forehead; valued at \$25.

HORSE—By same, one dark iron-gray horse, fifteen hands high, 5 years old; valued at \$25.

Logan county—H. G. Kiddoo, clerk.

MARE—Taken up by A. P. Samuelson, in Winona tp., (P. O. Page), June 7, 1895, one bay mare, star in forehead, fifteen hands high, about 4 years old, no brands; valued at \$5.

MULE—By same, one black mare mule, fourteen hands high, 2 years old, no marks or brands; valued at \$10.

Allen county—James Wakefield, clerk.

HORSE—Taken up by W. M. Miller, in Marmaton tp., one gray horse, weight about 1,100 pounds, about 9 or 10 years old, illegible brands and some harness marks; valued at about \$20.

HORSE—Taken up by John Tillery, in Marmaton tp., one brown horse, 10 years old, white on one foot and spot in forehead; valued at about \$15.

FOR WEEK ENDING JULY 3, 1895.

Miami county—Jas. E. Caton, clerk.

MARE—Taken up by Fred Weir, June 10, 1895, one bay mare, fifteen hands high, white spot in forehead, right hind foot white.

Thomas county—Jas. M. Stewardson, clerk.

HORSE—Taken up by Wm. Moody, in Randall tp., (P. O. Oakley), June 10, 1895, one black gelding, 3 years old, white face; valued at \$10.

HORSE—By same, one sorrel gelding, 2 years old, white face; valued at \$10.

MARE—By same, one bay mare, 5 years old, star in forehead; valued at \$10.

MARE—By same, one red-roan mare, 5 years old, right hind foot white; valued at \$10.

PONY—By same, one brown pony mare, 8 years old, white hind feet; colt 1 year old; valued at \$10.

Cherokee county—P. M. Humphrey, clerk.

HORSE—Taken up by Frederick S. Hudson, in Cherokee tp., (P. O. Garden), June 24, 1895, one sorrel horse, fifteen hands high, white in face, hind feet white, spavin on hind leg, saddle marks, high-lifted; valued at \$20.

HORSE—By same, one sorrel horse, fourteen and a half hands high, some white in face, collar marks, work horse; valued at \$10.

HORSE—Taken up by J. W. Hamilton, in Pleasant View tp., May 9, 1895, one bay horse, fourteen hands high, white hind feet, branded B. on left hip; valued at \$10.

HORSE—By same, one dark iron-gray filly, 3 years old, white face and nose and right hind foot white; valued at \$25.

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.

RING-BONE.—Will you kindly prescribe for ring-bone on a two-year-old colt. It first began to show in the spring and I blistered it once with biniodide of mercury, but the enlargement appears no smaller. We have no veterinarian. W. N. H.

Rock Falls, Okla.

Answer.—If your colt is not lame it needs no treatment. No medicine will remove the enlargement. If lame repeat your blister every two weeks, or just often enough to keep the part sore for six or eight weeks, then let it get well.

WIRE CUT.—I have an old mare that got a wire cut on the small pastern. It was doing well for about two weeks, when I hitched her up, and the next day she was worse. The cut got all right but there is a hard swelling above it. What can be done for it? Cunningham, Kas. J. P. W.

Answer.—The swelling is of bone formation. Blister it once every three weeks with cantharidine ointment till all lameness ceases.

WIRE CUT.—I have a colt cut on wire between the hock and fetlock on the front part of the hind leg; the bone is exposed. I have been using your prescription of sugar of lead, zinc and carbolic acid, which I have found excellent in several cases. What more do you recommend in this case? Cherokee, Kas. J. S.

Answer.—Continue the remedy the same as before. There is nothing better in such cases. Do not allow the colt to run in tall grass or weeds.

WIRE CUT.—I have a mare that got a wire cut on her fetlock and down to her hoof. It healed fast but about a month ago it gathered and broke in two places above the hoof. I poulticed it with fat pork but it does not improve. What shall I do? F. H. W.

Humboldt, Kas.

Answer.—Syringe the sores out once with a solution of chloride of zinc, 1 drachm to the ounce of water, then syringe it out once a day with a solution of the same, 2 drachms to the pint of water, and poultice for three or four days with flaxseed meal made into a poultice with hot water, then allowed to cool before being applied.

SORE HEADS.—I have some steers that were dehorned last November and are not healed up yet. There is a slimy matter running from a small hole in the head. Will they get well if left alone? J. H. McG.

Wheaton, Kas.

Answer.—You have what will likely be tedious job on your hands. The heads must first be syringed out with a solution made by dissolving a tablespoonful of blue vitriol in one quart of water. This should be applied once a day for two days, enlarging the holes through which the matter runs, if too small to get the syringe in. They should then be washed out once a day with warm water and some of the following injected each time: Sugar of lead, 1 ounce; sulphate of zinc, 6 drachms; carbolic acid, 2 drachms; water, 1 quart. After the flow of matter has nearly ceased, every other day will be often enough to wash them. It is not likely they would get well without treatment.

The Knights Templar Conclave will be held at Boston, Mass., during August, and it will be of interest to Sir Knights and their friends to note that arrangements have already been successfully accomplished by the Nickel Plate Road, providing for the sale of excursion tickets over direct lines going and returning or by circuitous routes, viz., going one line and returning by another. By so doing many of the following notable resorts may be visited without additional expense: Chautauqua Lake, Niagara Falls, Thousand Islands, Rapids of the St. Lawrence, Saratoga, Palisades of the Hudson, and the Hoosac Tunnel. The above arrangements will no doubt make the low-rate excursion tickets offered by the Nickel Plate road very popular. Call on or address J. Y. Calahan, General Agent, 111 Adams St., Chicago. 76

MARKET REPORTS.

Kansas City Live Stock.

KANSAS CITY, July 1.—Cattle—Receipts since Saturday, 6,432; calves, 317; shipped Saturday, 1,788 cattle, 340 calves. The market generally was steady on best offerings and weak on common grades. The following are representative sales:

DRESSED BEEF AND SHIPPING STEERS.		SHIPPING STEERS.	
21.....	1,328 \$4.90	91.....	1,241 \$4.70
27.....	1,120 4.50	21.....	1,234 4.50
41.....	1,168 4.40	18.....	1,300 4.40
55.....	1,234 4.55	20.....	1,200 4.00
8.....	1,000 4.00	31.....	1,105 4.00
20.....	1,008 4.25	22.....	1,093 3.80
26.....	1,014 3.65	18.....	998 3.50

TEXAS AND INDIAN STEERS.		COWS AND HEIFERS.	
45.....	1,121 \$3.80	104.....	9.8 \$3.40
108.....	930 3.15	27.....	869 3.00
88.....	925 2.85	5.....	782 2.75
4.....	773 2.50	48.....	785 2.35

WESTERN STEERS.		WESTERN COWS.	
61.....	1,289 \$4.25	53.....	1,203 \$4.25
10.....	1,163 3.40	4.....	1,205 3.75

SOUTHWESTERN STEERS.		COLORADO STEERS.	
21.....	938 \$3.60	74.....	1,131 \$4.00
6.....	1,066 3.65	10.....	1,123 \$3.65
1.....	1,130 3.50	34.....	1,049 3.65
		1.....	810 3.03

TEXAS AND INDIAN COWS.		COWS AND HEIFERS.	
7.....	714 \$3.10	23.....	826 \$2.75
96.....	613 2.60	28 mix.....	819 2.35
1.....	770 2.25	30.....	776 2.35
135.....	578 2.10	39 ry.....	339 1.75

STOCKERS AND FEEDERS.		COWS AND HEIFERS.	
16.....	1,081 \$4.03	54.....	1,038 \$3.90
24.....	938 3.60	25.....	881 3.47 1/2
2.....	780 3.25	1.....	850 2.85
5.....	530 2.50	6.....	81 2.15

Hogs—Receipts since Saturday, 2,540; shipped Saturday, 1,530. The market was active and 5@10c higher. The following are representative sales:		Hogs—Receipts since Saturday, 2,540; shipped Saturday, 1,530. The market was active and 5@10c higher. The following are representative sales:	
12.....	288 \$4.90	65.....	322 \$4.90
120.....	280 4.85	81.....	227 4.80
83.....	207 4.77 1/2	34.....	233 4.75
79.....	234 4.75	72.....	251 4.75
48.....	234 4.70	32.....	213 4.70
56.....	186 4.65	63.....	238 4.65
76.....	191 4.65	99.....	173 4.60
70.....	255 4.60	8.....	153 4.55
22.....	140 4.30	9.....	122 4.20

Sheep—Receipts since Saturday, 1,038; shipped Saturday, none. The market was active and stronger. The following are representative sales:		Sheep—Receipts since Saturday, 1,038; shipped Saturday, none. The market was active and stronger. The following are representative sales:	
2.....	80 \$5.10	115.....	65 \$5.25
49.....	98 3.25	10.....	105 2.50

Horses—Receipts since Saturday, 10; shipped Saturday, 10. There was little or no request for any grades and little interest is manifested in the opening of the market to-morrow.		Horses—Receipts since Saturday, 10; shipped Saturday, 10. There was little or no request for any grades and little interest is manifested in the opening of the market to-morrow.	
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Chicago Live Stock.		Chicago Live Stock.	
CHICAGO, July 1.—Cattle—Receipts, 15,000; official Saturday, 444; shipments Saturday, 251; best lots steady; other grades 5@10c lower.		CHICAGO, July 1.—Cattle—Receipts, 15,000; official Saturday, 444; shipments Saturday, 251; best lots steady; other grades 5@10c lower.	

Hogs—Receipts, 29,000; official Saturday, 10,386; shipments Saturday, 4,950; average weight for the week past, 228 lbs.; average weight for the previous week, 221 lbs.; left over, about 2,100; receipts for month of June, 556,409; shipments for month of June, 131,651; receipts for the corresponding month last year, 662,565; shipments for the corresponding month last year, 199,049; average weight for the month of June, 225 pounds; average weight for the corresponding month last year, 223 pounds; quality rather poor; market active and firm; prices 5@10c higher; sales ranged at \$3.50@4.70 for pigs; \$4.70@5.00 for light; \$4.70@4.85 for rough packing; \$4.55@5.05 for mixed; \$4.90@5.15 for heavy packing and shipping lots. <td data-kind="ghost"></td> <td>CHICAGO, July 1.—Cattle—Receipts, 15,000; official Saturday, 444; shipments Saturday, 251; best lots steady; other grades 5@10c lower.</td> <td></td>		CHICAGO, July 1.—Cattle—Receipts, 15,000; official Saturday, 444; shipments Saturday, 251; best lots steady; other grades 5@10c lower.	
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Sheep—Receipts, 17,000; official Saturday, 2,161; shipments Saturday, 341; best grades steady and others 5@10c lower.		CHICAGO, July 1.—Cattle—Receipts, 15,000; official Saturday, 444; shipments Saturday, 251; best lots steady; other grades 5@10c lower.	
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Chicago Grain and Provisions.		Chicago Grain and Provisions.	
July 1.	Opened High'st Low'st Closing	July 1.	Opened High'st Low'st Closing
Wht.—July....	70 1/4 71 69 1/4 69 1/4	Sept....	72 3/4 73 1/4 71 1/4 71 1/4
Dec....	72 3/4 73 1/4 71 1/4 71 1/4	Oct....	70 1/4 71 1/4 69 1/4 69 1/4
Corn—July....	47 1/4 47 1/4 45 1/4 45 1/4	Sept....	48 1/4 48 1/4 46 1/4 46 1/4
Dec....	48 1/4 48 1/4 46 1/4 46 1/4	Oct....	46 1/4 46 1/4 44 1/4 44 1/4
Oats—July....	25 1/4 25 1/4 23 1/4 23 1/4	Sept....	25 1/4 25 1/4 23 1/4 23 1/4
Dec....	25 1/4 25 1/4 23 1/4 23 1/4	Oct....	23 1/4 23 1/4 21 1/4 21 1/4
Pork—July....	12 5/8 12 5/8 12 1/2 12 1/2	Sept....	12 5/8 12 5/8 12 1/2 12 1/2
Oct....	12 5/8 12 5/8 12 1/2 12 1/2	Nov....	12 5/8 12 5/8 12 1/2 12 1/2
Lard—July....	6 6 1/2 6 6 1/2 6 6 1/2	Sept....	6 6 1/2 6 6 1/2 6 6 1/2
Oct....	6 6 1/2 6 6 1/2 6 6 1/2	Nov....	6 6 1/2 6 6 1/2 6 6 1/2
Ribs—July....	6 6 1/2 6 6 1/2 6 6 1/2	Sept....	6 6 1/2 6 6 1/2 6 6 1/2
Oct....	6 6 1/2 6 6 1/2 6 6 1/2	Nov....	6 6 1/2 6 6 1/2 6 6 1/2

Kansas City Grain.		Kansas City Grain.	
KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	

Receipts of wheat to-day, 52 cars; a year ago, 81 cars.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Sales of car lots by sample on track, Kansas City: No. 2 hard wheat, 1 car 67 1/4, 2 cars 67c, 2 cars 63 1/4; No. 3 hard, 1 car 60c; No. 4 hard, nominally, 60@63c; No. 2 red, 3 cars old 72c, 2 cars 71 1/4, 1 car 70c; No. 3 red, 1 car 67c, 3 cars 68c, 2 cars 69c; No. 4 red, 1 car 65c, 1 car 63c; rejected, nominally, 60@64c.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Corn was firmly held and white sold at steady prices, but mixed was 1/4 to 1c lower and weakest at the close.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Receipts of corn to-day, 16 cars; a year ago, 50 cars.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Sales by sample on track, Kansas City: No. 2 mixed corn, 12 cars 41 1/4, 4 cars 41c; No. 3 mixed, 2 cars early 41c, 1 car 40 1/4; No. 4 mixed, nominally, 40c; No. 2 white, 7 cars 42 1/4; No. 3 white, nominally, 42c.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Oats were 1/4c lower and sold slowly, though not many samples were on sale.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Receipts of oats to-day, 4 cars; a year ago, 21 cars.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Sales by sample on track, Kansas City: No. 2 mixed oats, 2 cars 23c, 2 cars 22 1/4; No. 3, nominally, 22c; No. 4, nominally, 21c; No. 2 white, nominally, 26c; No. 3 white, nominally, 24@25c.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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Hay—Receipts, 33 cars; market steady; timothy, choice, \$11.00@11.50; No. 1, \$9.50@10.00; No. 2, \$8.00@9.00; fancy prairie, \$9.50; choice, \$8.00@8.50; No. 1, \$7.50@8.00; No. 2, \$6.00@7.00; packing hay, \$1.50@2.00.		KANSAS CITY, July 1.—There were 53 cars of wheat here to-day, most of which was new. It met with a fair demand and prices were maintained better than expected. Some sales were lower than Saturday, some were steady. Only one or two buyers were taking samples. The rest held off, insisting that prices were too high relative to other markets.	
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St. Louis Grain.			
ST. LOUIS, July 1.—Receipts, wheat, 24,463 bu.; last year, 20,952 bu.; corn, 10,750 bu.; last year, 72,550 bu.; oats, 78,283 bu.; last year, 25,000 bu.; flour, 3,503 bbls.; shipments, wheat, 5,500 bu.; corn, 61,542 bu.; oats, 7,891 bu.; flour, 5,587 bbls. Closing prices: Wheat—Cash, 71 1/4; July, 70 1/4; August, 69 1/4; September, 70 1/4 asked. Corn—Cash, 43 1/4; July, 43 1/4 asked; September, 44 1/4 41 1/4c. Oats—Cash, 25 1/4; July, 23 1/4 asked; September, 23 1/4c.			

Kansas City Produce.			
KANSAS CITY, July 1.—Butter—Market firm on choice grades; commoner goods move very slowly. Extra fancy separator, 1c; fair, 12@13c; dairy fancy, 11c; fair, 9@10c; store packed, fresh, 8 1/4c.			

Eggs—Receipts light; candled stock, 8c per dozen.			
Poultry—Receipts light; market firm on hens and weak on springs. Hens, 6 1/4; springs, fair to good, 12c per lb.; good to choice, 15c; fancy and large, 2 lbs. and over, 14c per lb.; "peepers" not wanted; roosters, 15c. Turkeys sell slowly; gobblers, 5c; hens, 6c. Ducks, 5 1/4@6 1/4c. Geese, dull and not wanted; alive, 3 1/4@4c. Pigeons, firm; \$1.00 per doz.			

Fruit—Apples, market glutted; fancy, 20@35c per 1/2 bu. box; common, 10@15c per 1/2 bu.; home grown, 35@40c per bu. Texas plums, sand hill, 50@75c per crate; thirds, 20@30c; wild goose, 75@81.00 per crate; 25@30c per 1/2 bu.; 50@65c per 4 basket crate; Arkansas yellow plums, 50c@1.00 per crate. Peaches, choice, 35c; fair to good, 25@30c per 1/2 bu. box; 75c per 4 basket crate; home grown, 30c per peck; 50@60c per 1/2 bu. Arkansas apricots, \$1.00@1.50 per crate.			
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Vegetables—Potatoes, new, 45@50c per bu. Sweet potatoes, slow; red and yellow, 25@30c per bu.			
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The Best Cider and Wine Mill made. Will make 20 per cent more cider than any other. Geared outside. Perfectly Adjustable. Prices as low as any first-class mill. Mfrs. of Hay Presses, Horse Powers, Corn Shellers, Feed Cutters, Feed Mills, etc. Send for circular.			

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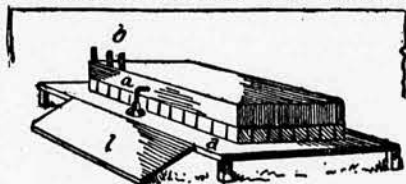
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The Poultry Yard.

TO MAKE A BROODER.

If Properly Constructed, One Lamp Will Keep It Comfortable.

Make a box 4x3½ feet and 6 inches high, cover top with boards and bottom with zinc, making a box like the heater of an incubator. Take a piece of old cloth, some heavy material, and cut strips 4 inches wide and long enough to reach all around the 3x4 box or 14 feet. Tack this cloth around bottom edge of the box; it will hang down 4 inches below the box. Cut the cloth



HOME-MADE BROODER.

[Description: a, brooder pipe and lamp; b, pipes as in incubator; c, brooder table; d, board running up to brooder.]

every 4 inches. The box will then be surrounded with pieces of cloth 4 inches square. Put a block 4 inches square under each corner of this box and the chicks will get in under easily by pushing between the 4 inch strips of cloth. Fix one tin pipe, to heat the brooder, and one lamp will keep the brooder warm. Place a ¼-inch escape pipe in every corner of the brooder to draw heat over the surface of the zinc evenly. As a lamp cannot be connected in the pipe if the brooder is on the floor, make a table a little larger than the brooder with legs 6 or 8 inches high. A board from brooder to the floor will soon be used by the chicks. Do not set boards around the brooder to keep the chicks in, for they will crowd up in the corners and kill many. As the chicks grow put higher blocks under the brooder so they can get under but not high enough so they can get on top of each other. The floor of the brooder may be covered with sawdust.—C. W. McQueen, in Farm and Home.

FRESH MARKET BONES.

A Highly Advantageous Addition to the Regular Poultry Ration.

As food for poultry nothing is now prized more highly among progressive poultrymen than perfectly fresh market bones, cut up each day, in addition to the usual food ration. This elegant food supplies nearly if not every element of the complete egg, as well as the formation of bone, muscle and feathers of growing chickens. Fresh bones from the market cost but a trifle. They should be obtained fresh each day. Their value is due to the perfectly fresh animal food which they contain, along with the other elements not found in sufficient quantities in corn and wheat. It has been proved that green cut bone will often increase the egg yield from 50 to 100 per cent. It will also stimulate the fowls during the moulting period to such an extent that the fowls do not suffer as formerly in this trying time. The juices and gristle in the fresh bone contain, in a digestible form, large quantities of nitrogen, which is absolutely demanded in forming the new quills and new feathers. Therefore, in moulting this nitrogen, when fresh bones are fed, is drawn from the food given to the fowl instead of being drawn from the reserve force of the fowl, which takes her strength, stops her from laying and makes her prone to disease. We are sure that the practical and economical farmer or poultryman of to-day who looks well at cost will utilize a material for poultry which brings in the end the greatest profit. We have used the granulated bone and paid a good price for it, but by using a bone-cutter we got meat, gristle, oil, fat, fine bone and granulated bone, all in one operation. The sharp, hard pieces of bone act as grit; the fine bone helps to make the shell, and the other half or two-thirds of ordinary market bones is rich, nourishing food, forming the feathers and flesh of the fowl and the interior of the eggs in abundance. We advise all of our readers to look carefully into these new methods of feeding as they come up, and understand them for themselves.—Prairie Farmer.

Ask your neighbor to subscribe for the KANSAS FARMER.

AMONG THE POULTRY.

Roosts should not be over two feet high from the floor.

The goose does not usually prove to be a good mother until the second year.

The cockerel should have good plain food and not such food as to fatten him.

The males should always be kept away from the hens until the breeding season opens.

A POULTRY-KEEPER has removed all the roosts and furnishes clean straw for a bed for his hens. This is taken out every day and the house swept. He claims that this is a preventive of lice and a promoter of egg-laying.

When eggs are high, some one recommends that they be marketed in neat baskets holding a dozen. It is claimed that the eggs will sell for enough more to pay for the basket. Appearances unquestionably have much to do in selling an article.—Farmers' Voice.

The Lack of Lime in Grain.

While corn is a food that has its mission in winter, it will do more harm than good when continued steadily on into spring. Wheat may be classed with corn. These grains are good because they are concentrated, and enable the hens to eat enough from which to derive their warmth, but though they contain a proportion of nitrogen they are very deficient in the mineral elements. There is less than a pound of lime in one thousand pounds of wheat, and if a hen is compelled to subsist on grain entirely, how is it possible for her to furnish eggs, which are not only covered with a shell of lime, but also contain within themselves the substances that are changed into bone, blood, flesh and fat.—Farm and Fireside.

Feed Beans to the Hens.

An excellent egg food is a good mess of beans three times a week. Cook the beans by boiling in an ordinary pot, add some finely chopped meat, thicken the mess with ground oats, and give the hens all they will eat, warm, and early in the morning. If they do not then lay it will not be because you have not given them proper food, provided you do not omit chopped clover with grain at night. Beans are rich in nitrogen, and make a very nourishing food for all kinds of poultry.

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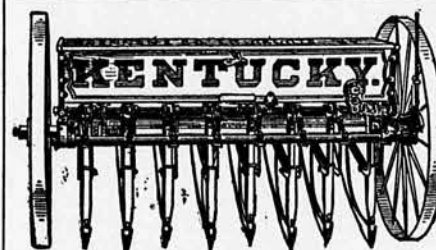
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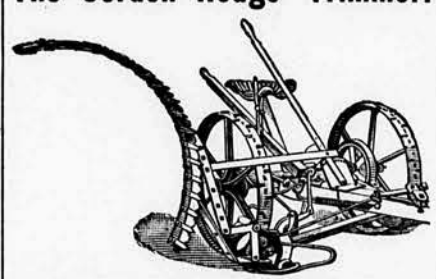
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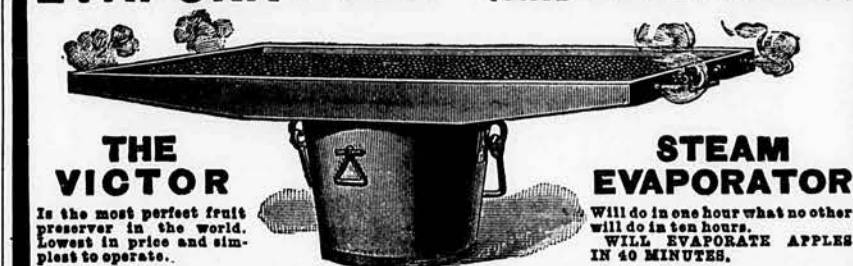
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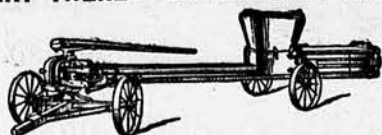
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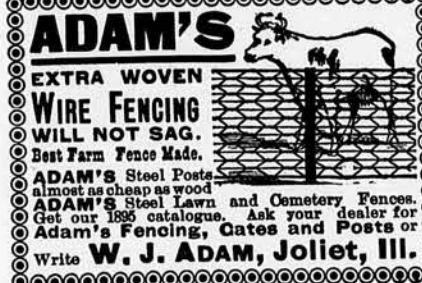
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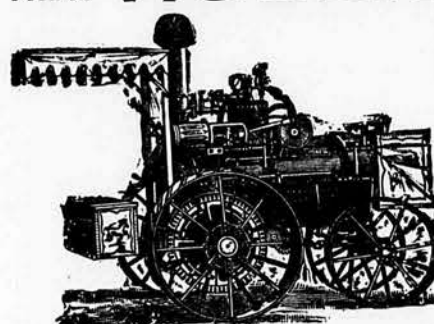
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FIRST.—For the National Educational Meeting at Denver, opening July 5, the rate will be one fare plus \$2 for round trip. Tickets good to return any time up to and including September 1.

SECOND.—The regular Tourist Car to California via Kansas City runs once a week, and leaves Chicago every Thursday at 6 p. m., Kansas City at 10:50 a. m. every Friday. Tickets based on second class rate, and car runs on fastest trains, and known as the Phillips-Rock Island Tourist Excursions. Car arrives at Colorado Springs, Saturday, 7:35 a. m.

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(Continued from page 1.)

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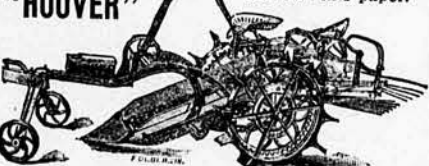
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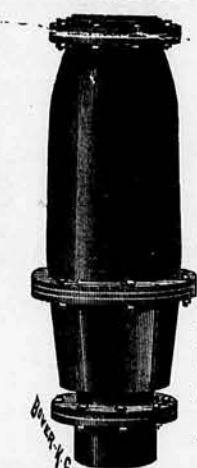
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Slaughtered in Kansas City.....	969,646	2,050,784	387,570		
Sold to feeders.....	808,181	11,490	69,816		
Sold to shippers.....	409,965	468,616	45,730		
Total sold in Kansas City, 1894.....	1,677,792	2,530,890	503,116	28,903	

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