

KANSAS FARMER

VOL. XXXIX.
NO. 19.

TOPEKA, KANSAS, THURSDAY, MAY 9, 1901.

ESTABLISHED IN 1863.
\$1.00 A YEAR.

BREEDERS' DIRECTORY.

SWINE.

D. TROTT ABILENE, KANS., famous Duroc-Jerseys and Poland-Chinas

Registered Stock, DUROC-JERSEYS contains breeders of the leading strains.

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M. H. ALBERTY, - - Cherokee, Kansas.
DUROC-JERSEYS.

100 head for this year's trade; all eligible to record.

MAPLE AVENUE HERD J. U. HOWE,
DUROC-JERSEYS. WICHITA, KANSAS.
Farm 2 miles west of city on Maple Avenue

CEDAR SUMMIT POLAND-CHINA SWINE FARM.
Only choicest individuals reserved for breeding purposes. J. M. GILBERT, Busby, Elk County, Kansas.

V. B. HOWEY, Box 103, Topeka, Kans
Breeder and shipper of Poland-China hogs, Jersey cattle, S. L. Wyandotte chickens. Eggs in season.

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THOROUGHbred HEREFORD CATTLE.
CHAS. A. SCHOLZ, Proprietor, FRANKFORT, KANS.

RIVERSIDE HERD OF POLAND-CHINA SWINE
Commodore Dewey No. 46187 head of herd, assisted by a grandson of Missouri's Black Chief, Young stock for sale reasonable. All stock recorded free. M. O'BRIEN, Liberty, Kansas.

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Some choice July, August and September males at reasonable prices, to make room for spring farrows. NEWTON BROS., Whiting, Kans.

POLAND-CHINA HOGS
Herd headed by I Know Perfect 48243 O., sired by Chief I Know 37187 O. A few gilts for sale, also two 2-year-old sows that will be bred for August or September farrow and one 3-year-old sow by King Breckenridge.
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D. L. BUTON, North Topeka, Kans., Breeder of Improved Chester Whites.
Stock For Sale.
Farm is two miles northwest of Reform School.

MOUND VALLEY HERD OF POLAND-CHINAS
Has shown show gilts bred to L. B. Perfection (25172 S.). Others bred to Black U. S. Best (21767). Also a fine lot of fall pigs for sale. Prices reasonable.
W. P. WIMMER & SON, Mound Valley, Kans.

Maple Grove Herd of Registered POLAND-CHINAS
HIRAM SMITH, Colwich, Sedgwick Co., Kans.
Headed by the grand boars, Black Chief 42367, Ideal U. S. 48259, and assisted by Perfect I Am Vol. XXIII, grandson of Perfect I Know 19172, granddam the great sow, Anderson's Model 48611, mated to a lot of choice selected sows of the most noted prize-winning families. A fine lot of fall pigs ready to ship.
Inspection or correspondence invited.

...Prospect Park Herd of...
Thoroughbred Poland-China Hogs.
Perfect We Know, a son of Chief I Know, the sweepstakes boar at the Omaha Exposition, at head of herd.
J. H. TAYLOR,
Telephone address | Pearl, Kans. Chapman, Kans.
Telegraph address | R. F. D. 1

SUNNYSIDE HERD OF PEDIGREED POLAND-CHINA HOGS.
We now have for sale 10 Good Young Boars 8 months old, and 8 Bred Gilts—fine, well developed sows, and a choice lot of September, October, and November, 1900, pigs for sale cheap. Write me for prices on what you want.
M. L. SOMERS, Altoona, Kans.

R. S. COOK, Wichita, Kansas,
Breeder of POLAND-CHINA SWINE.
The Prize-Winning Herd of the Great West. Seven prizes at the World's Fair. The home of the greatest breeding and prize-winning boars in the West, such as Banner Boy 2441, Black Joe 2348, World Beater and King Hadley. FOR SALE—An extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra large, richly-bred sows. Inspection or correspondence invited.

SWINE.

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For Sale: Thirty-five fine gilts, sired by "Miles Look Me Over" (18879) prize-winner in 5 fairs in 1900; also a few fine boars. Call on me or write your wants.

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Contains breeders of the leading strains. We have some fine Summer and Fall pigs to sell at moderate prices. J. B. DAVIS, Fairview, Kas.

KANSAS HERD OF POLAND-CHINAS has some extra fine spring gilts, some January gilts, and sows 18 months, bred to Sen. I Know, he by Perfect I Know; and some nice fall boars by Sen. I Know, and U. S. Tec. Address F. P. Maguire, Haven, Reno Co., Kans.

POLAND-CHINAS. Extra Good Fall Boars and Sows.
Fancy Strains.
DIETRICH & SPAULDING, Richmond, Kas

CHERRY GROVE FARM DUROCS.
From best prize-winners. One spring boar, also fall and winter pigs for sale.
WARE & POCOCKE, Station B, St. Joseph, Mo.

Verdigris Valley Herd POLAND-CHINAS
Large-boned, Prize-winning. We have for sale 80 head of fall pigs—the best grown out lot we ever raised. We can furnish herds not akin, of any of the fashionable strains. We have several that are good enough to fit for next fall's shows. Prices reasonable. Nothing but good ones shipped on orders.
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Two hundred head. All ages. 25 boars and 45 sows ready for buyers.

RIDGEVIEW FARM HERD OF Large English Berkshires
Sold out of everything but fall pigs. Place your orders for them now. Silver Laced and White Wyandotte eggs for sale, \$1.50 per 15.
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Pure Bred Poland-Chinas
I have 25 choice October pigs that I will sell for \$10 and \$12.50 for the next 30 days, sired by Corwin I Know 18448, and Hadley U. S. 20186; dams equally as well bred, all good colors. I am also booking orders for choice spring pigs, sired by Logan Chief 24427, and Froud Recumseh 24655. My hogs have good heads, small, fancy ears. Come and see them or write.
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Express Office, Leavenworth.

CATTLE.

ENGLISH RED POLLED CATTLE—Pure-bred young stock for sale. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo. Mention this paper when writing.

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Breed the Horns Off by Using a RED POLLED BULL.
CHAS. FOSTER & SON, Butler Co., Kas
Breeders of Red Polled Cattle. Herd headed by Powerful 4582. Pure-bred and grades for sale. Also prize-winning Light Brahmas.

D. P. Norton's Shorthorns
Dunlap, Morris County, Kansas.
Breeder of Pure-bred SHORTHORN CATTLE.
Herd bull, Imported British Lion 133692.
Young .. Stock .. For .. Sale.

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THOS. EVANS, Breeder,
HARTFORD, LYON COUNTY, - - - KANSAS.
SPECIAL OFFERINGS: FOR SALE—Four yearling bulls, one imported 4-year-old bull, a few young sows and heifers.

CATTLE.

ROSEDALE HERD OF HOLSTEINS.
C. F. STONE, Proprietor, PEABODY, KANSAS.
Home of Empress Josephine 3d, champion cow of the world. Gerben's Mechtolilde Prince at head of herd. Young bulls and heifers for sale.

ALFALFA MEADOW STOCK FARM.
1,800 acres. Pure-bred stock only. Herefords, Poland-Chinas, Light Brahmas, and Belgian Hares. Stock of all kinds for sale. Pedigreed hares, \$2.
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A few choicely bred young bulls—spring yearlings for sale at very reasonable prices; also 2 Shropshire, and 1 cross bred Shropshire-Cotswold buck. Address
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RED POLLED CATTLE.
Largest Herd in America.
A. CONVERSE, Proprietor, Importer, and Breeder.
CRESCO, HOWARD COUNTY, IOWA.

MT. PLEASANT HERD OF SHORTHORNS.
Herd headed by Acomb Duke 18th 142177. Herd composed of Young Marys, Galateas, and Sanspareils. Young bulls for sale.
R. D. No. 3. A. M. ASHCRAFT, Atchison, Kans
Inquire at Ashcraft & Sage Livery Barn, Main Street.

ALLENDALE HERD OF ABERDEEN-ANGUS CATTLE.
The Oldest and Largest in the United States.
Splendid recently imported bulls at head of herd. Registered animals on hand for sale at reasonable prices at all times. Inspect herd at Allendale, near Iola and La Harpe, Allen Co., Kans., and address Thos. J. Anderson, Manager, there, or
ANDERSON & FINDLAY, Prop's., Lake Forest, Ill.

RECORDED HEREFORD BULLS FOR SALE.
The get of Marmion 66646 and Anxiety Wilton A-45611, 10 to 24 months old. These bulls are large, and good individuals, and of the best of breeding. Inspection invited.
FRED COWMAN, Lost Springs, Kans.
Breeder (not dealer) of Hereford Cattle.

CLOVER CLIFF FARM
Registered Galloway Cattle, Also German Coach, Saddle, and Trotting-bred Horses, World's Fair prize Oldenburg Coach stallion, Habbo, and the saddle stallion Rosewood, a 16-hand, 1,100-pound son of Montrose, in service. Visitors always welcome. Address
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125
RAVENSWOOD SHORTHORNS
125
O. E. LEONARD, - - - BELLAIR, MO.
Males and Females for Sale. Inspection especially invited. Lavender Viscount 124755, the champion bull of the National Show at Kansas City heads the herd. R. R. and Telephone Station, Bunceton, Mo. ED. PATTERSON, Mgr.

IDLEWILD HERD.
HOME OF GODOY.
As a getter of high class bulls, suitable to head herds, I claim Godoy is the greatest living American sire. He should be. His dam is Imp. Golden Thistle by Roan Gauntlet, next dam by Champion of England. No other combination like this doing service now. See his sons on farm.
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We have for sale 7 Scotch-topped bulls, about 1 year old. Quality and prices right.
J. F. TRUE & SON, Newman, Kansas.
(Newman is on U. P. R. R., 13 miles east of Topeka.)

Polled Durhams! This little ad. will direct you to the largest as well as the best Scotch bred Polled Durham herd of cattle in the United States. 150 fine Duroc-Jersey pigs
F. F. Fallor, Newton, Iowa.

Norwood Shorthorns. V. R. ELLIS, Gardner, Kas
Sir Charming 4th at head of herd. Cruickshank top crosses on best American families. Young stock for sale.

TWO CRUICKSHANK-TOPPED SHORTHORN BULLS FOR SALE.
Both reds; 8 and 9 months old. Also summer and fall farrow POLAND CHINA PIGS—both sexes. Prompt response to enquirers.
O. E. Morse & Sons, Mound City, Kans.

H. N. HOLDEMAN, Girard, Crawford Co., Kan.,
—BREEDER OF—
PERCHERON HORSES, and HOLSTEIN FRIESIAN CATTLE
representing Josephine, Mechtolilde, and Parthena families. Poland-China hogs. Son of Missouri's Black Chief at head of herd. B. P. R., and B. L. H. chickens. Eggs in season, always guaranteed as represented.

Sycamore Springs Stock Farm SHORTHORNS.
H. M. HILL, Prop'r., La Fontaine, Kans.
No Shorthorns for sale at present but will have a few young things in the spring. Personal inspection of our herd invited.
Correspondence solicited.

SILVER CREEK HERD SHORTHORN CATTLE.
GWENDOLINE'S PRINCE 130913 in service, a son of the \$1,100 cow, Gwendoline 5th. Best Scotch, Bates, and American families represented. Also bred high-class Duroc-Jersey swine. Can ship on Santa Fe, Frisco, and Missouri Pacific R. R.
J. F. STODDER, Burden, Cowley Co., Kans.

BLACK DIAMOND ...STOCK FARM
Has for sale a few choice Galloway bulls, sired by a World's Fair winner. Also, a few English Fox Terrier pups of finest quality. For Sale or Trade—A 15-acre, suburban property in Des Moines, Iowa. Information promptly furnished by the owner,
J. R. Higgins, Reswick, Keokuk County, Iowa.

Sunflower Herd:
Scotch, and Scotch-topped
SHORTHORN CATTLE POLAND-CHINA SWINE.
Herd bull, Sir Knight 124403. Herd boars, Black U. S. 2d 22682 S., and Sunflower Black Chief 23603. Representative stock for sale. Address
ANDREW PRINGLE, Rural Route 2, Eskridge, Kansas.

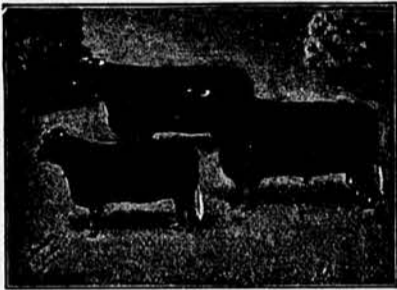
PURE BATES SHORTHORNS.
M. W. ANDERSON, Independence, Mo
Wild Eyes, Craggs, Peach Blossoms, Duchess Craggs, Harris, Barringtons, and Bracelets. 10th Duke of Wildwood 124671 at head of herd. Can sell young females, bred or open.

CATTLE.

H. M. Satzler,
Burlingame, Kansas,
.....BREEDER OF.....
HEREFORD CATTLE,
BERKSHIRE SWINE,
COTSWOLD SHEEP.
STOCK FOR SALE.

H. R. LITTLE,
HOPE, DICKINSON CO., KANS.,
Breeds Only the Best
Pure-bred
SHORTHORN CATTLE.

The herd numbers 185, headed by ROYAL CROWN 126698, a pure Cruickshank, assisted by Sharon Lavender 149023. For Sale just now 16 Bulls of serviceable age, and 18 Bull Calves. Farm 1 1/2 miles from town. Can ship on Mo. Pacific, R. I., or Santa Fe. Foundation stock selected from 5 of the great herds of Ohio.



GLENDALE SHORTHORNS, Ottawa, Kans
Leading Scotch, and Scotch-topped American families compose the herd, headed by the Cruickshank bull, Scotland's Charm 127364, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Twenty bulls for sale.
C. F. WOLFE & SON, PROPRIETORS.



SCOTT & MARCH,
.....BREEDERS OF PURE BRED.....
HEREFORDS,
BELTON, CASS COUNTY, MO.

BULLS in service, HESIOD 29th 66304, Imp. RODERICK 80155, MONITOR 58275, EXPANSION 93662, FRISCOE 93674, FULTON ADAMS 11th 88731. HESIOD 29th 66340.
Twenty-five miles south of Kansas City on Frisco, Fort Scott & Memphis, and K. C., P. & G. Railroad

50 Shorthorn Bulls For Sale.

THE BILL BROOK HERD OF REGISTERED SHORTHORNS

Have on hand for ready sale, 50 young bulls from 6 to 20 months old; also a few good heifers. Address H. O. TUDOR, Holton, Kansas.

250 HIGH GRADE ANGORA DOES

All pure white, thin pendulent ears. Will sell very cheap if taken soon.
W. T. McINTIRE, Live Stock Exchange, - - Kansas City, Mo.

Feeding Compound For Live Stock



It is essential for the well-being of all animals that they receive a suitable addition to the ration, not only to restore them if out of condition; but to keep them in the most profitable state of health. This is obtained by **Lincoln Feeding Compound** which is a great improvement upon and desirable substitute for so-called "Stock Foods." Write for literature regarding this cheap and economical preparation.

PASTEUR VACCINE CO., 158 E. Huron St., Chicago.
Branch Office: 622 Whitney Building, Kansas City, Mo.

CATTLE.

POLLED DURHAMS 10 bulls from 6 to 30 months. A few females. All stock recorded free in two records. Correspond at once before too late.
A. E. Burleigh, Knox City, Knox County, Mo

A. D. SEARS & BROS., - - Leon, Iowa.
SHORTHORNS.
2d Grand Duke of Hazelhurst 150091, heads herd.

HORSES AND MULES.

PERCHERON HORSES, AND ABERDEEN-ANGUS CATTLE
GABRETT HURST, Breeder, Zyba, Sumner Co., Kans. For sale 1 young stallion, and 1 mare; also 5 cows, and 1 bull. All registered.

PERCHERON HORSES.
J. W. & J. O. Robison, Towards, Kansas.
Importers and Breeders. Stallions for sale. Send for Catalogue.

LIVE STOCK AUCTIONEERS.

JAS. W. SPARKS LIVE STOCK AUCTIONEER
Marshall, Mo.
Have been, and am now, booked for the best sales of high-class stock held in America. Write me before claiming dates.

R. E. EDMONSON (late of Lexington, Ky.) and Tattersalls (of Chicago, limited), now located at 208 Sheldley Building, Kansas City, Mo., offers his services as Live Stock Auctioneer. All the Herd and Stud books. Wire before fixing dates.

CAREY M. JONES,
Live Stock Auctioneer
Davenport, Iowa.—Have an extended acquaintance among stock breeders. Terms reasonable. Write before claiming date. Office, Hotel Downs.



LIVE-STOCK AUCTIONEER
Col. J. M. Marshberger
LAWRENCE, KANS.
Special attention given to selling all kinds of pedigree stock, also large sales of graded stock. Terms reasonable. Correspondence solicited. Mention KANSAS FARMER.

PEARL SHORTHORNS.

HERD BULLS:
BARON URY 2d 124970. LAFITTE 119915

Inspection Invited.

C. W. TAYLOR, - - Pearl, Kansas.



THE LINCOLN IMPORTING HORSE COMPANY
LINCOLN, NEBRASKA.

We have fully decided to offer special inducements for the next twenty or thirty days on our Percheron and Shire Stallions. Some of the largest and grandest individuals that ever crossed the ocean. Our Percherons are coal blacks. Our Shires are bays and chestnuts. All of them in the best of condition, healthy in every respect and sound as gold dollars. Parties coming to examine our stock and finding we have made any untrue statements, remember, we pay all expenses. Come at once and take advantage of first choice, and cut prices from 15 per cent to 25 per cent and some still more.

Opposite State Farm and Experimental Station. Take University Place or Havelock Street Cars. Inquire for Sullivan's Barns. Telephone 575.



Draft Stallions.
PERCHERONS, SHIRES, AND CLYDES.
Choice collection of imported Black Percherons west of the Mississippi River. All horses personally selected by a member of the firm with the aid of our own private interpreter, and a first choice from the oldest and leading breeders of France. All fresh, young stock. If you want a Good Stallion we can suit you. Barns are in town. For further information, address
KEISER BROS., Keota, Iowa.
(On C. R. I. & P. Railway, 14 miles west of Washington.)

Draft Stallions OF THE **SHIRE, CLYDE, AND PERCHERON BREEDS.**

IMPORTED, and HOME BRED All Ages
POLLED DURHAM AND SHORTHORN CATTLE. POLAND-CHINA HOGS. Prices Right.
Snyder Bros., Winfield, Kans

AMERICA'S LEADING HORSE IMPORTERS.



100 PERCHERON STALLIONS
40 FRENCH COACH STALLIONS
Now on hand. All mature and ready for service. Frequently there is a neighborhood in which there is no stallion men who will invest the price necessary to procure a first-class registered Stallion. In such a locality those farmers and breeders who wish to raise horses must resort to some means of procuring a good Stallion in their neighborhood. We have a plan that has proven most successful where the above conditions exist, and will furnish full explanation upon inquiry. If you live in such a neighborhood, write us and we will show you how you can procure one of the best stallions and raise horses that will sell for the highest prices.
McLAUGHLIN BROS.,
Sixth and Wesley Avenues, COLUMBUS, OHIO

PURE PERCHERONS
The Richest Bred Herd in America,
—AND THE—
Oldest Breeding Establishment in the West
A limited number of choice young stallions for sale (including the herd stallion, Favorite 22937).
Correspondence Solicited. Inspection Invited.
HENRY AVERY & SON, WAKEFIELD KANS.



Sunny Slope Herefords.
290 HEAD FOR SALE
Consisting of 200 bulls from 8 months to 4 years old, and 90 yearling heifers. I will make very low prices on bulls, as I desire to sell all of them before May 1. Write me or come at once if you want a bargain.
C. A. STANNARD, Emporia, Kansas

TEBO LAWN HERD SHORTHORNS

—HERD BULLS ARE—

IMPORTED COLLYNIE 185022 bred by Wm. Duthie.
 IMPORTED BLYTHE VICTOR 140609 bred by W. S. Marr.
 IMPORTED BAPTON MARQUIS bred by J. Deane Willis.
 ADMIRAL GODOY 132872 bred by Chas. E. Leonard.

FEMALES are the best ORUICKSHANK families topped from the leading importations and American herds. These added to the long established herd of the "Casey Mixture," of my own breeding, and distinguished for individual merit, constitute a breeding herd to which we are pleased to invite the attention of the public. Inspection and correspondence solicited. Address all correspondence to manager.

E. M. WILLIAMS, Manager.
G. M. CASEY, OWNER,
 SHAWNEE MOUND, HENRY COUNTY, MO.



...GUDGELL & SIMPSON...

INDEPENDENCE, MO.,

.....BREEDERS AND IMPORTERS OF.....

HEREFORDS.

One of the oldest and largest herds in America.

ANXIETY 4th blood and type proved.

BOTH SEXES, IN LARGE OR SMALL LOTS ALWAYS FOR SALE

VALLEY GROVE SHORTHORNS.

THE SCOTCH BRED BULLS

Lord Mayor 112727, and
 Laird of Linwood 127149
 Head of the Herd.

LORD MAYOR was by the Baron Victor bull, Baron Lavender 2d, out of Imp. Lady of the Meadow and is one of the greatest breeding bulls of the age. Laird of Linwood was by Gallahad out of 11th Linwood Golden Drop. Lord Mayor heifers bred to Laird of Linwood for sale. Also bred Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale. Address

T. P. BABST, Proprietor, Dover, Shawnee Co., Kans.

T. K. TOMSON & SONS,

* * Proprietors of * *

ELDERLAWN HERD OF SHORTHORNS

DOVER, SHAWNEE COUNTY, KANSAS.

GALLANT KNIGHT 124468 in service. How would you like a cow in calf to, or a bull sired by, Gallant Knight 124468? His get won 14 prizes at the National Cattle Show held at Kansas City last October. 100 head in herd. Correspondence and inspection invited.



STEELE BROS., Belvoir, DOUGLAS COUNTY Kans
 Breeders of SELECT
HEREFORD CATTLE

Young Stock For Sale. Inspection or Correspondence Invited.

GALLOWAYS

Largest Herd of Registered Galloways in Kansas.

Young bulls, cows, and heifers for sale.

H. W. THRALL, Eureka, Kans.

GALLOWAYS.

LARGEST HERD OF REGISTERED GALLOWAYS IN THE WORLD.
 Bulls and females, all ages for sale—no grades. Carload lots a specialty.
M. R. PLATT, Kansas City, Missouri.
 Office at Platt's Barn, 1613 Genesee Street.

Agricultural Matters.

The Soy-Bean as a Forage and Seed Crop.

Some have intimated that the enthusiasm of the farm department of the Kansas Experiment Station for soy-beans was a little overdrawn. The following from a recent bulletin of the Storrs Experiment Station, Storrs, Conn., shows an application of the soy-bean in the Nutmeg State:

The soy-bean is a legume, and therefore belongs to the same family of plants as our common beans, peas, and clovers. It is an upright, bushy, leafy plant, growing 3 or 4 feet in height, and having foliage much like that of our common field bean. It is a native of southern or eastern Asia, and has been cultivated in China and Japan from very early times. In those countries it is cultivated principally for its seed, which is used as food for man; and the crop has gained such importance that many varieties of the plant have been developed. The soy-bean was introduced into Europe more than one hundred years ago, but has not attracted much attention as a valuable farm or garden crop. In this country it has been grown for many years, chiefly in the South; but only within fifteen years has it received much attention as a forage or grain crop in other parts of the country. During the past ten years several of the experiment stations have made experiments in the culture of the crop and in its use for feeding various kinds of live stock. The Storrs station began studies on the soy bean in 1890, and has cultivated the crop and continued its studies each year since then.

VARIETIES.

Several varieties of the soy-bean are grown in this country. They are distinguished chiefly by the color of the seed and the time of reaching maturity. The most valuable varieties grown in recent years were imported from Japan, and were brought to the attention of the farmers in this country by the Hatch Experiment Station of Amherst, Mass. The three leading varieties are the early white, the medium early green, and the medium black. The first named produces a small plant and a rather light growth of seed. It is better adapted than the other varieties to rather poor soils, and is valuable mainly for its seed, as it produces a small amount of forage. The medium early green is valuable either as a forage crop, or for its seed. It produces a heavy growth of leafy fodder, and will generally mature a large amount of seed before frost. The medium black is a large, leafy plant much like the medium early green, except that it does not produce quite as heavy yields of fodder and requires a little longer season in which to mature its seed.

USES OF THE CROP.

The soy-bean may be used to the best advantage in Connecticut as a forage crop. Mixed with corn fodder it makes excellent silage, or when fed green it is a valuable soiling crop. If allowed to mature, it furnishes considerable amounts of seed which may be ground into meal, making a valuable feed for live stock, especially milch cows and growing steers or pigs. On account of its high percentage of protein, soy-bean meal may be used instead of cottonseed, gluten, or linseed-meal.

In some parts of the country, particularly in the South, the soy-bean is often harvested as hay. When cut at the right stage of growth and properly cured and preserved, it furnishes considerable hay of high feeding value. It is probably not so valuable as clover for this purpose, however. There is a considerable loss of leaves in curing and storing it as hay, and it requires

too much drying to be well adapted for this purpose in the North.

When grown for any purpose the soy-bean tends to increase rather than to diminish the fertility of the soil; because, being a legume, it has the power of acquiring much of its nitrogen from the air, through the agency of the organisms which are found in the nodules on its roots, as described later. Considerable of this nitrogen is left in the soil in the form of available plant food in the roots and stems of the plant. The soy-bean may also be used with considerable profit as a green manure, although for this purpose it is probably not so valuable as some of the other legumes.

THE SOY-BEAN AS A FORAGE CROP.

As a soiling crop.—The soy-bean is particularly well adapted for the purposes of soiling. It yields abundantly, has a high feeding value, and the variation in the times at which the crop may be planted makes it possible to have a continuous succession of green forage in good condition for feeding throughout a considerable portion of the summer and autumn. It may be planted at any time during the spring and summer, preferably when the ground has become warm and danger from injury by frosts has passed, and may be fed from the time of blossoming until the crop is damaged by frost in the fall. In this state it furnishes the best supply of forage for soiling purposes during August and September. It is a valuable crop to supplement pasturage during periods of drouth, or when the supply of pasturage is short for other reasons. Because of its high protein content, as shown on later pages, it is excellent to feed with some fodder that is lacking in protein but rich in carbohydrates.

As a silage crop.—Apparently the soy-bean can not be used alone to good advantage as a silage crop. When stored by itself in the silo it seems to ferment badly, and strong, objectionable odors develop in the silage. When corn fodder is mixed with the soy-bean fodder in the silo, however, these features do not appear. For use as silage the medium early green variety is most valuable. The best proportions for mixing the two crops have not been fully determined. Good silage has been produced at the Storrs station by using about two-thirds corn fodder and one-third soy-bean fodder by weight. These can be quite satisfactorily mixed by hauling and cutting two loads of corn fodder to one of soy-bean fodder, and by spreading the fodders in alternate layers over the whole mass within the silo, thus putting one load of the bean fodder between two loads of the corn fodder. Both crops will generally be ready to harvest for silage at about the same time, from September 5 to 15.

Soy-bean fodder compared with corn fodder.—Indian corn is probably the most important forage crop now grown in this country. Its great advantages are its large yields, and its general adaptability to a variety of soils and climates. Corn fodder and corn silage are one sided feeds, however, being rich in carbohydrates (starchy materials), but lacking in protein. To get the best results from the use of these feeds, especially in feeding dairy stock, it is necessary to use with them some material rich in protein. For this purpose alfalfa is used in many parts of the West, cow-peas in the South, and, to some extent, clover in the North. On most farms in this region, however, there is not enough clover grown to supply the protein needed to balance the excess of carbohydrates in our common grasses, corn silage and stover;

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Send no money, but write Dr. Shoop, Racine, Wis., Box 27, for six bottles of Dr. Shoop's Restorative; express paid. If cured, pay \$5.50—if not, it is free.



..JOINT SALE OF.. SHORTHORNS

To be held at MARYVILLE, MO., WEDNESDAY, MAY 22, 1901

This offering will be drafts from the herds of Alex. John & Son, and O. M. Healy, of Bedford, Iowa, numbering

60 HEAD—18 BULLS, AND 42 COWS AND HEIFERS

Consisting of Scotch, Scotch-topped, Bates, and Bates-topped cattle. Also such families as Mazurkas, Rose of Sharons, Young Phyllis, True Loves, etc., etc. We wish to call special attention to the 2 HERD BULLS in the sale. Sale will be held under cover. Parties attending our sale can also reach the Martin Flynn sale at Des Moines, the following day, via either the Burlington, or Chicago Great Western R. R.'s without inconvenience. Catalogue tells the whole story. Send for one. Address, Alex. John & Son, or O. M. Healy, Bedford, Iowa. Cols. Woods, Callahan, and Hosmer, Auct's.

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

October 8-10, 1901—American Berkshire Association Sale at Kansas City.
December 10, 11, and 12, 1901—Armour-Funkhouser, Herefords, Kansas City.
December 13, 1901—H. C. Duncan, Shorthorns, Kansas City.

The Market Classes of Horses.

BY E. DAVENPORT, M.AGR., PROFESSOR OF ANIMAL HUSBANDRY IN THE COLLEGE OF AGRICULTURE AND ANIMAL HUSBANDRY SPECIALIST IN THE EXPERIMENT STATION, IN BULLETIN NO. 62.

According to the best estimates available only about 60 per cent of the horses that make their way to the Chicago market fill the requirements of the recognized market classes, leaving 40 per cent as "unclassified."

MARKET CLASSES REPRESENT THE MOST USEFUL TYPES.

From the nature of the case the market classes represent all the types and classes for which any general demand has asserted itself, and if a new use should arise demanding a new type of horse, the attempt to secure it would immediately give rise to a new market class.

TOO MANY UNCLASSIFIED HORSES.

While it is and always will be true that the breeders will often fail to produce what he aims to secure, nobody believes that his failures should amount to 40 per cent. The late veteran horse breeder, M. W. Dunham, said that in his experience a good breeder working with good blood, though aiming at comparatively high standards, should succeed seven times out of ten. In making this attempt he was alluding to standards vastly higher than the average of those demanded in the so-called market classes; therefore, according to his estimate, more than 70 per cent of horses should fill market requirements, if they were really bred to that end.

LACK OF STANDARDS IN BREEDING.

Inasmuch as so large a proportion fall to come to any valuable standard whatever, whether the one they were bred for or some other, we are forced to infer that horses are not produced for distinct purposes and bred to definite ends as generally or successfully as they should be; in other words, that a large proportion of the 40 per cent is removable and should be eliminated.

MARKET STANDARDS AND CLASSES OF HORSES NOT GENERALLY KNOWN.

The most of the horses that supply the great markets are produced upon the farms of the country and by farmers largely engaged in crop raising and with other kinds of live stock. A somewhat extended study of the matter reveals the fact that few farmers of this class have definite knowledge of the distinct classes recognized in the markets, or of the types and characters demanded for each. They have, therefore, been working in the dark, having no model in mind and no standard to breed to; and we are forced to the conclusion that a large proportion of horses that are suited to the market needs were produced not by design, but by accident. This is borne out not only by the 40 per cent of unclassified horses that go to the markets, but by the unnumbered mob of "scalawags" that remain behind on the farm, too bad to sell, and kept "to raise colts."

This conclusive evidence of lack of standards in horse production, together with the positive knowledge that farmers as a rule do not know the market classes or their requirements, has led to the publication of this bulletin, which is an attempt to define each market class and describe the type of horse that will fill it.

COLUMBIAN EXPOSITION ESTABLISHED THE CHICAGO HORSE MARKET.

The World's Fair of 1893 brought to the attention of European dealers not only the high quality of American horses, but the almost infinite capacity of this country for their economical production. Because they could buy more quality here for the same money or the same quality for less money than in their own country, horses were immediately taken in large numbers for export, and this foreign demand established the Chicago horse market on a solid basis and with well-defined classes.

FOREIGN TRADE AND CITY DEMAND FIX MARKET CLASSES.

These purchases were always for particular purposes, giving rise to well de-

finer market classes and calling for definite types of animals. Not only that, the "horse consumption" of this country, constantly and rapidly increasing, calls for the same classes and types demanded by the foreign trade, with such additions and variations as are naturally incident to our home conditions. It is hardly necessary to remark that the home market, like the foreign, is largely limited and the classes fixed by the city needs. Stated broadly, therefore, it is the city demand, both foreign and domestic, that has fixed the classes and types of horses in the Chicago markets, and for that matter in all markets. Moreover, this demand is so particular, and the classes and types so well defined, that horses making their way to the great markets are classified and graded, and sold according to their classification as accurately and as absolutely as is wheat or any other commodity.

UTILITY FIXES THE CLASS AND THE VALUE.

Market classes are established, not according to the age of the animal or degrees of soundness, but according to size, conformation, and style; that is to say, utility for particular purposes is the basic principle of classification, and the ability of the animal to fill the particular purpose is what fixes his class and his value, with the exception that all high class horses must be sound and possess no glaring fault.

CLASSES NOT CONTINUOUS.

As might be expected, these classes do not generally overlap, nor do they always meet; that is to say, the gradations are not uniform, passing from one class directly into the next. There are gaps between them, often wide ones, through which an animal may drop, so to speak, and though young and sound, may be a cheap horse; for example, if he is too light for a draft horse and yet too heavy and "drafty" for the 'bus, he is too much for the one and too little for the other, and even though considered by himself he may be a good horse he is, nevertheless, a cheap one, and no man who understands his business would produce him if he could help it.

THE FIVE MARKET CLASSES.

Classes differ somewhat in different markets, but in Chicago, which claims to be the greatest horse market in the world, there are five distinct and well defined market classes in large demand. They are all classified from the standpoint of utility, and except in class five may or may not be registered animals. They are all based upon special needs, and all call for particular size, conformation, and style.

CLASS 1.—ROAD, CARRIAGE AND COACH HORSES.—USES.

This is the highest class of unregistered horses on the market, though many are of the highest breeding and all must show good blood. They are distinctly driving horses, though not racers, and are used for private work as distinct from public service. Accordingly, they are driven to all sorts of private vehicles, either for business or pleasure, from the light runabout drawn by the road horse to the elegant victoria, brougham, or heavy coach drawn by the carriage or coach horse. They are distinctly gentlemen's drivers, whether handled by the owner or his coachman, and all the conditions call for a high horse to correspond with good to elegant appointments and to satisfy the eye of a horseman or at least of a lover of horses. They are used both in city and country, but are found chiefly on the boulevards and in the parks of the larger cities before fashionable turnouts driven by a coachman, or before a light wagon driven by the owner for the pleasure of driving. They are used singly or in pairs, and, when matched, uniformity in size, style, and action are imperative, while differences in color or sex are almost disregarded. It may be said in general, however, that though the market professes not to distinguish between mares and geldings, yet most men feel a decided preference for the latter, and only the limited supply of horses of high quality prevents this choice from asserting itself and a higher price ruling for geldings than for mares.

DESCRIPTION.

The varied uses to which these horses are put admit a wide range in height and weight. Horses may vary in height from 15 hands to 16 hands 2 inches, and in weight from 1,000 to 1,200 pounds, and still rank in this class, though these are extremes. The typical specimen would stand from 15-3 to 16 hands and weigh from 1,000 to 1,150 pounds.

In colors, there is little choice between bays, blacks, browns, chestnuts,

and sorrels, but light greys are not in favor, and unsightly colors and markings are barred out. The form, style, and action, however, must be strictly high class, and whether registered or not, they must show plenty of good breeding.

In form they must be both beautiful and serviceable. The head must be clean and fine and well carried upon a neck that rises gracefully from the shoulders. The forehead must be broad and full, ears carried well forward, eye full and bright, all showing intelligence, docility, and spirit. The nostrils must be large and open, the muzzle fine, and the neck of medium length, clean and well carried without need of check. Short, heavy heads, dull eyes, drooping ears, short beefy necks, ewe-necks, and thick necks, all bar horses from this class.

The shoulder must be sloping, the back short and well coupled with a full strong loin; the barrel round, the hips smooth, and the tail set high. The legs must be straight and alike and free from all unsoundness and serious blemishes; the bone must be flat and clean, the tendons strong and smooth, the knee wide, the hock strong, and the pastern moderately long and sloping. There should be a proper proportion between the forearm and the cannon. If the forearm be too long the result will be a knee sprung horse after considerable service; if too short, he will be "calf kneed," i. e., the knee joint, as it is called (properly the wrist), will appear as if shutting too far backward and breaking down. The proper relative length of these two bones is believed to be not far from 21 inches for the forearm to 11 inches for the cannon. The foot should be moderately wide at the heel, show dense horn and stand squarely upon the leg, with no suggestion of being "pigeon toed" (toes pointing inward), or "nigger heeled" (heels close and toes outward). Last of all, the body should be covered with a full coat of fine, soft hair and carry a fair amount of flesh, but without an appearance of fleshiness. Nothing is so good an evidence of quality in a horse as fine hair and prominent veins standing well out on the face and over the body.

Every line and movement should please the eye, and satisfy the demand for a stylish horse. He must show considerable speed, but his work must be done neatly and with apparent pride and satisfaction to the animal. He must respond to the will of the driver and exhibit sense and courage in the presence of unusual sights and sounds.

Nothing is more important in these horses than action, and nothing expresses what is wanted better than the word, "directness," or as the horsemen call it, "straight line movement." What is meant is that the legs should move forward in straight lines, neither swinging in to "interfere" nor out to "wobble." In taking the step the foot should be well folded in at the pastern and thrust forward, but in straight lines with no suggestion of "padding." In carriage and coach horses the knee and hock should be carried moderately high in action, especially the former, and the front foot and leg from the knee down should exhibit a rolling action of the foot, taking the ground lightly at the bottom of a circular movement, so to speak, and not thrust forward into the ground, causing pounding and rapidly "staving" the horse on pavements and hard roads. For road horses in which ability to cover distance is a prime requisite, excessively high action is a detriment rather than otherwise, as it wears out the horse when his energy is needed for getting over space. In these horses the front leg should be nicely folded as it is taken from the ground, then thrust far forward, not punching into the earth, but reaching its farthest point while yet 3 or 4 inches above the ground, then dropping straight down, taking the ground lightly. This is the easiest trotting pace, therefore the most useful for covering distance, and if well taken, is as slightly as any other, though it pre-supposes considerable speed.

In both types the fore and hind legs must move in harmony and neither interfere with the work of the other. If the hind legs are too long the hind foot will strike the front, unless the horse "straddles," which is unsightly; if too short of lacking in action, the horse gives the appearance of trotting in front and walking behind, the most awkward known gait and commonly found in a horse too long in the back.

In this class belongs the "cob," which is distinctly an American type, the trade in cobs being confined to this country. The cob is a blocky, "natty" little horse some 15-1 to 15-2, weighing 1,000 to 1,100 pounds, and much in de-

Thoughts

wander when the brain is tired. Overwork, nervous irritation, worry and mental strain exhaust the brain forces and diminish their thought power. Feed the brain, strengthen the nerves and build up new vigor, vitality and mental power. The greatest of all brain foods and nerve tonics is Dr. Miles' Nervine.

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mand as a single driver before a light buggy.

VALUE.

Horses in this class sell at from \$150 to \$300 and upwards, fine specimens selling readily at \$400 or \$500, and in some instances at \$1,000 and upward. These horses are worth from 25 to 50 per cent more when well matched than when single, and in all cases the value depends greatly on the training and "manners" exhibited; for in no other class of horses is an animal sold more upon his merits as a performer than in this class of gentlemen's drivers.

PRODUCTION.

Two elements go to establish the value of these horses—the horse himself, and his training. The latter must be done by some one well up in the methods of handling horses and in what the trade calls for. This will generally be the regular dealer or his agent or employ.

The production of the horse himself, however, is a matter of breeding and reasonable feeding and care. Without the former, no feed, care, or training can make a high class driving horse and one certainly can not be made out of a scrub.

The most successful blood for the production of carriage and coach horses has been that of certain strains of the Standard Bred, or American Trotter, as he is often called, the French Coach, the Morgan, and the Hackney, and road horses have been most successfully produced from the Trotter and the Morgan. Whatever blood is employed, it should be used on brood mares of good form and substance and of a size and type to correspond with the blood of the sire. Whoever undertakes to produce these horses should send them to the markets untrained unless he be a horseman in fact as well as in opinion. Some of the finest specimens are permanently ruined by bad handling long before reaching the markets. The most common mistakes are, first, the use of the over-check while young, making a 'ewe-neck' and a bulging throat; second, speeding while young, developing the racing spirit, latent in all these horses, before they have learned real action, and making it impossible thereafter to make good "workers" of them; and, third, clipping the foretop, which, though only temporary, detracts from his value enough to pay his keep until it grows out. This damage from a clipped foretop is considered in the markets as \$25.

CLASS 2. CAB HORSES.—USES.

As the name indicates, these horses are used on cabs and other light vehicles kept for public service. This class of horses is also used for light delivery, and those owned by the better mercantile houses are the pick of the class. These two uses fix the class and the price, though many will be found in other places where light plain driving is needed.

DESCRIPTION.

The cab horse is a strong, blocky, and useful little horse, 15 hands to 15-2 in height and weighing 1,050 to 1,100 pounds. He must be a "rugged" horse but he is plain, and is required to show but moderate action, though he must be able to go long at the trot, and handle some load.

VALUE.

While an exceedingly useful horse and one "consumed" in large numbers the supply is very large and values are always moderate, rarely exceeding \$75 to \$100. He is a good but plain and cheap horse. This is the smallest horse and the plainest one that the market demands or that can be sold at anything but ruinous prices.

PRODUCTION.

The prices realized warrant nobody in undertaking the production of these horses. The large supply is due to the fact that there are culls from Class 1, just described and from Class 3, next to follow, and that a sufficient supply will doubtless always appear naturally in the attempt to produce these two more valuable classes.

CLASS 3. BUS HORSES.—USES.

These horses take their name from the foreign demand for use on omnibuses. They are used for the same purpose in this country, though the omnibus is less a feature of American than of foreign cities. For this purpose they are generally driven in pairs. The same horse is used here as an "express" horse or for heavy delivery. Whatever the use to which he is to be put, two requirements are imperative: First, he must be able to handle a considerable load, and second, he must do it at a slow trot and sustain the gait.

DESCRIPTION.

If there is any "general purpose" horse it is the bus horse. He must be fitted to handle a load at a slow trot, but is not required to show style. His action, however, should not be bad and it must be easy. He must be a smooth made horse, shape himself well in harness, give evidence of plenty of stamina and should stand from 15-1 to 16 hands and weigh from 1,250 to 1,400 pounds. This is not a small draft horse, for his gait is to be the trot and not the walk. He must, therefore, show a more sloping shoulder and a longer and more sloping pastern than in the draft type, and go at the slow trot with perfect ease. The supposition that small draft horses will fill this class is a common mistake that has cost American horse breeders much time and money.

VALUES.

These horses sell readily for export or home consumption at from \$100 to \$150. Classes 2 and 3, unlike class 1, have no fancy prices, because there is no fancy service. Their work is purely commercial and their values are as standard as that of wheat and fluctuate only within narrow limits according to individual quality like any other purely commercial article.

PRODUCTION.

This is the cheapest horse that it will ever pay to produce by direct effort. The best blood to use is probably a medium Percheron stallion and a small mare with fairly good action and plenty of bone and stamina. These horses can be sold without training except that they should be broken to harness and accustomed to light work. These are not driving horses and no attempt should be made to develop speed.

CLASS 4. DRAFT HORSES.—USES.

There is one standard use for the draft horse, and that is to haul enormous loads at the walk only, generally in the cities and on pavements or hard roads. They may be used single, in pairs, three or four abreast, unicorn fashion, or in four, or even six, eight, or ten horse teams, two abreast.

DESCRIPTION.

Strength is the one consideration in the draft horse, and broadly speaking, weight is the principal element. If, however, the mechanism of the horse is to endure the strain he must have a strong hind leg, especially at the hock, a heavy loin with short coupling and a strong front leg and dense hoof, because so large a proportion of his weight is, or should be, in front.

With the draft horse it is not a question of height, but of weight; indeed the nearer the ground he is the better both for service and endurance. To class with draft horses an animal must weigh not less than 1,500 pounds in good flesh and he is all the more valuable if he weighs 1,800, 2,000, or even more. He can not be too heavy if his "bone" corresponds to his weight.

Such a horse should be blocky made with heavy bone, though smooth; short in the back, close coupled with heavy loin, rounded hips, wide strong hock, flat bone, moderately short pasterns, medium straight shoulder, heavy in the front with full breast and legs placed well apart, though not extremely wide. The animal should carry a good covering of flesh, be smooth finished all over, and manifest docility and a disposition to do heavy work with patience but with spirit. Accordingly he should show a bright mild eye, an alert ear, and a smooth easy action at the trot. It should be as straight and true as described under class 1, though this is not so important, and action is taken at the trot, not because he is expected to use the gait, but because it is the best indication of the ease with which he can handle his legs. The good draft horse, is not expected to make speed, yet he must not be in constant "quarrel with his legs." Because it is easier to secure weight in fat than in bone, care should be taken to insure heavy bone in extreme weights, but this should not be done at the expense of fair finish.

VALUES.

Draft horses of good form sell almost according to weight, except that as weights increase, prices rise at a much greater ratio; so that extreme weights bring enormous prices if only the bone is satisfactory. Prices range from \$125 to \$300, with an occasional one higher and with an increase of about ten per cent when matched in teams. These prices are sometimes exceeded, and dealers insist that prices were never so low that a span of draft horses would not bring \$600 if only they were good enough.

PRODUCTION.

This is par excellence the horse for

the farmer to raise. Only the blood of the best draft breeds, and the heaviest and best boned stallions are suitable. Even then the demand for extreme weights necessitates the use of large mares that are good milkers. In no other way can colts be produced with sufficient bone and feeding quality to attain the size and finish demanded by the markets. Even then the youngster must be supplied with the best of feed in large amounts from the very first. Plenty of good pasture, clover hay, oats, and corn are imperative, and there is no better feed for young horses than green corn cut from the field and fed whole. Only the best blood should be used and then every effort must be made to keep the horse gaining from the first if he is to top the market.

All this is much like growing beef, and these are the horses to produce on the farms. They can be produced nowhere else to advantage and, when it is remembered that the draft horse is really the highest priced standard horse in the market, it is easy enough to see what horse the farmer should raise. He not only sells for more average money, but if bred with the same care there are fewer culls, and no training is required beyond light common work to familiarize him with the harness and with drawing. The disposition of the draft horse is so docile and his ancestors have labored so long that he works almost by instinct, and he requires no special training to go upon the markets.

CLASS 5. THE AMERICAN TROTTER.

This must be a Standard Bred registered horse with a record of not less than 2:18. His training must be gilt-edged from the racing standpoint and the price is from \$200 up.

No other class of horses has so many culls, nor such worthless ones as this, and it is a class to be bred and handled by the professional horseman and not the farmer.

MISCELLANEOUS HORSES.

Aside from these standard classes there are fine horses, police horses, etc., each with somewhat distinct requirements. The demand being limited, it is always easily satisfied from the general supply, and, because limited, offers no inducement to the horse producer who can not afford to breed for a class so limited in number. The saddler is an exception to the above, but the production of saddle horses is a special line of horse production and not of interest to the general farmer. The cavalry and the artillery horse are often called for in large numbers, but the demand is irregular, and, except in rare cases, is fully satisfied from the general stock on hand.

SUMMARY.

Market classes and types are fixed not by the breeds, but by the uses to which horses are put.

As these uses are definite, the type and the class are fixed.

As these uses are exceedingly varied, there are often wide gaps between the market classes.

A horse that drops between the classes is a cheap horse, no matter how good an animal, either because there is little use for him or because the supply is unlimited.

The best horse to breed is one that most fully meets a definite, constant, and strong demand, and has therefore a high average selling price.

The cavalry horse and the fire horse are good examples of valuable horses that the breeder can not undertake to produce because the demand is too limited. The demand for them will always be satisfied from the general supply.

Phenomenally high prices are as much due to the fancy of the individual purchaser as to the character of the animal. In any event they are seldom realized and are to be sought by the dealer and not by the breeder, as they represent but one out of hundreds or even thousands—too few to breed for.

The farmer should keep himself acquainted with standard classes in steady demand at uniformly good prices, breed these, and pay no regard to high speed, phenomenal sales, or fancy values.

Wheat Growing in America.

An old miller of the northwest, one esteemed and honored in the trade, and moreover, an eminently successful one, recently predicted the humbling of the pride not only of the milling centers but of the whole milling industry of the country. He says that wheat-raising in the United States has about reached its zenith, and that its decline will speedily begin. He argues that wheat-raising is an industry of new countries and that other and more profitable crops will take the place of wheat here. He believes that

the younger generation of to-day will live to see wheat-raising reduced to an amount only just sufficient for home consumption, and that this country will cease to be an exporter of both wheat and flour. Furthermore, the miller sees a large percentage of the great mills of to-day turned into factories for the manufacture of other products.

It is true that wheat-growing, of a certain kind, is an industry of new countries, for wheat can be raised with little labor and less thought on the part of the farmers, if they may be called farmers. Still, England continues to raise some wheat, and the land produces 40 bushels per acre where 20 would be regarded as a satisfactory yield in this country. It is also true that more profitable crops than wheat are replacing the latter in many of the older states, while diversified farming is cutting up the great wheat fields of the northwest; yet here a factor steps in which is likely to stay any reduction in the average wheat yield of the country for many years to come, if, indeed, it does not increase. This is, besides more careful farming and the fertilization of the soil, the breeding of more productive varieties of wheat, which work has already been described in this journal. Thus, although the area sown to wheat may be cut down very materially, the total yield will not necessarily be reduced. Wheat growing appeals to the farmer, and if, by a little thought and the adoption of better seed he can raise as much on half his land as he now grows on all of it, he will continue to give up a fair acreage to the crop that requires no attention from the planting thereof to the harvesting. Then, too, there are yet vast tracts of land in our great West which, when reclaimed from the desert by irrigation, will largely be sown to wheat.—North-western Miller.

Kansas Fruit Prospects.—Promise is for Full Crops of Everything from Strawberries to Apples.

Secretary Barnes of the State Horticultural Society, has just issued his first fruit crop bulletin for the season. The prospects are bright for a big crop.

Forty-seven counties have sent 58 reports as follows:

Apples—Forty-two report a full crop; 4 a seven-eighths crop; 8 a three-fourths crop; 1 a one-half crop.

Pears—Thirty-nine report a full crop; 3 a seven-eighths crop; 3 a three-fourths crop; 6 a one-half crop; 1 a one-fourth crop; 1 a one-tenth crop.

Peaches—Forty report a full crop; 3 a seven-eighths crop; 6 a three-fourths crop; 3 a half crop; 3 a one-fourth crop.

Plums—Forty report a full crop; 4 a seven-eighths crop; 6 a three-fourths crop; 1 a one-half crop.

Cherries—Fifty-two report a full crop; 4 a seven-eighths crop; 1 a three-fourths crop; 1 a one-fourth crop.

Apricots—Forty-eight report a full crop; 3 a seven-eighths crop; 5 a three-fourths crop; 10 a one-half crop; 6 a one-fourth crop; 3 a one-tenth crop.

Mulberries—Forty-five report a full crop; 2 a seven-eighths crop; 1 a one-half crop.

Grapes—Thirty-six report a full crop; 4 a seven-eighths crop; 6 a three-fourths crop.

Berries—Thirty-eight report a full crop; 4 a seven-eighths crop; 5 a three-fourths crop; one a one-half crop.

It is rather early to estimate the grape crop, especially in exposed locations. Strawberries and blackberries are reported as promising extraordinary returns. Raspberries are somewhat doubtful of more than one-fourth of a crop. Tree planting seems to have been vigorously prosecuted all over the state this spring, and the desire for more horticultural knowledge and for the organization of local horticultural societies is very great.

Prickly Ash Bitters cures the kidneys, regulates the liver, tones up the stomach and purifies the bowels.

Excursions to St. Paul.

Via the Sioux City Route (North-western Line), American Medical Association May 28-30 and 31, June 2-3; Biennial Meeting Modern Woodmen, June 8-9 and 10. Tickets for these meetings will be sold to St. Paul on above dates at one fare plus two dollars for the round trip. Perfect track and modern equipment make the Sioux City Route the best line between Kansas City and St. Paul. Write for a copy of "Outing," a new descriptive folder of the hunting and fishing resorts of Iowa, Minnesota, Wisconsin, and Michigan. J. R. Buchanan, Genl. Pass. Agt., Omaha. A. L. Fisher, T. P. A., 823 Main St., Kansas City.

Subscribe for the Kansas Farmer.

Horses Sell at Big Prices.

The press dispatches from New York, May 4, 1901, tell of the big prices realized at the American horse exchange...

Though the animals sold were a superb lot, the sums paid for them were beyond expectations, wealthy horse fanciers bidding for the stars of the collection...

Daniel G. Reed, president, and W. B. Leeds, vice president, of the American Tinsmith Company, and Dr. J. E. Reyder were among the principal buyers...

To Breeders of Galloway Cattle.

Frank B. Hearne, secretary American Breeders' Association, Independence, Mo., is sending out the following communication to breeders of Galloway cattle...

Volume XI of the Herd Book will be ready for delivery about May 15. The price of the book will be \$1 to non-members...

The executive committee would like to have your opinion as to the advisability of holding a combination sale of 50 or 60 head of Galloways at the coming show...

Have you any steers, either a carload or a few, that you can and will fit for the shows this fall? We want to have a record-breaking show of steers...

Entries and transfers are now being received for Vol. XII. Send in your entries and transfers promptly.

Top-Notcher Shorthorns in Illinois.

The sale of Shorthorn cattle held at Springfield, Ill., May 3, 1901, by M. E. Jones & Co., of Williamsville, and S. E. Prather & Son, of Springfield...

Imported Sybella, \$1,025, sold to T. J. Wornall, of Liberty, Mo.

Imported Scottish Signet (bull calf 11 months old), sold to John Wilson, of Danvers, Ill., \$1,315.

Fox Glove 4th (cow), sold to Mrs. Jerome Leland, of Springfield, for \$1,205.

Shortly after the close of the sale, a telegram was received from G. W. Brown, of Indianola, Iowa...

Gossip About Stock.

Our old advertiser, Andrew Pringle, of Harveyville, has now a rural delivery route so that his present address is R. D. No. 2, Eskridge, Kans.

What worries the horse or the cow more than flies, a difficulty which may be overcome by the use of "Shoo-Fly." It is kept on sale by the Swift & Holliday Drug Co., Topeka. Ask them about it.

R. F. Meek, Hutchinson, Kans., who ran a small poultry card in the Kansas Farmer during the past few weeks, writes: "I must say what money I have spent with you has been a paying investment."

Thomas Babst, of Dover, Kans., has made a slight change in his firm and address; hereafter it will be T. P. Babst & Son, Auburn, R. D., Kans.

McLaughlin Bros., importers of French Coach and Percheron stallions, Columbus, Ohio, have sent a very choice lot of stallions to Lawrence, Kans., in order to be nearer their best Kansas trade...

Among recent purchases made by T. F. B. Sotham is 5 bulls and 10 females from Messrs. Hartman Bros., Gallatin, Mo., and 7 bulls from Jno. G. Thomas, Harris Mc. Mr. Sotham has recently added to his acreage at Weavergrace...

W. P. Harned, Vermont, Mo., proprietor of the Idlewild herd of Shorthorn cattle, in making a change in his advertisement, makes this significant statement: "I claim Godoy is the greatest living American sire..."

Champion of England by using a son of Godoy. This chance can not last long as Godoy is getting old. His blood tells."

Consult the Moore Chemical & Mfg. Co., Dept. J., 1501 Genesee St., Kansas City, if your stock is troubled with mange, vermin or the swine plague...

The veteran Angus breeder, Mr. J. P. Visserring, of Melville, Ill., is in receipt of the following letter from J. C. Cave, of Edna, Kans., under date of April 20: "The Aberdeen-Angus bull, Captain, arrived here O. K. He is fully as good as represented..."

Mr. Peter Jansen, the noted sheep feeder of Nebraska, advises the feeders of Nebraska and Kansas to confine themselves to the feeding of older sheep and leaving the handling of lambs to the Colorado men...

The two days' Aberdeen-Angus cattle sale on April 29 and 30, held at the Kansas City Stock Yard's Sale Pavilion, was quite a satisfactory closing event of the spring sales...

The Kansas Farmer is in receipt of the following from Mrs. C. E. Anderson, proprietor of the Riverside Stock and Poultry Farm, Salina, Kans.: "Thanks to the good advertising qualities of the Kansas Farmer..."

The top price in the dispersion sale of the Hunt herd of Holstein-Friesians at Syracuse, N. Y., was \$500, for Lady Netherland Paladn and her calf, H. D. Crossman being the purchaser...

Judge H. B. Watts, a Hereford breeder of Fayette, Mo., has a pure-bred Hereford cow whose record as a prolific breeder is probably unequalled...

Protector, a 4-year-old Hereford bull that is reported to be the best bull exported from England in recent years, has recently been purchased by Mr. F. A. Nave, of Attica, Ind., for the record price...

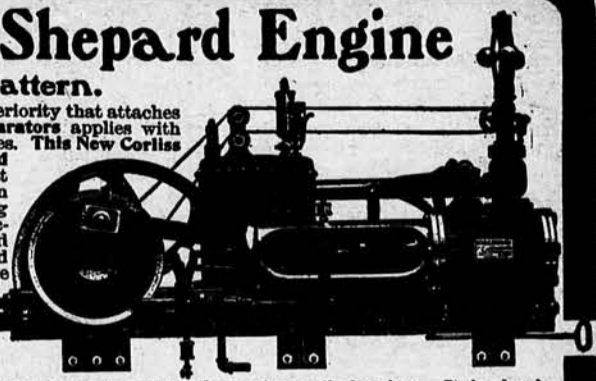
Mr. T. F. B. Sotham, of the Weavergrace Breeding Establishment, Chillicothe, Mo., reports the following recent sales: To the Chouteau Land & Lumber Co., of S. E. Missouri, 234 high grade Hereford steers...

The Kansas City live stock market received, during the month of April, 6,573 horses and mules, of which Kansas furnished the major part, 2,878 head coming in from that state...

Nichols-Shepard Engine

Corliss Pattern.

The same well known superiority that attaches to Nichols-Shepard Separators applies with equal force to their Engines. This New Corliss Pattern Nichols-Shepard Engine is the very best thing of its kind for use on Traction and Threshing Engines...



Write and learn why it will pay to buy and use Nichols-Shepard Threshing Machinery.

Nichols & Shepard Co., Battle Creek, Mich.

Kansas City, Mo. Minneapolis, Minn. Bloomington, Ill.

Des Moines, Iowa. Milwaukee, Wis. Nashville, Tenn. Lincoln, Neb.

Indianapolis, Ind. Mansfield, Ohio. Fargo, N. D.

of from 100 to 150 head each, and Texas comes in for a diminution of 101 head, almost as many as she shipped in all told in April of last year...

Readers of this week's Kansas Farmer will notice the announcement on another page of the Shorthorn sale to be held at Maryville, Mo., on Wednesday, May 22, 1901, by Alex. John & Son, and O. M. Healy...

fine pictures which illustrate it, is devoted to the human life of the region. The people of New England and the North who are pouring into these southern mountains in large numbers every year will welcome this full account of them.

Paid Costs.

The agriculturist from Redford settled, and he has been mad about it ever since.

"Of course I knewed that ole patryark of the flock was cross-grained and liable to start trouble without no warnin'...

"Now this feller came along with a pack on his back. I'll bet that pack weighed more'n me and him put together...

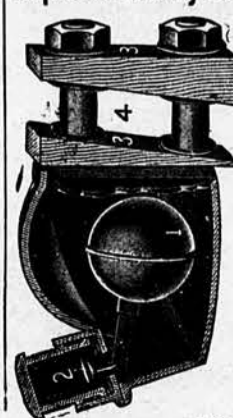
"I never knewed a critter could look so insulted. He throwed his head back, and he had the finest pair o' horns ever growed on a sheep...

"I fell offen the fence laughin' to see the wreck and the peddler squarin' off to fight the buck. I rushed atween 'em and kicked the sheep inter the ditch...

"I wasn't no ways to blame, but when the peddler kim out the next day with one of these here bluffin' lawyers I squared 'em...

Remember our blocks of two offer.

VALVE CHAMBER OF Improved Dewey Double Stock Waterer



(Sectional View.)

The valve is governed by a Water Closet Brass float, which cannot rust, leak, freeze, or allow mud to collect beneath...

"THE IMPROVED DEWEY", not "DEWEY",

or others that will give trouble. Call on your dealer, or address

THE B-B MFG CO., DAVENPORT, IOWA.

Publishers' Paragraphs.

The Osgood Scale Co., Binghamton, N. Y., can make it an object to three or four good live men in every county to look after their interests...

There is much talk in the country at present of a great national park among the mountains southwest of Asheville, North Carolina, where North Carolina and Tennessee come together...

The Home Circle.

Questions.

Before I answer thee to-night,
Or link my fate with thine,
Before that gold ring sparkles bright
Upon this hand of mine,
Before I break all meander ties,
All slighter bonds for thee,
Look in thy heart with earnest eyes
And question it for me.

Is there one link that holds thee fast,
One shadow of regret,
One haunting memory of the Past
To bind thee to it yet?
And look within thine inmost soul
See if thy faith can be
As perfect and as deep and whole
As that I pledge to thee!

Have I in all thy dreams a part,
In all thy thoughts a share?
Is there a grief within thy heart
I may not with thee bear,
A hope I can not understand,
A need I can't fulfill?
Or are there chords some other hand
Could better wake or still?

Or canst thou even dimly dream
That future days might glide
O'er thee in bliss, cheered by love's beam,
And I not by thy side?
If thy love is so weak indeed,
Fear not to tell me so:
Let no false mercy with thee plead
To spare my heart the blow!

—M. R.

THE MAN OF THE WEEK.

Thomas Tusser.

(Died May 3, 1580.)

The early agricultural writers get scant credit for their work. Their ideas are worked over and over by diligent compilers, who may or may not know the original source of what they rehash for the readers of farm papers and the agricultural columns of other publications. Indeed, Thomas Tusser, although he wrote more than three hundred years ago, did not escape the charge of careless borrowing from other men's writings—a matter to which he quaintly refers in a later edition of his first book. He says:

"By practice and ill speeding,
These lessons had their breeding,
And not by hearsay or reading,
As some abroad have blown;
Who will not thus believe me,
So much the more they grieve me,
Because they grudge to give me,
What is of right my own."

One can not be very sure about dates when writing of Tusser himself. "He was born," says one authority, "about the year 1515;" another, with equal lack of confidence, says "about 1527." It is not even certain that the date of his death is known. Yet if we must be in doubt as to the time, we need not question the fact of his death; for the following epitaph is on record:

"Here, Thomas Tusser, clad in earth, doth lie,
That sometimes made the Points of Husbandry;
By him then learn thou may'st; here learn we must,
When all is done, we sleep and turn to dust;
And yet, through Christ, to heaven we hope to go;
Who reads his books, shall find his faith was so."

The reader will have guessed the truth: Tusser was a poet, and his agricultural works were written in rhyme. And therein lay the secret of his usefulness. Without much originality, he did a great deal of good for the farmers of England; for his rhymes became common property. People who could not read learned them by hearing others read or recite them; and thus Tusser's sayings became known from one end to the other of the tight little island. Those who learned his maxims were influenced by them. They became better farmers and better men and women. Above everything else, Tusser was a teacher of thrift:

"Where fish is scant, and fruit of trees,
Supply that want with butter and cheese,
Quoth Tusser."

And wherever the common people learned his maxims of prudence and frugality, they became more prosperous. Tusser's first book, *A Hundreth Good Pointes of Husbandrie*, had on its title-page this curious imprint: "Imprinted at London, in Flete street, within Temple barre, at the signe of the hand and starre, by Richard Totell, the third day of February, An. 1557. Cum privilegio ad imprimendum solum."

This work was reprinted many times during the life time of its author, and was several times revised and expanded. The best known of Tusser's books is *Five Hundred Good Points of Husbandry*. The following lines are from his first book—and they are not without a lesson for people of the Twentieth century:

"A hundred good points of husbandry
Maintaineth good household, with husbandry.
Housekeeping and husbandry, if it be good,
Must love one another like cousines in blood.
The wife, too, must husband as well as the man,

Or farewell thy husbandry do what thou can."

These lines suggest the practical wisdom of our poet:

"The housing of cattle while winter doth hold,
It is good for all such as are feeble and old;
It saveth much compass and many a sleep,
And spareth the pasture for walk of thy sheep."

Much of Tusser's agricultural wisdom is out of date, but many of his maxims of thrift are as fresh as ever—as the following:

"As bud, by appearing, betok'neth spring,
And leaf, by her falling, the contrary thing;
So youth bids us labor to get what we can,
For age is a burden to laboring man."

The Book of Husbandry was another of Tusser's early works. It has its "points" for women; these, for example, the first for breakfast:

"Let huswife be carver, let pottage be heat,
A mess to each one with a morsel of meat."

"By noon, see your dinner be ready and neat;
Let meat tarry servant, not servant his meat."

"Provide for thy tallow ere frost cometh in,
And make thine own candle, ere winter begin."

Thomas Fuller, author of *The History of the Worthies of England* (1662), is credited with saying that Tusser was "a musician, school-master, serving-man, grazier, poet; more skillful in all than thriving in any vocation. He spreads his bread with all sorts of butter, yet none would stick thereon." Of course, this implies that the teacher of thrift was himself thrifless. Yet long after the dead teacher had earned the name of always acting with ability, "yet never so as to benefit his fortune," and long after Fuller's day, it was discovered that Thomas Tusser disposed of a considerable amount of worldly goods by his will. He was much less thrifless than was supposed.

It is a human weakness to belittle the man who gives good advice and occasionally fails to live as worthily as he advises others to live. Yet this does not diminish the value of good precepts; it merely illustrates another human weakness.

The following couplets, being a part of the "Ladder to Thrift," as Tusser called the introduction to his *Five Hundred Points*, will be interesting to most readers:

"To take thy calling thankfully,
And shun the path to beggary.

"To grudge in youth no drudgery,
To come by knowledge perfectly.

"To count no travel slavery,
That brings in penny saverly.

"To follow profit earnestly,
But meddle not with pilferly.

"To get by honest practisy,
And keep thy gettings covertly.

"To lash not out too lashingly,
For fear of pinching penury.

"To get good plot to occupy,
And store and use it husbandly.

"These be the steps, unfelignedly,
To climb to thrift by husbandry."

An English writer of the early part of the Nineteenth century, speaking of Tusser's works, has said: "That they were popular is evidenced by the rapid succession of copious editions which fell to their lot; that they were read with delight is shown by the way in which he is commonly quoted by the farmers of all grades. If he had spoken in prose, as has been sometimes suggested, he might certainly have been more instructive to the few, but he would not have been read by the many." Denver, Colo. D. W. WORKING.

Taking It Easy.

Written for Kansas Farmer.

To many women, taking it easy seems to mean shiftlessness. To let the breakfast dishes wait fifteen minutes for the housekeeper to enjoy herself that time in the bright morning air seems a great waste of time to such. A few moments' rest on a couch after a hearty dinner is no more a waste of time than to lie down exhausted and with a headache at three o'clock when all the work has been hurried through. A man always takes a short nooning unless something very important is to be done, but many women rise from the table and with a sigh of resignation begin to clear away the dishes preparatory to washing them and sweeping and dusting and doing a hundred more things before there is a chance to rest. A short rest, taken when needed, will make the work go faster and smoother the remainder of the day.

A lady I know was wishing, not long ago, that she could have a place to lie down a few moments now and then—a place near at hand so that she would

do so more often at the time she needed it; but a new house had just been built, there had been numerous expenses that made money very scarce for the time and she felt she must wait before speaking to her husband about the needed lounge. A friend gave a suggestion, which, carried out, gave this housekeeper a comfortable couch at a small cost.

A set of springs for a single bed was purchased at a second hand store. To this four legs were fastened and casters attached, a half-hour's job for the husband. A large comfort which had been worn, but yet too good to discard, was folded the size of the springs and "tacked" together to be used for a mattress. For a couch cover blue denim with a narrow stripe running through it at intervals was purchased. A plain cover was made for the top and sides. To the bottom was added a ruffle, not very full but enough to relieve the plainness. A couple of comfortable pillows, covered with serviceable coverings completed this convenient piece of furniture. It found a place across the end of the dining room and is proving to be a good investment. When buying casters for any piece of furniture ask for the "ball bearing." They are very much better than the ordinary kind in that they turn without effort in the sockets and thus enable the piece of furniture to which they are attached to be moved in the desired direction with almost no effort.

Every paper and magazine is full of suggestions for the making of articles which will lighten the work of the housekeeper. Some are practical and some are not, while an article which is practical in one home would be worse than useless, in the way, in another home. The writer called yesterday on a lady who is very proud of her convenient kitchen. We were allowed to inspect it and study the interesting features. Our friend burns coal in her range and her coal box is one we think very practical indeed for the woman who uses this fuel in the kitchen. The box was home made and required very little time to perfect it. The range occupies a corner in the room, setting about two feet from the wall. The box was about 14 inches wide, 12 inches deep and 2½ feet long. A second bottom was put in which inclined at an angle of about fifteen degrees, and made it easy to shovel the coal. Casters made the box easily moved for sweeping, and its size made it possible for the husband to place in it sufficient coal to last through the day so that the women in the home had no such heavy work. At the upper end of the inclined bottom the board forming the end of the box had been cut away, making the coal in the upper end easily accessible. MARY WAUGH SMITH.

An Officious Censor.

Current Literature quotes, in its April number, an amusing account of the vagaries of a Russian press censor named Krassovsky, who, in the reign of Nicholas I., was the bugbear of poets. He not only blacked out all that he did not approve, but he often favored the poet with criticism. A poet named Olline wrote the following verses, and was rewarded with the following criticisms by the censor:

What bliss to live with thee, to call thee mine.

My love; thou pearl of all creation!
To catch upon thy lips a smile divine,
Or gaze at thee in rapturous adoration.

Censor—Rather strongly put. Woman is not worthy for her smile to be called divine.

Surrounded by a crowd of foes and spies,
When so-called friends would make us part,
Thou didst not listen to their slanderous lies

But thou didst understand the longings of my heart.

Censor—You ought to have stated the exact nature of these longings. It is no matter to be trifled with, sir; you are talking of your soul.

Let envy hurl her poisoned shafts at me,
Let hatred persecute and curse,
Sweet girl, one loving look from thee
Is worth the suffrage of the Universe.

Censor—Indeed?! You forget that the Universe contains Czar, Kings, and other legal authorities whose good will is well worth cultivating—I should think!

Come, let us fly to desert distant parts,
Far from the madding crowd to rest at last,
True happiness to find when our (two) hearts
Together beat forgetful of the past.

Censor—The thoughts here expressed are dangerous in the extreme, and ought to be disseminated, for they evidently mean that the poet declines to continue his service to the Czar, so as to be able to spend all his time with his beloved.

Milk Cans

should be washed with

GOLD DUST Washing Powder

it will save next day's
fresh milk from becoming
prematurely sour.



Look Out for Moths.

Written for Kansas Farmer.

The summer months will soon be here when the housekeeper will have to be on her guard against moths. The winter clothing should be brushed as clean as possible before being put away. Turn the coat pockets all inside out and see that every particle of dust and lint is removed. Purchase a dime's worth of Scotch snuff at the druggist's and use it by putting a small amount in each pocket and under collars or wherever it will stay. If clothes are put in boxes or trunk the snuff may be scattered over all parts of the garments. A number of patent moth exterminators are sold the odor of which it would seem would destroy anything; however, it has been stated by many housekeepers that moths not only enjoy the odor but that it also improves their health and acts as an appetizer. The snuff can be brushed off the garments very quickly and the odor leaves almost immediately. Where carpets are tacked down so as to cover the entire floor it is sometimes hard to keep the moths from eating it, especially around the edges. A simple method of destroying these is to fold a damp strip of muslin the width of a flat iron, lay the damp folded cloth along the edge of the carpet and slowly iron out with a very hot iron. The process should be repeated once a month. It takes but a few moments and is well worth the doing. MARY WAUGH SMITH.

The Other Side.

"I suppose your experience is that a good many tenants find it cheaper to keep moving than to pay rent?" remarked the inquisitive man.

"No doubt," replied the candid real estate agent, "and we frequently find it cheaper to keep them moving than to make the repairs they require."—Philadelphia Press.



Two Big Pains

seem to be the heritage of the
human family everywhere, viz:

Rheumatism and Neuralgia

but there is one sure and
prompt cure for both, viz:

St. Jacobs Oil

Mothers! Mothers!! Mothers!!!
MRS. WINSLOW'S SOOTHING SYRUP has been used for over FIFTY YEARS by MILLIONS OF MOTHERS for their CHILDREN, while TEETHING with PERFECT SUCCESS. IT SOOTHES the CHILD, SOFTENS the GUMS, ALLAYS all PAIN, CURES WIND COLIC, and is the best remedy for DIARRHOEA. Sold by druggists in every part of the world. Be sure and ask for "Mrs. Winslow's Soothing Syrup," and take no other kind. Twenty-five cents a bottle.

The Young Folks.

Let Something Good Be Said.

When over the fair fame of friend or foe
The shadow of disgrace shall fall, instead
Of words of blame, or proof of thus and so
Let something good be said.

Forget not that no fellow-being yet
May fall so low but love may lift his head;
Even the cheek of shame with tears is wet,
If something good be said.

No generous heart may vainly turn aside
In ways of sympathy; no soul so dead
But may awaken strong and glorified
If something good be said.

And so I charge ye: by the thorny crown,
And by the cross on which the Savior bled,
And by your own soul's hope of fair renown,
Let something good be said!
—James Whitcomb Riley.

The Struggle for Life.

The wet, chill first of the spring, its blackness made tender by the lilac wash of the afterglow, lay upon the high, open stretches of the stump lots. The winter-whitened stumps, the sparse patches of juniper and bay just budding, the rough-mossed hillocks, the harsh bowlders here and there upthrusting from the soil, the swampy hollows wherein a coarse grass began to show green, all seen anointed, as it were, to an ecstasy of peace by the chrism of that paradisaical color. Against the lucid immensity of the April sky the thin tops of five or six soaring rampikes aspired like violet flames. Along the skirts of the stump lots a fir wood reared a ragged crested wall of black against the red amber of the horizon.

THE MOTHER COW.

Late that afternoon, beside a juniper thicket not far from the center of the stump lots, a young black and white cow had given birth to her first calf. The little animal had been licked assiduously by the mother's caressing tongue till its color began to show of a rich dark red. Now it had struggled to its feet, and with its disproportionately long, thick legs braced wide apart was beginning to nurse. Its blunt, wet muzzle and thick lips tugged eagerly, but somewhat blunderingly as yet, at the unaccustomed teats; and its tail lifted, twitching with delight, as the first warm streams of mother milk went down its throat. It was a pathetically awkward unlovely little figure, not yet advanced to that youngling winsomeness which is the heritage, to some degree and at some period, of the infancy of all the kindreds that breathe upon the earth. But to the young mother's eyes it was the most beautiful of things. With her head twisted far around she nosed and licked its heaving flanks as it nursed, and between deep, ecstatic breathings she uttered in her throat low murmurs, unspeakably tender, of encouragement and caress. The delicate but pervading flood of sunset colored had the effect of blending the ruddy-hued calf into the tones of the landscape, but the cow's insistent blotches of black and white stood out sharply, refusing to harmonize. The drench of violet light was of no avail to soften their staring contrasts. They made her vividly conspicuous across the whole breadth of the stump lots to eyes that watched her from the forest coverts.

MOTHER BEAR.

The eyes that watched her—long, fixedly, hungrily—were small and red. They belonged to a lank she-bear, whose gaunt flanks and rusty coat proclaimed a season of famine in the wilderness. She could not see the calf, which was hidden by a hillock and some juniper scrub; but its presence was very legibly conveyed to her by the mother's solicitous watchfulness. After a motionless scrutiny from behind the screen of fir branches the lean bear stole noiselessly forth from the shadows into the great wash of violet light. Step by step and very slowly, with the patience that endures because confident of its object, she crept toward that oasis of mothering joy in the vast emptiness of the stump lots. Now crouching, now crawling, turning to this side and to that, taking advantage of every hollow, every thicket, every hillock, every aggressive stump her craft succeeded in eluding even the wild and menacing watchfulness of the young mother's eyes.

THE SCARCITY OF FOOD.

The spring had been a trying one for the lank she-bear. Her den, in a dry tract of hemlock wood some furlongs back from the stump lot, was a snug

little cave under the uprooted base of a lone pine, which had somehow grown up among the alien hemlocks only to draw down upon itself at last, by its superior height, the fury of a passing hurricane. The winter had contributed by scanty snowfall to cover the bear in her sleep, and the March thaws, unseasonably early and ardent, had called her forth to activity weeks too soon. Then frosts had come with belated severity, stealing away the budding tubers which are the bear's chief dependence for spring diet; and worst of all, a long stretch of intervale meadow by the neighboring river, which had once been rich in groundnuts, had been plowed up the previous spring and subjected to the producing of oats and corn. When she was feeling the pinch of meager rations, and when the fat, which a liberal autumn of blueberries had laid upon her ribs was getting as shrunken as the last snow in the thickets, she gave birth to two hairless and hungry little cubs. They were very blind and ridiculously small to be born of so big a mother; and having so much growth to make during the next few months, their appetites were immeasurable. They tumbled and squealed and tugged at their mother's teats, and grew astonishingly, and made huge haste to cover their bodies with fur of a soft and silken black. And all this vitality of theirs made a strenuous demand upon their mother's milk. There were no more bee-trees left in the neighborhood. The long wanderings which she was forced to take in her search for roots and tubers were in themselves a drain upon her nursing powers. At last, reluctant though she was to attract the hostile notice of the settlement, she found herself forced to hunt on the borders of the sheep pastures. Before all else in life was it important to her that these two tumbling little ones in the den should not go hungry. Their eyes were open now—small and dark and whimsical; their ears quaintly large and inquiring for their roguish little faces. Had she not been driven by the unkind season to so much hunting and foraging she would have passed nearly all her time rapturously in the den under the pine root, fondling those two soft miracles of her world.

With the killing of three lambs—at widely scattered points, so as to mislead retaliation—things grew a little easier for the harassed bear, and presently she grew bolder in tampering with the creatures under man's protection. With one swift, secret blow of her mighty paw she struck down a young ewe which had strayed within reach of her hiding place. Dragging her prey deep into the woods, she fared well upon it for some days, and was happy with her growing cubs. It was just when she had begun to feel the fasting which came upon the exhaustion of this store that, in a hungry hour, she sighted the conspicuous markings of the black and white cow.

NERVED BY HUNGER.

It is altogether unusual for the black bear of the eastern woods to attack any quarry so large as a cow unless under the spur of fierce hunger and rage. The she-bear was powerful beyond her fellows. She had the strongest possible incentive to bold hunting, and she had lately grown confident beyond her wont. Nevertheless, when she began her careful stalking of this big game which she coveted she had no definite intention of forcing a battle with the cow. She had observed that cows, accustomed to the protection of man, would at times leave their calves asleep and stray off some distance in their pasturing. She had even seen calves left all by themselves in a field from morning till night, and had wondered at such negligence in their mothers. Now she had a confident idea that sooner or later the calf would lie down to sleep and the young mother roam a little wide in search of the scant young grass. Very softly, very self-effacingly, she crept nearer step by step, following up the wind, till at last, undiscovered, she was crouching behind a thick patch of juniper, on the slope of a little hollow not ten paces distant from the cow and the calf.

By this time the tender violet light was fading to a grayness over hillock and hollow, and with the deepening of the twilight the faint breeze, which had been breathing from the northward, shifted suddenly and came in slow, warm pulsations out of the south. At the same time the calf, having nursed sufficiently, and feeling his baby legs tired of the weight they had not yet learned to carry, laid himself down. On this the cow shifted her position. She turned half round and lifted her head high. As she did so a scent of peril was borne in upon her fine nostrils.

She recognized it instantly. With a snort of anger she sniffed again; then stamped a challenge with her fore hoofs and leveled the lance-points of her horns toward the menace. The next moment her eyes, made keen by the fear of love, detected the black outline of the bear's head through the coarse screen of the juniper. Without a second's hesitation she flung up her tail, gave a short bellow and charged.

THE BATTLE.

The moment she saw herself detected the bear rose upon her hind-quarters; nevertheless she was in a measure surprised by the sudden blind fury of the attack. Nimbly she swerved to avoid it, adming at the same time a stroke with her mighty forearm, which, if it had found its mark, would have smashed her adversary's neck. But as she struck out in the act of shifting her position a depression of the ground threw her off her balance. The next instant one sharp horn caught her slantingly in the flank, tipping its way upward and inward, while the mad impact threw her upon her back.

Grappling, she had her assailant's head and shoulders in a trap, and her gigantic claws cut through the flesh and sinew like knives; but at the desperate disadvantage of her position she could inflict no disabling blow. The cow, on the other hand, though mutilated and streaming with blood, kept pounding with her whole massive weight, and with short tremendous shocks crushing the breath from her foe's ribs.

THE RETREAT.

Presently, wrenching herself free, the cow drew off for another battering charge, and as she did so the bear hurled herself violently down the slope and gained her feet behind a dense thicket of bay shrub. The cow, with one eye blinded and the other obscured by blood, glared around for her in vain, then, in a panic of mother terror, plunged back to her calf.

Snatching at the respite the bear crouched down, craving that invisibility which is the most faithful shield of the furtive kindred. Painfully, and leaving a drenched red trail behind her, she crept off from the disastrous neighborhood. Soon the deepening twilight sheltered her. But she could not make haste and she knew that death was close upon her.

DEATH.

Once within the woods she struggled straight toward the den that held her young. She hungered to die licking them. But destiny is as implacable as iron to the wilderness people, and even this was denied her. Just a half score of paces from the lair in the pine root her hour descended upon her. There was a sudden redder and fuller gush upon her trail; the last light of longing faded out of her eyes, and she lay down upon her side.

The merry little cubs within the den were beginning to expect her, and getting restless. As the night wore on and no mother came, they ceased to be merry. By morning they were shivering with hunger and desolate fear. But the doom of the ancient wood was less harsh than its wont, and spared them some days of starving anguish, for about noon a pair of foxes discovered the dead mother, astutely estimated the situation and then, with the boldness of good appetite, made their way into the unguarded den.

As for the red calf, its fortune was ordinary. Its mother, for all her wounds, was able to nurse and cherish it through the night, and with morning came a searcher from the farm and took it, with the bleeding mother, safely back to the settlement. There it was tended and fattened, and within a few weeks found its way to the cool marble slabs of a city market.—Leslie's Monthly.

Household Word.

"Your name is a household word, Senator." This was the remark made in Chicago to Hon. Jonathan P. Dolliver, the new United States Senator from Iowa, during the recent presidential campaign, when a Republican committeeman, anxious to secure him for a speech, assured him that no man was better known or understood in the city by the lake than the gentleman from Iowa. "Why, sir, no man is better loved by our people or more highly re-



garded than you," said the committeeman, rising in enthusiasm.

"If that is the case, replied the senator, "I shall have to grant your request and speak again in Chicago."

"I shall have to advertise you," suggested the committeeman. "Of course I know your name—but, to be sure, I want to ask you. I suppose Joseph T. Dolliver is right?"

"And my name is a household word in Chicago!" responded the Senator.

"Yes, sir!"

"And my Christian name is Joseph?"

"My mistake, Senator. I might have known better. It's John A. Dolliver."

"What!" exclaimed the Senator, "and my name is a household word in Chicago?"

"Oh, well," spoke up the committeeman blandly, it's my mistake again. What is your Christian name, anyhow, Senator?"

"It's Jonathan, sir, and my name is a household word in Chicago!"

"My mistake entirely," apologized the committeeman. "You know I am forgetful at times. I believe you spell your name D-o-l-l-i-v-e-r?"

"Hold on! hold on!" shouted the Senator. "And my name is a household word in Chicago! Well! well! who'd 'a' thought it! I spell my name D-o-l-l-i-v-e-r."

"Of course, of course," soothingly chimed the committeeman. "Of course nobody knew that better than myself. You are ex-senator, I believe?"

It was then that Senator Dolliver wilted, and whispered sadly: "And my name is a household word in Chicago!" —Saturday Evening Post.

Chicago Tribune: "Sorry to trouble you madam, but your husband fell from a fourth-story window he was cleaning to-day, and—"

"O, my poor husband!"

"Your husband is all right, madam, but he fell so blamed awkwardly that he broke my awning all to pieces, and got away before I could see him. Here's the bill for damages, and you tell him that if he wants to save trouble he'd better settle it right away."

Trapped.

"Females seem to be the same the world over," remarked Bruin, glancing up from the fragment of paper he had been reading. "Here's an account of a woman being badly crushed at a spring opening."

"Yes?" replied the fox, languidly.

"Yes. A spring opening was the death of my first wife. She put her foot in it, and it closed on her."—Philadelphia Press.

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

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the City of Toledo, county and state aforesaid, and that said firm will pay the sum of One Hundred Dollars for each and every case of Catarrh that can not be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.
Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1888.

(Seal.) A. W. GLEASON,
Notary Public.
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Large School. Reasonable Rates. Good Positions. Catalogue Free. Address L. N. Strickler, Topeka, Kans.

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J. B. McAfee.....Vice-President
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SUBSCRIPTION PRICE: \$1.00 A YEAR.

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116 West Sixth Ave., Topeka, Kans.

NOTICE EXTRAORDINARY. BLOCKS OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, and no single subscription will be entered for less than this price, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

The summer meeting of the Missouri State Horticultural Society will be held at New Haven, Mo., June 4, 5, and 6, 1901.

The total production of all grains in the United States averages about 3½ billion bushels per year. Of this, over 2 billion bushels is corn.

The average yield of corn in the United States is not far from 25 bushels an acre. The average yield of wheat is about 13¼ bushels an acre.

The world's annual production of corn amounts to about 2¼ billion bushels. The United States produces over 2 billion bushels. Europe produces less than ½ billion bushels. Mexico averages less than 100 million bushels.

The success of the British in catching the Boer general, DeWet, in South Africa, is much like that of the proverbial Irishman with the flea. Just when he was about to catch him he wasn't there.

An interesting Kansas industry is that of the Great Western Plaster Company, at Blue Rapids. The manager reports, that this company is now getting out, and shipping, 60 tons a day of the "purest and best plaster this side of Nova Scotia." The Nova Scotia article is met in competition at New Orleans, Mobile, and other Gulf cities.

Secretary Thomas, of the American Hereford Breeders' Association, writes that, at a recent meeting of the committee that will have in charge the series of Hereford shows and sales of this fall, a ruling was made that is of considerable interest to prospective exhibitors. During the past shows it was permissible for a large breeder to show as many entries in a single class as he desired and had cattle eligible. By the recent ruling this will not be permissible this fall, as each breeder will not be allowed more than one entry in each class. This will put the breeder with a few head on an equality with the larger

breeder, as each can show only his best animal and can win but one prize in each class. It will also tend to distribute the prize money more generally among the various exhibitors, and prevent any two or three men from securing the major portion. Under this favorable circumstance it is hoped that many of the Hereford breeders, who have not been in the habit of showing, will make exhibits this fall.

ABOUT SILOS.

EDITOR KANSAS FARMER:—I wish to build a large silo and a good one as cheap as I possibly can. I have plenty of sandstone and a hillside to build in, so thought I would build after this plan: Lay off a space 30 by 60 feet and excavate 12 feet deep, then wall up 18 feet and fill around this wall with the dirt taken from this excavation. Lay the wall dry, i. e., without mortar; then put on a good shingle roof and drain the silo with pipes. Have a dirt floor and put partition in the center so that I may fill one end at a time so that it may not sour while filling. Will make round corners so that the ensilage will settle in them. Please have some expert tell me if this will be all right, if not, how to make a good silo with a little money, with the rock end on the hillside. A SUBSCRIBER.

Pittsburg, Kans.

The best advice that can be given to our correspondent in a few words is to procure Prof. F. W. Woll's "Book on Silage." It may be had, in paper cover, for 25 cents, through this office, and contains 234 pages of good sense on the subject.

The well-built stone silo is doubtless the most durable, though probably not the cheapest as to first cost, even where the builder has plenty of stone on the farm. The silo of which the walls should be laid up "dry" would be worse than useless. Preserving green feed in silo is like preserving fresh fruit by canning. It is therefore necessary that the silo be air-tight. True there is considerable air retained among the materials with which the silo is filled. This promotes a certain amount of fermentation. This fermentation contains the oxygen of the air with some of the constituents of the silage, but as soon as the supply of oxygen is exhausted the process ceases and can not be renewed, except by the aid of fresh supplies of air. The first fermentation heats the silage, but if the silo is air-tight it gradually cools and the slight fermentation does not seriously impair the palatability, or the value of the feed.

The interior of the silo must be smooth, for rough walls provide reservoirs for considerable quantities of air, as well as spaces through which air may creep along between the silage and the wall. The walls must be perpendicular so that the silage may settle easily and uniformly.

The walls must be rigid. When silage heats and settles as it all does it exerts tremendous pressure. Doubtless a good stone wall 18 inches thick, laid in a circle, with good cement mortar will be strong enough, but such a wall costs a good deal of money. Then it should be plastered with strong cement mortar.

Our correspondent will readily see from the above that his plan of putting in a board partition will not do unless the partition shall be very strong and air-tight.

Experienced users of the silo always advise that it shall be very deep. Less than 20 feet is scarcely thought of. In a good silo, properly filled, the waste is all at the top. The percentage of waste is therefore less the deeper the silo. The usual range of depths is from 20 feet to 32 feet.

A silo of the size proposed by the correspondent would hold a very large amount of feed. About 40 pounds of silage per day per cow is the limit of its profitable use. Forty pounds of silage will occupy a space of 1 cubic foot. Therefore reckon upon 1 cubic foot per head per day and you will be able to proportion the silo to the herd.

Doubtless the cheapest silos are those known as "stave" silos. They are made of cypress or other durable timber much after the manner of the huge water tanks. We copy from Prof. Woll's book, page 81, the following:

Specifications for a 100-Ton Stave Silo.
MASONRY.

Excavate the entire area to be occupied by the silo to a depth of six inches; excavate for foundation wall to a depth of 16 inches; in this trench build wall 18 inches wide and 20 inches high, of field stone laid in rich lime mortar. Level off top and plaster inside, outside and on top with cement mortar, 1 part cement to 1 part sand. Fill inside area with four inches of

good gravel, thoroughly tamped down; after the woodwork is in place coat this with 1 inch of cement mortar, 1 part cement to 1 part clean sand. Cement shall be smoothly finished, dished well to the center and brought up at least 2 inches all around inside and outside walls.

CARPENTRY.

All staves shall be 26 feet long in two pieces, breaking joints, and made from clear, straight-grained cypress 2 by 6 inches, beveled on edges to an outside radius of 8 feet, mill-sized to the exact dimensions and dressed on all sides. There shall be three doors in the fifth, eighth and tenth spaces between hoops, made by cutting out from staves 28 inches long cut to a 45 degree bevel sloping to the inside. The staves shall then be fastened together with two 2 by 4 inch battens cut on inside to an 8-foot radius and bolted to each stave with two ¼-inch diameter carriage bolts with round head sunk on inside and nut on outside. The staves between the doors shall be fastened together, top and bottom, with ¾-inch diameter hardwood dowel pins, and abutting ends of staves shall be squared and toe-nailed together.

Bottom Plates.—Bottom plates shall be made of 2 by 4 inch pieces about 2 feet long, cut to a curve of 7 feet 10 inches radius outside. They shall be bedded in cement mortar and the staves shall then be set on the foundation and well spiked to these plates.

Hoops.—Hoops shall be made from two pieces of ½-inch diameter round iron with upper ends, threaded 8 inches, with nut and washer at each end; as a support for the hoops a piece of 4 by 6 inch shall be substituted for a stave on opposite sides and holes bored in it and the ends of hoops passed through these holes and tightened against the sides of the 4 by 6 inch. The hoops shall be 12 in number starting at the bottom 6 inches apart and increasing in distance 6 inches between each hoop until a space of 3 feet 6 inches is reached; from this point up this distance shall be preserved as near as possible to the top.

Roof.—Roof shall be made to a half-pitch of 6 inches clear siding lapping joint, nailed to 2 by 4 inch rafters, 2 feet centers, 1-foot by 4-inch ridge, and 2 by 4 inch plates. These plates to be supported by two 4 by 4 inch pieces resting on top of hoops. Three 1 by 4 inch collar beams shall be spiked to end and middle rafters to tie side of roof together.

PAINTING.

The entire outside of the silo, including roof, shall be painted two coats of good mineral paint; the entire inside surface of staves and doors shall be thoroughly coated with hot coal tar.

Note.—Before filling silo, tar paper should be tacked tightly over doors and the entire inside of silo examined and all cracks tightly caulked.

KANSAS COLLEGE MEN ABROAD.

The committee of Kansas Agricultural College regents who have been making a study of live stock and kindred matters in other states and at other institutions, with a view to the most judicious use of appropriations by the last legislature, has returned, after looking at stock and at the agricultural colleges in Indiana, Illinois, Wisconsin, Minnesota, and Iowa.

F. D. Coburn, vice president of the board of regents, who was one of the committee, says they met with a most cordial reception everywhere, and none but praiseful expressions about Kansas were heard. Old-time misapprehension of the state and her people seems to be rapidly disappearing, and a proper recognition of what Kansas really is and what she has and does, is readily granted by all the well informed.

"At other institutions," says Mr. Coburn, "they know much of our agricultural college, and invariably concede that no other school in the country has such opportunities for development and usefulness, if held by its board of control in line with the purposes for which agricultural colleges were endowed, and not allowed to drift into merely literary and academic lines, using agriculture as only a title with which to secure appropriations of public funds.

"All the strong men met by the committee in different states recognized that Kansas is inevitably to stand at the fore in agricultural and live stock lines, and insisted that the college at Manhattan, having no entangling or hampering connections with any university or other similar institutions, as those in some other states have, should be made preëminently strong in all that most directly pertains to agriculture and animal husbandry.

"Although each one of the institutions

visited excels the Kansas college in some one or more particulars, none of them do so in all respects, even where two or three times as much money has been expended on them, and none come up to ours in point of attendance. All, however, are ahead of Kansas' agricultural college in the matter of live stock breeding, judging, an experimentation, and seed breeding, features to which Kansas should from the very nature of her conditions give a large measure of attention.

"The other institutions have many thousands of dollars invested in all the better breeds of live stock, including the finest specimens of beef and dairy cattle, draft and driving horses, sheep and swine, besides devoting large sums to dairying and its advanced development—almost regardless of cost."

As to the purchase of needed live stock, Secretary Coburn is of the opinion that Kansas breeders can supply the most, if not all, that is needed, of as high quality as can be found anywhere, and to such extent as his vote can influence the selection, the first preference will in each instance, advantages in price being at all equal, be given to animals from herds belonging to Kansas breeders. He has no doubt of the same views being entertained by his colleagues on the board of regents.

The members of the committee were, J. S. McDowell, president of the board; F. D. Coburn; E. R. Nichols, president of the college, and H. M. Cottrell, professor of agriculture. Their trip will undoubtedly prove of great value to the college, and to the state as well.

HEREFORD vs. SCRUB.

There is no argument more convincing than one whose premises are supported by dollars and cents, and the following account of an experiment at the Iowa Agricultural College clearly demonstrates the difference in cash returns that may be expected from feeding an animal of improved beef type, such as the Hereford, and in feeding a scrub. While in this incident the two extremes, perhaps, are used, the result is not an unusual one.

"A Hereford steer made a gain of 2.03 pounds per day under feed, and was sold at 24 months, weighing 1,624 pounds. A high-grade Jersey steer fed under like conditions was sold at 33 months, weighing 1,300 pounds, and for the nine months fed made a gain of 2 pounds per day. The amount of feed given each of the animals was practically the same, and the feed-lot results were practically equal. The gain in weight depends solely on digestion, and the digestion of the unimproved steer or scrub may be just as good or even better than the digestion of the highly improved beef breeds. There is no reason that the latter should give greater returns for the feed. But when these steers were marketed there was a great difference. The comparison was by altogether a different standard. The Jersey sold at \$2.12½ below the top of the market and the Hereford for 10 cents above, making a difference of \$2.22½ per hundred pounds. In the sale of the two types the Hereford netted 67½ per cent of beef and the Jersey 57½ per cent, the beef type having 10 per cent more beef. When the carcasses were hung up that of the Jersey weighed 763 pounds, with 194 pounds of internal tallow and 55 pounds of suet, while the Hereford carcass weighed 888, with 95 pounds of internal tallow and 38 pounds of suet, the per cents of these, as compared with the carcass, being respectively 32.1 and 15, the proportion of tallow and suet in the Jersey being more than twice as much as in the Hereford. A great point was in the gain of the choice cuts in the beef type—the power of these animals to make the kind of product the market demands—instead of the Jersey putting the gain in tallow while there was not enough flesh on the back to decently cover the bones. The market returns from the Hereford carcass were 49 per cent more than from the Jersey carcass. The tallow price was 4 cents while that of the high-priced cuts was 19 cents."

STATE GRAIN GROWERS' MEETING.

The grain growers of the State of Kansas will meet at Salina on Thursday, May 16, 1901. There is every prospect of a large and representative attendance. Some counties have elected as high as eleven delegates from the different local organizations.

This meeting is intended purely as a business affair, with no politics in it. It is a movement of farmers who are getting in line with other industries that are well organized.

The railroads have made a one-fare rate for the round trip from Kansas City and all points in Kansas. Tickets

are good going from May 13 to 16 and good to return until May 18.

Mr. Jas. Butler, of Topeka, the secretary, has spent several months assisting in the work of organization. It was through his efforts that the legislature became interested in the grain growers' cause, and by his efforts alone, he has united the sentiment which resulted in this convention being called.

THE STATUS OF THE NEW POSSESSIONS.

The Supreme Court of the United States has had under consideration for several months a case involving the application of the constitution to the islands and territories recently acquired by the United States. There has been considerable difference of opinion as to whether the limitations placed by the constitution upon the legislative power of Congress, and upon the executive power of the president, were applicable alone to the territory bounded by the Atlantic on the east and the Pacific on the west, by the British possessions on the north and the Republic of Mexico on the south, or were likewise applicable to Porto Rico and the Philippines. The case before the Supreme Court was brought to test the power of Congress to levy import duties against products of Porto Rico. It is expected, or at least hoped, that the court's consideration of the question will be broad enough to fully settle the status of the new possessions.

Until a few days ago no intimation as to the court's views of the case have been made, but now a report comes from Washington that the court will hold that "the constitution follows the flag," that wherever the authority of the United States extends, there the authority of the constitution extends to regulate the exercise of its powers. A strong indication of the court's views is cited. Under the rules of the Supreme Court an attorney not a citizen of the United States may not be admitted to practice before that court. But the court has admitted to practice the commissioner from Porto Rico. Therefore, the commissioner from Porto Rico, a citizen of that island, must be a citizen of the United States. If he is a citizen then all Porto Ricans are citizens.

It is not intended at this time to enter into a discussion of all, or of many of the consequences of such a definition of the status of the islands. To the Porto Ricans it must be a most welcome decision. It opens to their products the markets of the United States, duty free. Porto Rico is a tropical country. Many of the products of tropical countries have to pay heavily to get into our markets. The products of Porto Rico are not sufficient to supply the American demand, so that the tariff will operate as a protection to Porto Rican products against competition from other tropical countries. Porto Ricans who have been migrating to Hawaii and those who have been seeking any means of escape from the depression which has rested upon the West Indian island will upon looking back probably find Porto Rico the most prosperous tropical country in the Western Hemisphere. Its prosperity will be largely that of agriculture.

This agricultural prosperity will not affect injuriously the interests of the producers of staple food stuffs in the United States. Instead, the prosperity of Porto Rican sugar and coffee planters will enable them to buy and pay for more bread and meats than they have heretofore consumed. This market may never become a large one but it is one added to the sources from which the western farmer may buy untaxed supplies of tropical products and exchange for them without artificial restriction the things he has to sell.

The opinion is freely expressed that the decision will apply also to the Philippines. When the advantages of such relations with the United States become fully realized in the Philippines there will be no resistance to the authority of this country. There is no incentive to human action so strong as that of self interest. The prosperity which will come to the Filipino through unobstructed commerce with the United States will be a more potent inducement to patriotism and peace than all the armies that could be sent to the island.

The relations of Cuba to the United States were defined by act of Congress at the breaking out of the war with Spain. We disavowed all intention of acquiring territory in that island. We are, however, maintaining order in Cuba and protecting her against outside interference by military power. What if, after seeing the material advantages that will flow to Porto Rico from incorporation in the Union, Cuba shall formally and of her own free will apply for admission? How many changes of administration would occur in this country

before a star would be added to the flag to represent the State of Cuba?

With so much tropical country added the domestic supply of tropical products should eventually equal the demand for them, and the added unobstructed market for staple food products, together with the increased home demand for these staples, should improve the position of the food producing farmer to an extent equal to that in which it was injured by the sudden development of the region from the Dakotas to Kansas during the 70's and 80's.

It is said that the formal decision of the Supreme Court is temporarily withheld because the changes it will bring about will make necessary a session of Congress as soon as the decision is rendered.

IN OKLAHOMA.

Seven years ago the writer made a short trip into Oklahoma. The country was then new and comparatively untried. A similar trip made last week over the Santa Fe Route was like an excursion into the land bountiful. The settler's sod-house has given way to the farmer's residence; the little patch of "breaking" around the house is replaced by broad fields of waving wheat and almost equally broad fields of straight rows of corn. Yet other fields are in preparation for that other great staple of Oklahoma agriculture—cotton. The switches that seven years ago had been "set out" by the settler are now elegant shade-trees in his lawn. The little apple-trees which were then scarcely discernible from the car window are now "headed low" and full of little apples; and the peach-trees which were then only "pits" will need attention to prevent breaking down a few weeks later. The effect of the home-making, the appearance of thrift, the evident prosperity of the farmer effectually dispel all misgivings as to the fertility of the red soil of the hills and valleys of Oklahoma.

This red soil has a peculiarity other than that of color. In the native prairie it is hard and is a good natural road in any weather. It appears to shed water like a turnpike. Under cultivation it is soft and open and capable of absorbing rain in almost unlimited quantities. After rain the surface dries quickly and crumbles to powder. The wind may blow some of this powder away, and the writer became aware last Saturday that real estate in Oklahoma can move without the assistance of a land agent. But in driving through the country about Guthrie the writer was surprised to meet so much soil in the air and at the same time to observe no drifting in the fields. This powdered surface acts as a mulch for the under soil, so that evaporation has little chance to steal the moisture from cultivated fields. This doubtless accounts for the fact, which has surprised many a new settler, that this red, poor-looking land supports luxuriant vegetation during dry spells whose duration would be fatal to crops on clay land.

Wheat harvest in Oklahoma will be later this year than usual, but present prospects are that Oklahoma hard winter wheat in 1901, though it may be sold as the Kansas article, will help to maintain and advance the high reputation of the best wheat in the world.

Speaking of wheat, it may be remarked that, save for limited areas that suffered from excess of water in April, the wheat belt, both in Kansas and Oklahoma, promises to outdo its record.

The towns in Oklahoma are like towns in other new, western countries, except that they sprang into existence more suddenly, experienced their reaction sooner, and observed less delay in recovering from the reaction than is usual. Guthrie, the capital, is a well-built city. Pressed brick above a red sandstone foundation is the correct form. The new Masonic temple is a departure from this form and well illustrates the possibilities of the native sandstone under proper treatment. The one fault of this sandstone is that it is not uniformly red, but much of it is variegated with yellowish streaks bordering on white. As usually laid with rough surfaces these light streaks are objectionable. In the Masonic temple, however, the upper story is of stone selected from the variegated rock and is dressed smooth so as to ring out the variegated figure. This gives it a grained appearance which is very handsome. Much building is in progress in Guthrie, both in the business and the residence portions. That an important city at this place is to be permanently maintained is no longer questioned.

Guthrie is well provided with churches and they were well attended. The day was bright and the red dust remained at home, and this fact may have promoted the attendance at church. In the evening the writer at-

tended the Friends' church—Friends' "meeting" thirty years ago. It was not like the Friends' meeting wherein people waited for the moving of the spirit. No waiting is necessary in Guthrie. The leader in the services was Mrs. Jenkins, wife of the newly appointed governor of the Territory. She is an embodiment of enthusiasm and energy of the contagious kind. The organ—yes, there was an organ in a Friends' meeting—was played by a fashionably dressed young lady, and the singing, which constituted a rather large part of the service, was well up to the standard of congregational singing.

Guthrie has had daily papers almost from the start. The morning paper, the Capital, is one of the big money-making institutions of the Territory. It is owned and managed by a "formerly of Kansas" man, one of the Greens, of Winfield.

If anybody does not want to live in Kansas the next best place is Oklahoma, an opinion which requires only transposition of the names to meet with universal approval south of the imaginary division line.

THE AUTO MACHINES.

The man who first heard about steam plows is now gray-headed, if still residing on the earth. Steam plows have indeed been used, but for the general purposes of the farmer they have not come into use, although they have had at least a half-century in which to try. The steam traction engine is a success, as a means of moving the thresher over fairly good roads, but for even the general purposes of drawing loads upon hard roads the steam-engine seems a long way from popularity.

When the gasoline-engine came into use many believed that the horseless age was dawning. True, the automobile, as a pleasure carriage, is receiving some favor, as a conveyance about city streets and even into the country. This in general is a gasoline machine and its present limited use may be the forerunner of more extensive application of other than horse-power to conveyances. But attempts made to apply gasoline-power to tilling the soil have yielded scarcely more hopeful results than were attained with steam.

Recently attention has been directed to propelling harvesting machinery by gasoline-engines. According to the descriptions, which have been published, these machines seem to use the propelling power of small traction engines, the engine taking the place of the horses in the common mower or reaper. Herein appears to lie the fatal error of those who attempt to build auto-farm machinery. In applying engine power to threshing grain this error was avoided. The engine-man who would hitch his traction engine to the levers of the horse-power and, by driving it around the circle, as horses were formerly driven, to produce power for threshing, would be laughed out of the country. No, the engine's power is transmitted directly to the machinery of the thresher, by means of a belt, leaving out the cumbersome and expensive machinery of the horse-power. It is probable that when the successful auto-mower shall be made its cutting machinery will be driven from the engine and not by means of wheels rolling over the meadow. True, the machine will have to travel over the field and power will have to be applied to its wheels for this purpose, but only so much power as shall be required to move it and be so applied, while the cutting machinery can be operated even if the carry wheels stand still.

In the matter of plowing, it is likely that the auto-plow will not be a plow but an auto-digger. The machine will move to its work, but will do its work by machinery independent of that used in going to the work. The machine will, likely, be able to stand still and dig. When inventors shall have advanced to the stage at which they can divest themselves of the idea, that the engine must do its work after the manner of the horse, then maybe the horse will have reason to suspect that the time is coming when some of his heaviest work will be done by auto-power.

Horticulturists Meet.

EDITOR KANSAS FARMER:—The meeting of the Shawnee County Horticultural Society occurred Thursday at Oak Grange Hall, and despite the fact that, owing to the late spring, farmers were unusually busy, a large number were in attendance.

The day was unusually warm, but the upper hall, commodious and cool, was a comfortable resting place, before the announcement of dinner, to those fatigued from the long ride hither.

A pleasant feature of such occasions is the social hour when friends meet

whose social intercourse is limited, by distance, to these meetings.

The dinner must remain, as it ever has been, an important part of the day's program at Oak Grange. It was served in the lower hall, and we venture to say, embraced almost every variety of cookery, from substantial with their usual condiments to sweets, cakes, and California oranges, all of which received hearty appreciation.

Judge Wellhouse of Topeka, and Secretary Barnes of the State Society, were present. So, also, was Capt. Coddington (who disclaimed any political significance from his visit), and who before leaving the table paid a splendid compliment to the ladies of the grange for their generous entertainment.

The president, Mr. A. E. Dickenson, not having arrived, Vice President Frank Peacock called the meeting to order.

Mr. George Van Qrsdal of Silver Lake presented a paper on "The Strawberry," giving a very complete history of that delicious fruit.

Mr. Burson was astonished that the genealogy of the strawberry ante-dated his own, and gave an amusing account of a patch of the "Captain Jack" mostly, which, under proper cultivation, gave very remarkable results both in yield and consumption.

A. H. Buckman wanted to hear of new varieties. A. B. Smith mentioned the Clark as one lately introduced. Mr. Barnes named many varieties, as Roman, Warfield, Glendale, Clyde, Crystal City (a shy bearer), but considered the James Vick as superior to all. Recommended raising in pots for best results. Let chickens have run of patch after crop is harvested.

A question as to the origin of the name strawberry was answered in a very amusing way by Judge Wellhouse, who also counselled thorough cultivation, the generous fertilization with sugar and cream, etc. A number added to the discussion, but all advocated sugar and cream as the fertilizer.

Mrs. J. B. Sims read an interesting paper on "The Ideal School Grounds," which though prepared on very short notice, brought out most effectively the failures of most country districts to provide the proper grounds for the usually comfortable school house. Emphasizing the importance of suitable gates leading to the ideal ground. In discussing the paper Mr. Wellhouse indulged in a humorous dissertation on doors in particular and gates in general. Doors might be sometimes necessary, but gates were superfluous and ought to be abolished.

Mr. Buckman upheld the grounds as found at present.

Mr. Barnes thought 5 acres should be given to school grounds in roomy Kansas.

Mr. Burson paid a fine tribute to Oak Grange and the adjacent school house and grounds; thought this an exceptional spot. Many others took part in the general discussion.

The wind, which blew at a terrible rate, seemed to be a healthy one for candidates, who suddenly becoming interested in horticulture, came in the afternoon, loads of them. Mr. Oscar Swazey and Mrs. Swazey, Mr. John Van Vechten and W. S. Eberle, after giving faithful assurance of their ability to fertilize by the sugar and cream method became members of the society.

The July meeting will be held at E. Marple's, north of Topeka, to which meeting we can advise all to attend if an ideal day is desired.

KITTIE J. MCCracken.

To Stock Breeders.

The Stock Breeders' Annual, a handy book of ready reference, is ready for distribution. It contains "Feeding Stuffs, Values Deduced from Considerations of Their Constituents and Market Prices," by E. B. Cowgill, editor of the KANSAS FARMER, and the Kansas Improved Stock Breeders' Association's "Classified Kansas Breeders' Directory," compiled by its secretary, H. A. Heath. This Annual comprises 40 pages. It is sent free to all new subscribers to the KANSAS FARMER. Extra copies sent to any one at \$2 per 100, postage paid. Address, Kansas Farmer Co., Topeka, Kans.

Heroic Measures.

"This stumps me," exclaimed the police reporter, who was in charge of the "Answers to correspondents" pro tem. "Here's a fellow writes: 'There is a strong odor of camphor about my dress suit. How can I overcome it?'"

"That's easy," remarked the Snake Editor. "Tell him to wear a small piece of limburger in his vest pocket."—Philadelphia Press.

Remember our "Block of Two" offer.

Horticulture.

Table of Comparative Merits of Grapes. FROM T. S. HUBBARD'S GRAPE-VINE SPECIALIST.

In order to more accurately show the comparative merits of different varieties on leading points, the following table has been prepared. On each point as indicated by the respective headings, 10 different grades are given, "1" indicating the highest or most favorable grade, and "10" the lowest grade, the intermediate numbers indicating the approach to highest or lowest. An interrogation point (?) indicates not sufficiently tested to fully determine the exact grade. The following explanations will make the matter more clear:

- Size of Berry—1 largest, 10 smallest berry.
Size of Cluster—1 heaviest cluster, 10 lightest and smallest.
Quality for Table—1 best quality, 10 poorest quality.
Earliness in Ripening—1 fully ripe earliest, 10 latest.
Hardiness of Cane and Bud—1 hard-

est, 10 most easily injured by severe cold.

Health of Foliage—1 most healthy, 10 most subject to mildew and diseases of foliage.

Vigor of Growth—1 most vigorous grower, 10 poorest grower.

Productiveness—1 produces greatest number pounds good fruit without injury to vine, 10 smallest product, with same stipulations.

Shipping Quality—1 best shipper, 10 poorest shipper.

Keeping Qualities—1 best keeper, 10 poorest keeper.

Compactness of Cluster—1 most compact, 10 least compact.

The ratings given below are based on our own personal observation, and show the average merits of the different varieties as they appear when grown under the conditions of soil and climate existing in what is known as the "grape belt" on the south shore of Lake Erie. They are, of course, likely to vary under other and dissimilar conditions, but may be safely used as a basis of selection for varieties to plant in most localities east of the Rocky Mountains.

Table with 10 columns: Variety, Size of Berry, Size of Cluster, Quality for table use, Earliness in Ripening, Hardiness of Bud and Cane, Health of Foliage, Vigor of Growth, Productiveness, Shipping Quality, Keeping Quality, Compactness of Cluster. Lists various grape varieties like Agawam, Aminta, Amber Queen, etc.

The Farmer's Vegetable Garden. JOHN W. LLOYD, B. S. A., INSTRUCTOR IN HORTICULTURE.

The farmer's garden differs from that of the market gardener in that its purpose is to furnish a continuous supply of vegetables for the owner's table rather than to supply the market with those vegetables on which the most profit can be realized. In fact, the farmer should not consider the matter of profit and loss in connection with each particular garden crop. He should grow the vegetables he likes and make sure of having an ample supply, even if some surplus may go to waste.

Since the market gardener grows his vegetables to sell, earliness, productiveness, and shipping qualities are of more importance to him than are the eating qualities of his products. With him a difference of three or four days in the time of ripening of a crop of peas or sweet corn may mean the difference between a handsome profit and a dead loss. With the farmer it is not so. He grows the vegetables for his own use, and quality should be of more importance to him than mere earliness or productiveness. He may make small plantings of extremely early varieties to supply his table at the beginning of the season, but his main plantings should be of varieties noted for their fine quality.

The farmer's garden will differ from

that of the man who lives in town in its size, arrangement, and method of cultivation. The city man will usually have to confine his garden to a small area, plant in a manner to economize space, and work it almost entirely with hand tools. The farmer has plenty of land, and should manage his garden with a view to economize time rather than space. To this end, he should plant his vegetables in long rows far enough apart to admit of cultivation with a horse.

In order to secure data regarding the amount of labor involved in the care of a garden, and the amount of produce it would yield, a "farmer's garden" was planted upon the grounds of the horticultural department of the University of Illinois last spring, and was managed with a view to furnishing a continuous supply of vegetables throughout the season. The following pages are devoted chiefly to an account of this garden.

PURCHASE OF SEEDS.

In planning for a garden, one of the first things is to select and procure the seeds necessary for its planting. It is usually more satisfactory to select these from the catalogue of some reliable seedsman and order by mail than to depend upon the stock usually carried in the country store. In the selection of varieties due consideration should be given to the matter of securing a suc-

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cession of the same vegetables for a longer time than one planting of one variety will provide. The two methods of securing a succession in the case of vegetables having a short period of edibility are: (1) planting varieties of different degrees of earliness, and (2) planting the same variety at different times. The greater the number of varieties planted, the greater will be the expense for seed. The fewer the number of varieties which it will be necessary to make in order to secure the desired succession. A combination of the two methods will usually be found the most satisfactory. This combination method was the one decided upon for the farmer's garden upon the horticultural grounds, and the following bill of seeds, etc., was ordered from one of the leading seedsmen of Chicago:

- 100 one-year-old asparagus roots, Barr's mammoth... \$.60
1 pkt. rhubarb seed, Myatt's Victoria... .05
39 horse-radish sets... .10
1 pt. onion sets, Egyptian or perennial tree... .15
1 qt. onion sets, yellow bottom... .20
1 pt. beans, stringless green pod... .15
1 pt. beans, saddleback wax... .15
1 pt. beans, Henderson's bush lima... .15
1 oz. beets, Crosby's Egyptian... .10
1 oz. beets, long smooth blood... .05
1 pkt. cabbage, select Jersey Wakefield... .10
1 pkt. cabbage, all head early... .10
1 pkt. cabbage, autumn king... .05
1 pkt. cauliflower, Vaughan's snowball... .25
1 pkt. carrot, early scarlet horn... .05
1 pkt. carrot, select Danvers... .10
1 pkt. celery, giant pascal... .05
1 pkt. cress, curled garden... .05
1/2 pt. sweet corn, mammoth white Cory... .06
1/2 pt. sweet corn, Chicago market... .06
1/2 pt. sweet corn, Stowell's evergreen... .06
1/2 pt. sweet corn, country gentleman... .06
1 oz. cucumber, the emerald... .10
1 pkt. lettuce, improved Hanson... .05
1 oz. muskmelon, emerald gem... .10
1 oz. muskmelon, champion market... .10
1 oz. watermelon, Cole's early... .10
1 oz. watermelon, McIver's sugar... .15
1 oz. onion, Australian brown... .20
1 oz. onion, extra early flat red... .10
1 oz. parsnip, improved Guernsey... .10
1 pkt. parsley, champion moss curled... .05
1 qt. peas, Nott's excelsior... .25
1 qt. peas, Hosford's market garden... .25
1 qt. peas, improved stratagem... .25
1 pkt. pepper, ruby king... .05
1 oz. radish, brightest long scarlet... .10
1 oz. radish, earliest white... .15
1 oz. radish, Cincinnati market... .10
1 oz. radish, new white Chinese (winter)... .10
1 oz. spinach, long standing... .05
1 pkt. salsify, Sandwich Island mammoth... .05
1 pkt. squash, summer crookneck... .05
2 oz. squash, Chicago warted Hubbard... .15
1 pkt. tomato, stone... .10
1 oz. turnip, purple top strap leaf... .06

Total.....\$5.45

No seed potatoes were purchased because there were plenty in the cellar available for the purpose. The farmer should usually save his own seed potatoes and perhaps the seed of a few other vegetables, but in the case of most of the garden crops it is cheaper to buy the seed than to raise, harvest, cure, and clean it. And, furthermore, better results can usually be secured from seed grown by men who make a business of seed-growing than from home grown stock.

LOCATION AND SOIL.

The garden should be located near the house so that it will not be necessary to walk half a mile to get a head of lettuce for breakfast, or a dozen roasting ears for dinner, or a few tomatoes for supper. To be at their best, most vegetables should be used very soon after they are gathered. The garden will be appreciated most if it is not far from the kitchen, not only because the vegetables may be used fresher, but also because the products of the garden will enter more largely into the daily bill of fare, if they are within easy reach.

The soil for the garden should be rich and in a high state of cultivation. The ground selected for the garden of the horticultural department was one-half acre of black prairie soil. This area was naturally a little low, but had been thoroughly tile-drained and plowed the preceding fall, and was therefore well suited to the growing of

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vegetables. In shape it was a long rectangle, being 280 feet long and 77 feet wide.

PREPARATION OF THE SOIL FOR PLANTING.

Early in the spring twenty loads of partially rotted manure were applied to the half acre, and on April 7th, when the soil had become just dry enough to crumble readily without sticking to the hand, the land was plowed, disked, and planked. April 9th, it was harrowed and again planked. This treatment brought the soil into excellent condition for the reception of seeds, without the use of a single hand tool.

Beginning at the east side of the garden, rows three feet apart, running lengthwise of the area, were laid out by means of a sled marker drawn by hand. If a guide stake is placed at each end of the row to be laid out, and one in the middle, it is easy to mark the rows as straight as they could be made by the use of a line, and with much less trouble. Three rows were marked at a time, and the drills made by the runners were of just the right depth for the planting of radishes, beets, onions, and other small seeds. Where these small seeds were to be planted the rows were made only one and a half feet apart, by straddling the marks already made. For planting the asparagus roots and the potatoes, furrows were opened with a one-horse plow, and for the peas, with the plow attachment on a wheel hoe.

So far as possible each vegetable not needing a full row (280 feet) was given one-half, one-third, or one-sixth of a row. Conspicuous stakes were set at the proper places on either side of the area so that any given row in the garden could be divided into halves, thirds, or sixths by simply sighting across the stakes.

(To be continued.)

Spraying Vs Moth-Catchers.

EDITOR KANSAS FARMER:—I saw an article in your paper on "Moths and Moth-Catchers," written by Professor Steadman, in which he says he is receiving hundreds of letters in regard to the trap-lanterns, which are used in the

orchards for the purpose of catching insects which are the enemies of the orchard and fruit.

That may be Professor Steadman's experience, but I desire to say that I put out these traps in my orchard last year, and kept setting them at different periods of the season...

Another statement which Professor Steadman makes is: "All species of night-flying insects are not caught in traps by any means, the vast majority of them being repelled by light."

I would say that the only kind of good insect that could be found in an orchard, vineyard, field, or garden, would be a dead one. I can not imagine the character or kind of an insect that would give vigor to the tree or size and color to the fruit.

My experience in spraying has not proved a success or satisfactory. My attention being called to the lantern traps, last year I tried them, and they proved a success and gave me satisfaction.

I think the traps should be set according to the season, about mating time of the insects, and should be kept in the orchard for from twelve to fifteen days, then left dark say the same length of time...

Like Professor Steadman, I have no interest either in the manufacture or sale of any traps, and have sold my spraying outfit, so have no further interest in spraying...

Grange Department.

"For the good of our order, our country and mankind."

Conducted by E. W. Westgate, Master Kansas State Grange, Manhattan, Kans., to whom all correspondence for this department should be addressed.

National Grange. Master.....Aaron Jones, South Bend, Ind. Lecturer.....N. J. Bachelder, Concord, N. H. Secretary.....John Trimble, 514 F. St., Washington, D. C.

Kansas State Grange. Master.....E. W. Westgate, Manhattan. Lecturer.....A. P. Reardon, McLouth. Secretary.....Geo. Black, Olathe.

State Grange Work Among Subordinate Granges.

Katherin Stahl, Chaplain of Illinois State Grange, gives the following most excellent suggestions for the consideration of the officers of the State Grange.

Suggestions from me have been solicited on the all important subject: "How can the State Grange best supervise and look after subordinate granges so as to insure permanency and best work?" Truly, it is a hard question to

answer satisfactorily. A perusal of the Illinois State Grange Journal for 1899 will not indicate that anybody in this commonwealth knows much about the practical side of the subject...

The way to look after anything is to go and see it and labor with it after it comes into existence; see that it is nurtured; examine the material of its make-up; see what its needs may be, and supply the needs if possible.

In the grange the state officers have this higher knowledge—they keep it renewed in their broader experiences and they could do so much good with their advanced thoughts if they would let their lights shine in the darker places...

There is nothing equal to a good visit from a genial friend coming into our homes and giving us to understand that though we are most of the time out of sight, we are not forever out of mind. I see no reason why the same thing can not be true in subordinate granges.

It is my opinion that state granges at their meetings should arrange to have every subordinate grange visited by a competent deputy at least once every year. These visitors should see the roll book, the treasurer's books, and the minutes as kept by the secretary...

Now, dear Michigan patrons, I have said all this to prove to you that good results—yea, perhaps best results—will come from having state grange workers visit subordinate granges and visit them often.

The Department of Justice.

One of the important departments of our government is the Department of Justice, its head, the attorney-general is a member of the President's cabinet, and receives his appointment from him.

The attorney-general stands in the same relation to all the people that the district-attorney does in our smaller courts. It is his duty to represent the people's side, and to enforce the laws, that lawbreakers may be punished.

A new attorney-general has just been appointed.

One of the laws which the grange petitioned for and worked for is the Sher-

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man Anti-Trust law. It has not been strongly enforced, and the outlook is now less bright than before.

Here is a plain statement of the case, not only for patrons and Bulletin readers, but for all the American people. It is one more step in the great and growing contest, on which the grange in its anti-monopoly battles has ever been so nobly in the lead.

1. There is an anti-trust and anti-monopoly law on the statute books of the United States. It provides:

Sec. 3. Every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade or commerce among the several states or with foreign nations, is hereby declared to be illegal.

Sec. 4. The several Circuit Courts of the United States are hereby invested with jurisdiction to prevent and restrain violations of this act, and it shall be the duty of the several district-attorneys of the United States in their respective districts, under the direction of the attorney-general, to institute proceedings in equity to prevent and restrain such violations.

2. The Supreme Court in defining the power of Congress to prevent monopoly has decided (in the Addyston Pipe and Steel Company case) that: Total suppression of the trade in the commodity is not necessary in order to render the combination one in restraint of trade.

And (in the Trans-Missouri Freight Association case) the court ruled that even a reduction in the price of articles traded in or manufactured "might be dearly paid for by the ruin of such a class (small dealers and independent manufacturers) "and the absorption of control over one commodity by an all-powerful combination of capital."

3. That the One Billion One Hundred Million Dollar Steel Trust is the most "powerful combination of capital" ever made, and that it seeks to control and does practically control the iron and steel products and prices in the United States—affecting directly every inhabitant of the country as a consumer—are facts which are admitted by the makers of the trust themselves.

4. The Supreme Court's interpretation of the law is a frank announcement that it will forthwith dissolve any such combination as Mr. Morgan's United States Steel Corporation—if it gets the opportunity.

5. In order that the Supreme Court may get the opportunity, there must be an attorney-general who will honestly prepare and vigorously prosecute the case against the combination.

6. In order that the Supreme Court

should not get the opportunity, in order that the Mr. Morgan's steel "combine" and coal "combine" and railway "combine" should be undisturbed, secure, immune, free to defy the law, there had to be an attorney-general upon whom Mr. Morgan and his interests could implicitly rely.

7. Mr. Morgan selected for this post Philander C. Knox, the chief attorney of the greatest concern in the steel trust—the Carnegie Company. Mr. Knox is one of the organizers of the steel trust, and his law partner, Mr. Reed, is one of its directors.

8. The President appointed Mr. Knox.

9. What are the people going to do about it? There is "a power behind the throne," and that power is the trust. Bro. Aaron Jones, as master of the National Grange, in his last annual address, ably held up the dangerous trusts to public view.

National Secretary's Report.

John Trimble, secretary of the National Grange, P. of H., reports as follows for the first three months of this year:

New granges organized: California, 2; Colorado, 3; Connecticut, 1; Illinois, 4; Indiana, 3; Maine, 5; Massachusetts, 1; Michigan, 22; Minnesota, 2; Missouri, 1; New Jersey, 1; New York, 9; Ohio, 7; Oregon, 1; Pennsylvania, 4; South Carolina, 1; Tennessee, 1; Vermont, 8; Washington, 2; total, 78; granges reorganized in same period, 31.

"There never was a time when we represented a more real live membership than we do to-day. Farmers are fast learning to see and admit that organization is not only a privilege, that may be enjoyed for social benefit, but also a necessity of the times, to enable them to stand up against the aggressive movements of other organized interests that seek special advantages and privileges even at the expense of others."

Michigan, for the third year in succession, is keeping away ahead of all the other states in the organization of new granges. Twenty-eight new granges started in the first quarter of this grange year.

Bro. M. O. Fleharty, Master of New Lancaster Grange, P. of H., writes that they have increased their membership to the extent of 44 names since January 1, 1901. Go to the head, brother.

WEEKLY WEATHER CROP BULLETIN.

Weekly Weather Crop Bulletin of the Kansas Weather Service, for the week ending May 9, 1901, prepared by T. B. Jennings, Section Director.

GENERAL CONDITIONS.

A week of good growing weather with moderate temperature. Good rains fell in the southwestern counties, in some central counties, and the larger part of the eastern division. Light showers occurred generally in the other counties.

RESULTS.

EASTERN DIVISION.

Wheat continues in fine condition and growing rapidly, but the wheat aphid has appeared in some fields in Cherokee and Crawford, and chinch-bugs in Chase and Elk; in Wilson some of the wheat is turning yellow; it is beginning to head in Pottawatomie. Corn planting is well advanced in the northern counties, and is about finished in the southern half of the division; the early planted has begun to come up in the northern counties, and is being cultivated in the southern. Oats are generally up in the south, but are not coming up well in Atchison or Bourbon; they are being injured by smut in Chautauqua, and by bugs in Elk. Rye and blue-grass are heading in Montgomery. Apples are in bloom in the northern counties; fruit has set well. Pastures need rain; the prairie grass is supporting stock well except in the extreme northern counties. Alfalfa is growing finely, and in Pottawatomie has begun to bloom.

Allen County.—The drought is broken and all crops doing well; corn and potatoes are being cultivated.

Anderson.—Warm, dry week; everything needs rain.

Atchison.—Dry week; ground baking; more rain needed; oats not coming up well;

Riley.—Corn nearly all planted; pasture good; fair promise for apples and peaches; alfalfa looks well.

Shawnee.—Good week for farm work; corn planting well advanced; wheat fine; apple trees well laden with bloom.

Wilson.—Much benefit to the crops by showers latter part of week; wheat is growing rapidly, but some complaint of turning yellow; fruit prospects good; corn coming up.

Woodson.—Corn planting about finished; some corn being cultivated; wheat and grass growing finely; gardens growing slowly, too dry.

MIDDLE DIVISION.

Wheat has grown rapidly and, in general, is in very good condition, though Rush reports some complaint of insect depredations, and in Smith there are some reports of a louse; in Summer the soft wheat has begun to head; in Cowley and McPherson rain is needed to continue the fine growth. Corn planting is completed in the south and well advanced in the north; the early planted is coming up in most of the counties, and cultivation has begun in the south. Oats generally are growing well, but in Butler and Cowley rain is needed. Barley is growing rapidly. Rye is heading in the south. The sowing of Kaffir-corn, cane, and millet is progressing. Alfalfa has made a fine growth. Early potatoes are coming up. Apples are in full bloom in Cowley, Reno, and Republic. Peaches appear to be damaged in Kingman, and apricots in Sedgwick. Strawberries are in full bloom in Reno. Pastures generally are good, but in Butler the grass needs rain.

Barton.—Corn planting nearly done, some up; wheat, barley, oats, and grass are growing rapidly; early planted potatoes are coming up; alfalfa is fine; Kaffir-corn, cane, and millet sowing progressing.

Butler.—Corn all planted and coming up; millet nearly all sown; too cold for gardens to do well; too dry for oats and grass; alfalfa and wheat and growing well; peaches bid fair to be a good crop; apple worm doing much damage in orchards.

WESTERN DIVISION.

Wheat has grown well and in Ford is jointing. Rye is jointing in Ness. Corn planting is about finished in the south and progressing well in the north, has begun to come up in nearly all parts. Oats, barley, and alfalfa have grown well. Sowing of forage crops is progressing rapidly. Fruit trees are in full bloom, or have passed that stage. Pasture is generally good and cattle are doing well.

Clark.—Good growing weather; buffalo grass is fine; alfalfa doing well; farm work for forage crops is progressing.

Decatur.—A practically dry week with high winds; small grain still growing nicely; nothing suffering particularly, but rain is needed.

Ford.—Wheat looking fine; early wheat jointing; barley and oats are doing very well; corn slow coming up, but what is up looks well; apricot, peach, cherry and plum trees are loaded with green fruit; alfalfa and pastures are fine.

Gove.—Wheat looks fine, but will need rain soon; oats are looking better than usual; alfalfa is a foot tall; peaches, plums, apricots, and cherries are in bloom and the largest crop in years is promised.

Grant.—Grass good; stock improving rapidly; forage crops being planted earlier than usual.

Greeley.—Good rain; ground in good condition; farmers planting.

Hodgeman.—Fine growing weather; corn coming up; sorghum and Kaffir-corn being sown; pastures good; cherry and peach trees about out of bloom; windy all week.

Kearny.—Getting rather dry, a soaking rain much needed.

Lane.—A week of steady south wind; pasture good; apple trees in blossom; corn and forage planting in progress; all crops doing well, especially alfalfa.

Meade.—Two inches of rain within past week; wheat, alfalfa, and grass in fine condition; much corn, cane, and Kaffir-corn being planted.

Morton.—Peaches are setting well; apple trees and Russian mulberries are full of bloom.

Ness.—Favorable week for vegetation; wheat, rye, and barley making good growth; rye jointing; corn planting finished; forage planting progressing; potatoes coming up; cherries, peaches, apricots, plums, and apples in bloom, fruit prospect good; gardens doing well, though later than usual; pastures fine; stock gaining rapidly; calf crop large.

Norton.—Good week for farm work; no rain, surface getting dry; fruit trees in full bloom; some corn coming up; grass slow.

Rawlins.—Except for one week of heavy wind, spring has opened the best in ten years; fruits are all in bloom; grasses doing finely; corn planting progressing rapidly; everything very favorable; rain 4th.

Sheridan.—Dry week with high winds, but plenty of moisture yet; vegetation growing rapidly; first planting of corn up, and the greater part of the crop planted; grass fine.

Thomas.—Fall and spring grain doing fairly well, but rain is needed; fruit trees are in bloom; grass is growing well.

Trego.—All fruit trees in bloom, other trees leafing out; ground still moist; early corn and garden truck coming up.

Wallace.—Fine week for growing crops; plum and cherry trees in bloom; alfalfa in good condition; corn planting nearly completed; beginning to get a little dry.

PROCLAMATION TO WEAK MEN.

Charity, the Noblest Impulse of Man, Exemplified by a Well Known Missourian.

SENT FREE TO MEN.

W. S. Harter, an honored and influential citizen of Nevada, Mo., makes a statement and an over-generous offer that comes in the shape of a proclamation of health to all afflicted with lost vitality and its kin-



dred ailments. His case was a most pitiable one, nightly emissions so draining that his constitution was weakened to such degree that it was impossible for him to perform his duties. He spent hundreds of dollars for remedies and to specialists, but could not regain his vitality or check the awful nightly emissions. One day a brother lodge member called his attention to a remedy, in fact implored Mr. Harter to take the remedy for his affliction; he did so and in one month's time was entirely cured, his constitution rejuvenated and his vitality regained. To-day he is a man in every sense which that word would imply. Mr. Harter is not what one would call an immensely rich man, but his gratitude for this marvelous remedy is so great, that he says he intends making his life's labor that of putting this remedy in the hands of all those afflicted as he was. Mr. Harter being a very conscientious man, thought perhaps the remedy may not prove in every case so wonderfully beneficial as it did in his. For this reason he gave 50 sufferers the treatment, and in every instance the same wonderful results were experienced as was in his case; so he now says he will send every sufferer of this death-dealing disease, Lost Manhood and its kindred ailments, absolutely free the means which directed him to health and contentment. At Nevada, Mo., there is located State Asylum No. 3, in which there are at present about 700 patients; Mr. Harter claims that upon good authority he is informed that about 75 per cent of these unfortunates lost their minds through this disease and the awful drainage brought upon them through nightly emissions. With this awful picture ever before him, he believes it is his duty to humanity to save those now upon a brink of destruction, which is much worse than death. Any reader sending name and address to Mr. W. S. Harter, 517 Ash Street, Nevada, Mo., will receive without delay, and free of charge, this wonderful knowledge.



SCALE IN INCHES. Less than 1/4, 1/4 to 1, 1 to 2, 2 to 3, Over 3, T, trace. ACTUAL RAINFALL FOR WEEK ENDING MAY 4, 1901.

corn being planted rapidly; apples in full bloom; wheat and grass look well but need rain. Bourbon.—Oats and flax all sown but did not come up well; corn crop three-fourths planted, and some coming up; grass in good condition but growing slowly, needs rain; fruit prospect very good; wheat good, but small acreage. Brown.—Good week for farm work; corn planting well advanced; stock generally on pasture, though grass not as good as usual for this time of year. Chase.—Wheat and alfalfa are in fine condition; corn mostly planted and some coming up, chinch-bugs on earliest planting in southern part; oats showing up well; early potatoes ready to cultivate; early garden vegetables being marketed; fruit setting well; pastures good. Chautauqua.—Fine week for farming and crops; all fruits doing finely; smut injuring oats. Cherokee.—A good growing week; corn coming up well; wheat looks well and is jointing; but three reports of louse in wheat; oats in good condition; fruit setting abundantly; grass late but growing rapidly. Crawford.—Good week for farm work but ground getting cloddy; much corn yet to plant, early planted coming up nicely; wheat doing well except where lice are affecting it; oats needing rain; garden vegetables abundant in market. Elk.—Stock doing well on pasture; bugs killing some of the oats; some corn lately listed needs rain to come through ground. Franklin.—Saturday's rain very beneficial; canker worms a general pest. Greenwood.—Wheat needs rain; corn all planted; pastures are good, though grass is short and not growing rapidly; stock all out; garden vegetables being marketed. Jackson.—Rain puts ground in fine condition; early planted corn coming up; wheat and oats doing well; cattle now on pasture. Johnson.—Good week for farm work; corn about all planted and some coming up; all other crops look fine. Lyon.—Fruit setting well; corn planting nearly finished; all crops in good condition. Marshall.—Dry, windy week, fine rain Saturday; good week for farming; corn mostly planted; potatoes and early planted corn coming up; oats coming up well; wheat is fine; grass very good; fruit trees in bloom. Montgomery.—Good growing weather and for planting; flax generally up, and a good stand; pastures and meadows improved very much during the week; rye and blue-grass heading; alfalfa over a foot high. Morris.—Warm, dry week; corn mostly planted, first plantings coming up; early planted potatoes up; wheat and alfalfa growing well; fruit prospects good. Nemaha.—Corn planting progresses rapidly; oats up and a good stand; fall wheat in very good condition; tame grasses make good pasture and prairie grass shows up well; early potatoes are up; peaches and plums are through blooming and are setting fruit well; apples in bloom. Pottawatomie.—A growing week; wheat commencing to head and alfalfa to bloom; stock doing well on pasture.

Cloud.—Wheat and oats in fine condition and growing rapidly; pastures very good. Cowley.—Wheat begins to need rain, and oats are at a stand still; some corn being cultivated, much early listed being replanted; apple trees unusually full of bloom. Dickinson.—Wheat improving every day; oats a poor stand; rain on 4th will be a great help to oats, grass, and gardens; corn planting progressing. Harper.—Corn planting finished, some replanting necessary due to heavy rains; corn coming up with fair stand; wheat and oats in fine condition. Harvey.—Wheat generally is in fine condition, though some spots, overflowed in April, appear to be affected by the dry weather; corn coming up, some planting yet; oats look well; fruit uninjured. Kingman.—Wheat in very good condition; rye heading out; early peaches appear to be damaged; corn planting about finished; rain needed to soften crust top of ground. Lincoln.—Wheat generally looks fine, a few fields somewhat yellow; oats growing well; corn planting about half finished; some ground too dry to plow; all fruit seems uninjured; alfalfa growing rapidly. McPherson.—Rain needed; corn planting finished; wheat has grown rapidly, needs rain now; oats, Kaffir, and cane doing well; fruit well set. Pratt.—Rye heading; wheat continues fine; some corn up; pastures good. Reno.—Warm, windy week; wheat, oats, and alfalfa still look well; corn listing about finished, early listed coming up well; apples and strawberries in full bloom; all crops would be benefited by rain, though not suffering seriously yet; fruit prospects good. Republic.—Fine week for corn planting; apples in bloom; cherries will be large crop. Rice.—Over half the corn is planted; early potatoes up; cattle on grass; wheat, oats, and alfalfa fine; hail Saturday, no damage. Rush.—A favorable week; farm work progressing rapidly; wheat, oats, and barley growing rapidly; some complaint of insect depredations in wheat, and a small per cent is being plowed up, injury greatest on stubble ground, fall plowing all right. Saline.—A warm, dry week, ending with showers; early potatoes and some early planted corn up; wheat generally in good condition. Sedgwick.—Apricots were injured and will be a small crop; all other fruits and all grains are looking well; pastures were backward, but are growing rapidly; alfalfa growing well. Smith.—Corn nearly all planted and first plantings coming up; millet and Kaffir-corn being sown; some reports of a louse in wheat, but no damage can be detected. Stafford.—Early rye heading; wheat doing well; corn coming up. Sumner.—Soft wheat beginning to head, hard wheat in a short time; corn and forage crop planting finished; good prospect for all kinds of fruit; damaging rains southwest part of county last week washed out large bridges. Washington.—Corn planting well advanced; trees in leaf; ground in good condition for planting.

The Poultry Yard

Eggs and Their Uses as Food.

FARMERS' BULLETIN NO. 128, U. S. DEPARTMENT OF AGRICULTURE.

(Continued from last week.)

USES OF EGGS.

The methods of serving eggs alone or in combination with other food materials are very numerous. Cooked in various ways they are a favorite animal food, taking the place of meat to a certain extent, while raw eggs, usually seasoned in some way, are by no means infrequently eaten. Baked eggs are often used for garnishing or ornamenting different foods. Eggs are combined with other materials in various ways in many made dishes. They are used in making cakes and such foods to improve their flavor, color, and texture, while in custards, creams, etc., they thicken the material and give it the desired consistency. The white of the egg is also employed in making icings and confectionery. Well beaten or whipped egg white is used to leaven many forms of cake and similar foods, as well as to improve the flavor. The beaten white incloses air in small bubbles, which become distributed throughout the mass of dough in mixing. The heat of cooking expands the air and makes the walls of the air bubbles firm, so that the porous structure is retained. The power to inclose and retain air when beating varies, being greatest in the fresh egg and much lessened in packed or old eggs. Convenient leavening powders have lessened the number of eggs used for this purpose. Sponge cake, however, is a familiar example of food so leavened. This use of eggs explains some of the recipes in old cookery books which call for such large numbers of eggs. These uses are all familiar; the reasons for them are doubtless seldom thought of. There are several simple ways of cooking eggs which are very commonly followed. Thus, the egg in the shell is cooked by immersion in hot or boiling water or is less commonly roasted. After removal from the shell, the egg is cooked in hot water or in hot fat. In the latter case it may or may not be beaten or stirred. Combined with

other materials to form various made dishes, eggs are boiled, baked, steamed, or fried, as the case may be. The total number of methods of serving and preparing eggs is very large, but in nearly every case it will be found that the method of preparation is only a more or less elaborate modification of one of the simple methods of cooking. When cooked in different ways there are marked changes in the appearance and structure of eggs. As ordinarily applied, the term "boiled eggs" refers to eggs cooked in the shell in hot, though not necessarily boiling, water. The resulting product varies greatly, according to the length of time the cooking is continued, the method of procedure, etc. Perhaps the most usual household method of "boiling eggs" is to immerse them for a longer or shorter time in boiling water. An egg placed in boiling water not over two minutes will have a thin coating of coagulated white next the skin, the remainder will be milky, but not solid, while the yolk, though warm, will be entirely fluid. This stage may be called "very soft boiled." If the egg is kept in boiling water two minutes, or a little over, the white becomes entirely coagulated. The egg thus cooked may be termed "waxy." If the boiling is extended to three minutes or so, the egg shows a tendency to rise in the water and will be solid throughout, i. e., "solid boiled." If the boiling is continued up to ten minutes or longer, the "hard boiled" egg results. The white of such an egg is hard and elastic and the yolk crumbles readily. All these changes are due principally to the more or less complete coagulation and hardening of the albumen of the egg by heat. Numerous experiments have been made to show the changes which actually take place when egg albumen is heated. If the egg white is gently warmed no change is noticed until the temperature reaches 134° F., when coagulation begins. White fibers appear, which become more numerous, until at about 160° F. the whole mass is coagulated, the white almost opaque, yet it is tender and jelly-like. If the temperature is raised and continued to 212° F. (the temperature of boiling water), the coagulated albumen becomes much harder, and eventually more or less

tough and horn-like; it also undergoes shrinkage. When the whole egg is cooked in boiling water the temperature of the interior does not immediately reach 212° F., several minutes being probably required. It has been found by experiment that the yolk of egg coagulates firmly at a lower temperature than the white.

The changes in the albumen noted above suggest the idea that it is not desirable to cook eggs in boiling water in order to secure the most satisfactory product. Those who have given attention to the science as well as the practice of cooking recommend "soft-cooked," "medium-cooked," and "hard-cooked" eggs, all of which are cooked at a temperature lower than 212° F. In soft-cooked eggs, properly prepared, the white resembles a soft, thick curd, while the yolk is fluid. Except for a suggestion of rawness, there will be little flavor, provided fresh eggs are used. Medium-cooked eggs are more thoroughly cooked than those just mentioned, the results being secured by long cooking or by a somewhat higher temperature. The white is soft and tender and the yolk slightly thickened. The flavor (which is developed by cooking), is more pronounced than that of a soft-cooked egg, and is generally considered more agreeable.

When an egg is covered with boiling water in a bain-marie or double boiler, and the temperature of the water in the outer vessel maintained at 180°-190° F. for thirty to forty-five minutes, the hard-cooked egg results. In this the yolk should be dry and mealy and the white solid, yet tender.

The directions given for preparing soft-cooked, medium-cooked, and hard-cooked eggs vary. The methods described in standard cookery books without doubt give the desired results if sufficient care is exercised. The chief difficulty encountered by most cooks is to secure uniform results, especially with soft-cooked and medium-cooked eggs. It must be remembered that such results can not be expected when conditions vary. The time of cooking, the amount of water used, the number, size, and freshness of the eggs, and the kinds of vessels used, are important factors. Thus, eggs which have been kept in an ice chest require more heat to warm them before cooking begins than do those which have been kept at room temperature. Again, so apparently trivial a detail as the sort of vessel used (whether earthen or metal) or the place where the vessel stands during cooking may produce very different results. Many persons prefer to have eggs cooked at table in a chafing dish or other suitable vessel. In such cases the conditions may be controlled with comparative ease and uniform results obtained with a little practice, if sufficient care is observed.

The following methods of preparing soft-cooked and medium-cooked eggs have been found to give uniform results in laboratory tests at the University of Illinois: Using a graniteware stew-pan of 1 quart capacity, 1 pint of water heated over a gas flame; when the water boiled the gas was turned off and an egg which had been kept in a refrigerator was dropped into the water. Without disturbing the vessel it was covered closely and the egg allowed to remain in the water six minutes. It was then soft-cooked. As shown by tests, when the egg was dropped into the water, the temperature fell almost at once to 185° F., and then slowly to 170°-171° F. If the egg remained in the water eight minutes, it was medium-cooked. In this case the temperature of the water at the end of the cooking period had fallen to 162°-164° F.

Uniform results can be obtained in the kitchen as well as in the laboratory, if sufficient attention is given to details. Bearing clearly in mind the end desired, each cook must experiment for herself, as it is impossible to give directions which will apply to all cases. The same changes which have been noted as taking place in egg yolk and white when heat is applied in preparing boiled eggs, take place when other methods of cooking are followed, though they are not always apparent.

Poached or dropped eggs are removed from the shell and then cooked in water. Thudichum recommends the use of salted water, to which a very little vinegar has been added. The reason for this is perhaps that acetic acid (vinegar) tends to precipitate albumen; that is, to prevent a loss due to some of the egg being dissolved in the water. Flavor may also be one of the objects sought.

Fried eggs are generally cooked in a flat pan, in a little hot fat, oil, or butter, and may be either soft or hard, according to the length of time employed in the process. Eggs are also occa-

sionally baked in much the same manner that they are fried.

The omelet is generally regarded as one of the most appetizing forms in which eggs can be served. It consists of the beaten egg with a little milk, water, and cream or melted butter added, quickly cooked in a little fat or butter in a suitable pan, and folded over so that it may be turned out of the pan in a half-round form. Some cooks insist that the best omelets are made by using hot water instead of milk or cream. The hot water is stirred into the egg yolk in the proportion of 1 tablespoonful to an egg. Scrambled eggs resemble an omelet in method of preparation, but no effort is made to preserve the characteristic form and appearance of the omelet. Generally speaking, lightness is desired in an omelet, and thorough mixing in scrambled eggs. The former is secured by beating; the latter by stirring. Omelets are sometimes made with the addition of various materials, such as parsley, jams, etc. Many so-called omelets are made in which flour is used. These are more properly pancakes, and vary very greatly, according to the ingredients used. Such dishes, as well as sweet omelets, etc., are treated of in cookery books, as are also many other ways of serving eggs, which are in principle the same as those already noted, but in which the final appearance is more or less modified.

The foods in which eggs are combined with other materials range from a simple custard or cake to the most elaborate of the confectioner's products. In all such dishes, as previously noted, eggs are used to give consistency, color, flavor, or lightness.

Eggs are especially rich in protein (the nitrogenous ingredient of food). This material is required by man to build and repair the tissues of the body. Some energy is also furnished by protein, but fats and carbohydrates supply the greater part of the total amount needed. Combining eggs with flour and sugar (carbohydrates), and butter, cream, etc. (fat), is, perhaps, an unconscious effort to prepare a food which shall more nearly meet the requirements of the body than either ingredient alone. When eggs, meat, fish, cheese, or other similar foods rich in protein are eaten, such other foods as bread, butter, potatoes, etc., are usually served at the same time, the object being, even if the fact is not realized, to combine the different classes of nutrients into a suitable diet. The wisdom of such combination, as well as of other generally accepted food habits, was proven long ago by practical experience. The reason has been more slowly learned.

As previously stated, egg white, when heated at the temperature of boiling water for a considerable time, becomes hard and contracts. This explains the curdling of custards, shrinkage and toughening of omelets, souffles, mergues, sponge cake, and similar mixtures. The firm coagulation of albumen at 212° F. explains the use of egg white for clarifying coffee, soup, or other liquids. The albumen, which is mixed with the liquid before boiling, coagulates and incloses the floating particles, leaving the liquor clear. When eggs are removed from the shell, a little of the white usually clings to the inner surface unless it is scraped. Such egg-shells are often used for clarifying purposes instead of the whole egg. The clarifying properties are, of course, due to the egg white and not to the shells.

The uses of eggs for other purposes than food are numerous. Large quantities of egg white are used in the manufacture of albumen paper for photographic purposes, and the egg white and yolk, and products made from them are very important in the manufacture of many different articles.

(To be continued.)

How to Prevent and Cure Gapes.

The gape worm that matures in the windpipe of the chick, causing the disease, is developed from a parasite. Like other germ diseases it is easier prevented than cured; and can be prevented if the chick is not permitted to come in contact with the parasite. Now there are three ways to prevent this danger of infection. First, hatch your chickens very early so they will be feathered before the ground gets warm enough to incubate the gape worm microbe. The second way is, keep your chicks where it is perfectly dry all the time, as it takes moisture as well as warmth to develop the parasite. As you can not raise chicks without warmth, you must prevent moisture, or you surely will have gapes if your yards are infested. The third, and better way, is to raise your chicks each year in a new place. I suggest a rota-

POULTRY BREEDERS' DIRECTORY.

LIGHT BRAHMAS.—Forty cockerels \$1 each; 10 cockerels, very choice, \$2 each; 30 hens and pullets \$1 each. Eggs in season. Address

F. W. DIXON,
Holton, Kans.

EGGS—S. C. and R. C. B. Leghorn; and S. Sp. Hamburg. Strictly pure. Shoemaker's strain. \$1.00 per 15. Satisfaction guaranteed. Vira Bailey, Kinsley, Kans.

DARBY FRUIT FARM—White Wyandotte, 15 eggs, \$1.00; White Holland turkey, 10 eggs \$1.50. Satisfaction guaranteed. Five hundred acres orchard range. Darby Fruit Co., Amoret, Mo.

FOR SALE—Light Brahma eggs from A. J. Sibberstein stock, the greatest egg producers, and wins the highest prizes everywhere. Nothing better in the land. Thirty eggs from first pens \$3; second pens, \$1.50; third pens, \$1. Satisfaction guaranteed. Thanking you for orders, I am, Mrs. John R. Kenworthy, Wichita, Kans.

FOR SALE—Choice Single Comb White Leghorn hens, one year old. \$4 dozen. Ella F. Ney, Bonner Springs, Kans.

POULTRY—Don't order, but write. I have pure bred, from laying strains. It pays to have hens that lay, and that is what I can boast of. Write C. L. Hollingsworth, Coffeyville, Kans.

BLACK MINORCAS—Biggest layers of biggest eggs. Pairs, trios and breeding pens for sale cheap; 50 cockerels from \$1.25 up; eggs for hatching \$1.50 per 15. Also American Dominiques, Houdans, White Crested Black Polish, White Crested White Polish, and Buff Laced Polish; eggs same price. Fair hatch guaranteed. James C. Jones, Leavenworth, Kans.

tion as follows: Begin on the east side of your orchard, next year move your coops and brooders to the west side, the third year move to the south, and the fourth year to the north side. By that time the east side will be purified so there will not be much danger, and you can continue rotation with perfect safety.

To cure gapes in the first stages of the disease, just as soon as you hear the first sniffle, slack a lump of lime sufficient to make a pint when powdered, mix with it a teaspoonful of carbolic acid, put the mixture in a 25-pound flour sack and shake, then drop chick in sack immediately, and let remain just as long as possible without suffocating, which it will do in a short time if you do not give fresh air. Repeat once or twice until the chick sneezes up the gape worms. The chick inhaling the carbolated lime dust will loosen the worms so it can sneeze them out if you use the remedy while the chick is strong enough to stand the treatment. But if you neglect the chick until it becomes weak, and the windpipe is filled with the worms, you will have to remove them. The best way to do this is to take a feather and strip it, except about one inch of the tip; make a 5 per cent solution of carbolic acid, dip tip of feather in the solution and swab the windpipe of the chick; you will likely kill some of them, but as they would die or be stunted so they would be worthless if you do not treat them, it will, perhaps, pay you if your time is not too valuable.—J. T. Dew, Mt. Rose Fruit and Poultry Farm, in National Stockman.

Poultry Yard Fencing.

By using poultry netting alone a very strong fence can not be built even if posts are set close together. Excepting the corner or anchor posts light posts only are necessary. Good yellow locust posts 8 feet long, if many of them are used, is quite an item of expense. While I bought this kind of posts for this purpose I concluded not to use them except for corner posts. In their place I am using the tops of posts that came out of an old post and plank fence. The bottom, or rotten part, of these is cut off. Some of them have been set over forty years. The tops we set in the ground about 2 1/2 feet, leaving about that much above ground. To this we spike a piece of scantling of sufficient length to make the post of regular length to nail the netting to. This makes a very cheap post and for all practical purposes is as good as is needed.

To strengthen the netting I use three strands of wire at top, center and bottom. These wires are tightened with ratchets, the netting is stretched over them and fastened by using pig rings, closing them with the ringer and nippers. The latter are used to make the points of the rings pass each other so the wires or netting will not slip out of the rings. Netting put up in this way will keep its shape for years and look neat. Without these wire stays the netting soon gets out of shape and makes the most undesirable and unsightly fence possible.—John M. Jamison, in National Stockman and Farm.

Entitled to Them.

Lawyer—My client wants two pensions.
Pension Agent—Two?
Lawyer—Yes; she can prove that her deceased husband wouldn't have gone to war at all if she hadn't made him.—Chicago Record.

POULTRY.

GEM POULTRY FARM—C. W. Peckham, Proprietor, Haven, Kans. Buff Plymouth Rocks, 2 flocks. Eggs from best flock \$2 per 15. A few choice Burdick cockerels for sale. Pea Comb W. Plymouth Rocks, 2 flocks. Eggs from best flock \$2 per 15. A few choice cockerels for sale. M. B. Turkeys, 2 grand flocks. Eggs \$2 per 11. Young toms for sale.

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13 for \$1; 30 for \$2; 50 for \$3; \$5 per 100. Recipe for making and using Liquid Lice Killer, 25 cents. Write for descriptive circular.
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EGGS AND STOCK.

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ELLIS' POULTRY SUPPLY CO., CHELSEA, MASS.

In the Dairy.

Conducted by D. H. Otis, Assistant Professor of Agriculture, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

Kansas Feeds.

Kansas is wonderfully blessed with an abundance and variety of cheap feeds. Profits in dairying depend very largely upon the ability of the farm and the farmer to produce what is needed by the cows on the farm. This does not mean quantity only, but quality as well. Any practical farmer knows that there is a great difference in the feeding value of our different crops. It has been found by repeated trials at the experiment stations and by practical feeders of both dairy and beef animals that this difference in our feeds is largely, if not wholly, due to different contents of the group of chemical elements known as protein. The experience of both practical dairymen and scientific experts show that the average dairy cow, in order to do her best, needs all the way from 2 to 3 pounds of digestible protein per day. If a cow be fed on corn, and corn stover, she will get just about half of the protein she needs, and as a result the cow will give some milk, but she can not do her best, and no matter how much corn and stover we may give to her, she has nowhere near the capacity to handle enough to furnish the protein she needs, to say nothing about the wear and tear on the system in handling so much extra and unusable material not protein. We must bear in mind that protein is an absolutely essential ingredient of milk, and must appear in the raw food material if there is to be a finished product. Suppose a farmer brings home a wagon-load of lumber and 5 pounds of 10-penny nails, and instructs his hired man to take a saw, cut up the lumber into small pieces and nail the pieces together into boxes. The man would go to work and make boxes as long as the supply of nails held out, but after the nails were used up he could not make any more boxes, no matter how much lumber he had. So it is with the cow, she will manufacture milk as long as her supply of protein holds out, but after that is exhausted she can not make any more milk, no matter how much of the other ingredients she may have. So the problem that confronts the Kansas dairyman is not how to secure the maximum production of any one crop, but maximum production of a variety of crops, which, when combined together, will furnish the nutrients needed by his cows, without much surplus of any one crop. In the discussion of Kansas feeds, which we hope to take up a little at a time on the dairy page, the aim will be not to show how this can be done absolutely, which would be an impossibility, but to indicate in a general way how it may be approached. D. H. O.

Alfalfa.

Much has been said about this wonderful crop of the world, how, as a silent subsoiler and a nitrogen gatherer, it sends its roots down to 30, 40, 50, and in some cases over 100 feet in depth, gathering up plant food all the way; how it hastens the production and improves the quality of beef, pork, mutton, and poultry products; how it increases the flow of milk, and improves the health of the animal. A prominent dairyman of Minnesota visited the agricultural college last winter, and while viewing the dairy herd he inquired, "What is the hay you are feeding?" When told it was alfalfa and that it contained an average of 10.6 pounds digestible pro-

tein in every 100, he exclaimed, "It does! Then you Kansas people have a Klondyke." Another prominent dairyman, who lives in one of the eastern states, is said to have made the remark after an extended tour over the United States, that sooner or later, when competition becomes keener and greater need is realized for lowering the cost of production, the dairy center of the United States is bound to shift to the alfalfa fields of the West. This statement is substantiated by the experience of the agricultural college where alfalfa was found to be the cheapest producer of butter fat; also by the testimony of J. W. Cunningham, of Jefferson County, who said he would not think of being in the dairy business without alfalfa. In 1900 Mr. Cunningham's alfalfa produced 7 tons of first class hay per acre. The more that is learned about alfalfa, and the more it is tried, the stronger is the conviction reached that, however much has been said, its praises have not been adequately sung. It is not here the intention to discuss the best methods of preparing the soil, planting, disking, cutting, curing, and preserving hay. A full discussion of these matters, and especially from a Kansas standpoint, can be had in a work by F. D. Coburn, secretary of the State Board of Agriculture, entitled, "Alfalfa," just now published by the Orange Judd Company, New York. D. H. O.

Dairy Farming.—How to Make it a Success.

C. S. COLE.

Dairy farming is fast coming to the front. It is already one of the leading industries. What better occupation could a man want for both profit and pleasure. Of course, the majority of our farmers complain, and say there is no money in dairying. Of course there is no money in dairying if you put nothing into it. A man can not expect to get something for nothing, or even a large profit from a small capital. Nine farmers out of every ten put nothing into the dairy part of the farm, and yet think that their cows ought to yield as much profit as other cows that are being properly cared for. Of course, every farmer has a few cows, but he does not study the conditions of care and feed that will be best adapted to the wants of his "dairy cows." He does not take the interest in his dairy work he should, but makes the dairy a mere side issue of the farm, and consequently his profits are small, if not a minus quantity.

The first essentials of profitable dairying are, first, a good dairy cow, and second, a good "dairyman" to take care of her in a way that she may do the most good. What is a good dairy cow? A good dairy cow is one that will produce a large quantity of dairy products at a low cost, and the best dairy cow is the one that will produce the maximum quantity at the minimum cost. And a cow, in order to produce a large quantity of milk, must be able to handle a large quantity of feed, that is, must be the type of cow that will convert the feed into milk instead of beef.

Now for the man. A man, to be a good dairyman, must be a man who loves to study nature, and assist her in every possible way. He must be a man of considerable business management, and above all, he must be a man that will "stay with it" through thick and thin. There "is" money in dairying, and plenty of it, but at the present age of advancement it takes an "educated" man to get the most out of it.

The question comes up, from those who run the dairy on a very small scale, how are we to dispose of our "dairy products?" Shall we make our butter on the farm and sell it, or shall we patronize the creamery? Shall we haul our

milk or hire it hauled? I would say, patronize the creamery. Neither haul your own milk, nor hire it hauled. Get a farm separator and separate your milk right on the farm. If you get your neighbors to do this, the creamery company will come after you cream. By so doing you have your skim-milk fresh and in the best possible condition to feed. You do not have any hauling to bother with, and your milk check is just as large and your calves are making a better growth. This system of dairying is proving the most profitable, wherever it is being practiced, both to the dairyman and to the creameryman.

What a Kansas Young Lady Thinks of Cows and Cow Owners.

ELEANOR M. WHITE.

Success depends more upon the herd than anything else. Much also in care and feed; but the best of these will not make a cow, with a capacity for only 125 pounds of butter a year, profitable. There is no doubt of there being room to improve as many herds in the United States average 300 pounds per cow per year, and in some communities herds produce 400 pounds per cow a year.

This is a lesson for the dairyman; what one has done another can do, and probably a little better. It certainly pays to try to excel along the line at which we are working. Since we have the Babcock test we should leave no stone unturned to weed out the unprofitable cows of the herd, and then grade up the herd from a good strain of dairy cattle, as many can not afford to buy registered cows, especially at first. If

a man has a cow, no matter what her breed, that will produce enough butter to be profitable (about 200 pounds a year), he can soon have some pretty good graded stock, and from these it is not a long stepping stone to higher grades.

An up-to-date dairyman can not afford to miss keeping an individual record of his cows for every milking of the year. To do this he ought to own a test machine. It will be surprising how much interest the boys, and girls too, will take in milking the old cows. Use the scales, samples and test for each cow; this is the only method of knowing whether you are contracting a mortgage or paying one off. Milking is a trade. Few men realize the importance of it, or the necessity of kindness, neatness, system, and regularity, and of securing all of the milk. It has been proved that to get the best results a cow must be treated kindly at all times and in all places. A cow should never fear the one who cares for her. Some people believe a cow hasn't any feelings. If she is treated half-way decent she is apt to be quite fond of that person and often shows it in her ways. In milking, it is cleanest to milk with dry hands. The milk differs in first and last drawn; the last being the richest in butter fat; hence milk cows clean.

Relation of Dairy and Creamery.

H. J. RICH.

You need look no farther than home to find out the advantages of the dairy and creamery industry in this locality. Ask our merchants, our bankers, our stockmen, our farmers. In one sense,

— De Laval — Cream Separators.



The improved "Alpha" disc or divided milk-strata system is used in the De Laval separators only. Strong patents prevent its use in any other machines. The "disc" system makes the De Laval machines as superior to other separators as such other separators are to setting systems. It reduces necessary speed one-half, reduces size of revolving bowl, saves labor and power, enables simplicity and durability, skimming cold milk, running cream of any desired thickness, and insures absolute thoroughness of separation under all conditions, which is not possible with any other separator or creaming system.

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CLEANEST SKIMMING, MOST SUBSTANTIAL, SAFEST, EASIEST OPERATED, and MOST DURABLE Separator made.

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KELLOGG SWITCHBOARD & SUPPLY CO., 232 E Green St CHICAGO.

the creamery is a product or effect of the dairy industry, but they are so closely related it is almost impossible to think of them separately; I believe that nothing else has benefited the dairy industry as our creameries have done. Did you ever think why it is we get such good prices for butter? This is true not only of those who sell to the creamery, but the ones who make their own butter. It is not necessary for me to tell the details of these things, but just figure and think for yourself. Talk and ask questions, read dairy papers, and attend conventions. Get away from home once in a while. See what others are doing to benefit us, as well as themselves. Help to study out the knotty problems that confront us as a people; do not think everybody is trying to beat you. That would mean that we are ignorant or lack knowledge, and don't know what we are doing. It is easier to say that the creamery is a robber or is cheating us than it is to go to work and post ourselves. It's easy to make assertions, but it takes patient study to gain knowledge crowned with wisdom. Let us all pull together, stand by each other, and be sure we understand what we are talking about before we make assertions detrimental to others. Let us have a better understanding of that divine law which considers no man superior or inferior only in degree.

It may seem as if I am getting off the subject, but the point is, there is no place like the farm, especially the dairy farm, to figure these things out.

Guernseys at the Pan-American Exposition, Buffalo, 1901.

There have been very liberal premiums offered in the Guernsey class during the Cattle Show, September 9-21, and that in addition to these the Club offers to add 50 per cent to all cash rewards.

Since then another matter of great interest to the breed has occurred, and the executive committee of the Club met recently and decided to secure 5 Guernseys for the Model Dairy to be conducted at Buffalo from May 1 to November 1. It will be recalled by our breeders that from the beginning it was deemed unwise for financial reasons to enter in the breed competition. The matter assumed several different forms until finally we had the assurance from Mr. Converse, who is at the head of the dairy division, that the competitive feature of the dairy was to be eliminated, and that it would be conducted as an exhibition dairy, where the various breeds could show to the public representative animals, and where their products would be exhibited in their natural form, that is, showing their quality, color, etc.

At present writing a committee is laboring hard to secure 5 such Guernseys for the work, and it is hoped that their labors will be rewarded and that the breeders will encourage them by furnishing suitable animals.

It will thus be seen that the admirers of the Guernsey will have much to interest them at Buffalo this season.

A proposition has also been made that there be a meeting of Guernsey breeders arranged during the stock exhibit in September; that it shall be under the cooperation of the Club with the two Guernsey Breeders' Associations, the one with headquarters about Philadelphia, and the one in the West. Such a meeting at the time of the judging of the Guernseys would give the breeders an excellent opportunity to come together and discuss matters of interest to their work with the breed.

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" and Catalogue 287 free. West Chester, Pa.

Judging at Kansas City Show.

Frank D. Winn, secretary of the National Breeders' Show, and also of the organization representing Poland-Chinas, gives the following explanation of the system of judging adopted by managing committee on Poland-Chinas at the Kansas City show, this method to apply only, of course, to the Poland-China breed: "The four judges who will tie ribbons on the Poland-Chinas at the Kansas City show are T. B. Hart, of Illinois; J. M. Klever and J. C. Hendrick, of Ohio, and W. Z. Swallow, of Iowa, who was substituted for W. N. McFadden, who could not serve on account of his official position with the American Poland-China Record Co. These gentlemen are all well known and have the confidence and esteem of breeders both as to their judgment and as to their honor. The managing committee does not believe that any one of these men would let any little personal feeling interfere with their best judgment in placing the awards, should

there be any; yet there are always those exhibitors who imagine they will not get a fair deal on account of personal differences, etc., and to ease the minds of such men, we have adopted a method of judging which will make it almost impossible for any breeder to be injured without there being as many as two of the judges working against him. Two judges will work on each class with a referee to decide in case of a disagreement and one judge will then of course deal out on each class. The judges will be rotated, the referee changed each time as well as the man who is out. It can readily be seen that unless both of the judges on a class or one of the acting judges and the referee are disposed to be prejudiced and to work against the same breeder, it will be impossible for him to get the worst of it. This method of judging was adopted for the great combined cattle shows at Kansas City this fall and in the opinion of the committee would be the most satisfactory that could be used for the Poland-China hog exhibit. The committee determined to go to the extra expense of the additional fourth judge to make it as fair and satisfactory to all exhibitors as possible. It was thought this would be appreciated by the breeders and be the cause of a larger and better exhibit."

Center of Population.

The census bureau has issued a bulletin announcing that the center of population of the United States, excluding Alaska and recent territorial accessions, on June 1 last was 6 miles southeast of Columbus, Bartholomew County, in southern Indiana.

It is described as latitude 39 degrees, 9 minutes, 36 seconds, and longitude 85 degrees, 48 minutes, 54 seconds. In ten years the center of population has moved westward 14 miles and southward 2 1/2 miles. This is the smallest movement ever noted by the census bureau. It shows the population of the western states has not increased as rapidly as in former decades. The southward movement is due largely to the great increase in the population of the Indian Territory, Oklahoma, and Texas, and the decreased westward movement to the large increase in the population of the north Atlantic states. The center of area of the United States, excluding Alaska and Hawaii and other recent accessions, is in northern Kansas. The center of population, therefore, is about three-fourths of a degree south and more than 13 degrees east of the center of area.

Sympathy.

"Sometimes," said the sympathetic man, "I feel sorry for the noble red man, who must stand by and see all his glories swept into the past."

Broncho Bob looked at him in surprise and then answered:

"Well, mister, you'll excuse me for mentionin' it, but I'm rather feelin' downright sympathetic toward you. There ain't nobody on earth that I feel sorrier for than anybody who doesn't know any better than to be sorry for Injuns."—Washington Star.

The ladies wonder how Mrs. B. manages to preserve her youthful looks. The secret is she takes Prickly Ash Bittres; it keeps the system in perfect order.

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These cars are run on the Union Pacific daily from Nebraska and Kansas points, and are fitted up complete with mattresses, curtains, blankets, pillows, etc., requiring nothing to be furnished by the passengers. Uniformed porters in charge of the cars, are required to keep them in good order, and look after the wants and comforts of all passengers. The cars are new, of modern pattern, and are almost as convenient and comfortable as first-class Palace Sleepers.

For full information call on or address, F. A. Lewis, City Ticket Agent, 525 Kansas Avenue, J. C. Fulton, Depot Agent.

Don't forget to look up our "Block of Two" offer.

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On Everything you Buy or Use.

Will sell you this splendid Full Half-Platform Spring Wagon for \$38.00. Look at the cut. Note the extra strong 4 ply elliptic spring in front; the 4 springs behind. Many people use only 3 springs, but 4 are better. It not only makes the wagon stronger, but it rides easier. See the elegant and comfortable high cushion seats with solid panels; wide roomy cushion seats; patent leather dash. The body is 7 ft. long, 33 in. wide and 8 in. deep, convex pattern, fully braced and reinforced at corners. Axles are 1 1/2 in. steel with double collars; front axle has carefully fitted axle bed. Rear axle is "coached." Double reaches ironed full length. Genuine Sarven all hickory wheels. Body painted black and neatly striped. Gears painted dark green and striped to match. It is simply a world beater at the price which includes shafts. This wagon would cost the buyer \$15 to \$20 more if bought from any local dealer. This is but one sample of the great saving this house is to you. We can supply you with any kind of vehicle you may want and 10,000 other articles. Vehicle Catalogue FREE. Our large General Catalogue sent for only 10c to cover cost of mailing.

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Send for Catalogue No. 49, which describes the full line.

ORNAMENTAL FENCE

25 designs, all steel. Handsome, durable. Cheaper than a wood fence. Special inducements to church and cemetery. Catalogue free. **KOKOMO FENCE MACHINE CO.,** 622 North St., Kokomo, Indiana.

MARKET REPORTS.

Kansas City, May 6.—Cattle—Receipts, 4,526; calves, 219. The market was steady to 10 cents higher in extreme cases. Representative sales:

SHIPPING AND DRESSED BEEF

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of beef.

OKLAHOMA STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 40 stk., 11, 2, 2 stk.

WESTERN STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 72, 63, 25, 24.

TEXAS AND INDIAN STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 66, 19, 24, 119.

TEXAS AND INDIAN COWS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Row includes 1.

IOWA STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 26, 30, 13, 6.

NATIVE HEIFERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 60 s&h, 14, 1, 9.

NATIVE COWS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 3, 3, 6, 4.

NATIVE FEEDERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 24, 28, 6, 19, 3.

NATIVE STOCKERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 28, 6, 19, 3.

STOCK COWS AND HEIFERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 1, 2, 1, 2.

Hogs—Receipts, 8,491. The market was steady to 2 1/2 cents higher. Representative sales:

Table with 4 columns: No., Av. Price, No., Av. Price, No., Av. Price. Rows include 60, 65, 97, 80, 13, 12.

Sheep—Receipts, 6,776. The market was steady. Representative sales:

Table with 4 columns: No., Av. Price, No., Av. Price, No., Av. Price. Rows include 6 spg.lms, 502 Col.lms, 488 Col.lms, 42c Ar.s&y.

Chicago Live Stock.

Chicago, May 6.—Cattle—Receipts, 18,000. Good to prime steers, \$5.00@6.00; stockers and feeders, \$3.25@5.00; Texas fed steers, \$4.25@5.40.

Hogs—Receipts, 30,000. Mixed and butchers, \$5.55@5.85; bulk of sales, \$5.70@5.80.

Sheep—Receipts, 20,000. Good to choice wethers, \$4.20@4.40; western sheep, \$4.20@4.40; native lambs, \$4.20@5.15.

St. Louis Live Stock.

St. Louis, May 6.—Cattle—Receipts, 1,800. Native steers, \$3.75@5.75; stockers and feeders, \$3.50@5.85; Texas and Indian steers, \$3.45@5.10.

Hogs—Receipts, 5,000. Pigs and lights, \$5.60@6.70; butchers, \$5.75@5.87 1/2.

Sheep—Receipts, 1,400. Muttons, \$3.75@4.50; lambs, \$4.60@5.00.

Omaha Live Stock.

Omaha, May 6.—Cattle—Receipts, 3,200. Native beef steers, \$4.25@5.60; western steers, \$4.00@4.80; Texas steers, \$3.50@4.25; stockers and feeders, \$3.25@5.25.

Hogs—Receipts, 3,500. Heavy, \$5.67 1/2@5.77 1/2; bulk of sales, \$5.65@5.77 1/2.

Sheep—Receipts, 5,700. Common and stock sheep, \$3.70@3.95; lambs, \$4.25@5.05.

Kansas City Grain.

Kansas City, May 6.—Wheat—Sales by sample on track:

Hard—No. 2, 70c; No. 3, 63@63 1/2c. Soft—No. 2, 71@72c; No. 3, 69@70c.

Mixed Corn—No. 2, 42 1/2@42 3/4c; No. 3, 42 1/2c.

White Corn—No. 2, 43 1/4@44c; No. 3, 43 1/2c. Mixed Oats—No. 2, 29 1/2c; No. 3, 29c.

White Oats—No. 2, 29 1/2@30c; No. 3, 29@29 1/2c.

Rye—No. 2, nominally 53 1/2c. Prairie Hay—\$5.00@10.00; timothy, \$5.00@11.00; alfalfa, \$7.00@10.50; clover, \$3.00@9.50; straw, \$4.00@4.50.

Chicago Cash Grain.

Chicago, May 6.—Wheat—No. 2 red, 73@74 1/2c; No. 3, 71@73 1/2c; No. 2 hard winter, 72 1/2c; No. 3, 71 1/4@72 1/2c; No. 1 northern spring, 73@74c; No. 2, 73@74c; No. 3, 69@78c.

Corn—No. 2, 51c; No. 3, 44 1/4@45 1/2c. Oats—No. 2, 28@28 1/2c; No. 3, 28c.

Futures: Wheat—May, 72@72 1/2c; June, 72c; July, 72 1/2c. Corn—May, 51c; July, 46 1/2@46 1/4c. Oats—May, 28 1/2c; July, 26 1/2c. p, 5c; t 6

St. Louis Cash Grain.

St. Louis, May 6.—Wheat—No. 2 red cash, elevator, 73 1/2c; track, 74 1/2@75c; No. 2 hard, 72@73 1/2c. Corn—No. 2 cash, 44 1/2c; track, 44@45c. Oats—No. 2 cash, 29 1/2c; track, 29 1/2@30c; No. 2 white, 30 1/4@31c.

Kansas City Produce.

Kansas City, May 6.—Eggs—Fresh, 10c doz.

Butter—Creamery, extra fancy separator, 17c; firsts, 15c; dairy, fancy, 14c; packing stock, 10 1/2c; cheese, northern full cream, 11 1/2c; Missouri and Kansas full cream, 11c.

Special Want Column.

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

CATTLE.

FOR SALE—Three registered Shorthorn bulls, 18 to 26 months old. John J. Thorne, Kinsley, Kans.

HORSES AND MULES.

LEAVENWORTH COUNTY JACK FARM.—Seven mammoth jacks for sale. O. J. Corson, Potter, Kans.

FARMS AND RANCHES.

ALL KINDS OF LAND FOR SALE—Farms and ranches, all sizes and prices, in Kansas and Colorado.

MISCELLANEOUS.

One skimming plant for sale, nearly new. W. J. Wedd, Lenexa, Johnson Co., Kans.

UNION PACIFIC LANDS—Fifty cents to \$10 per acre, in Kansas, Nebraska, Colorado and Wyoming.

TRACTION ENGINE FOR SALE—Cheap. Address Gresham Bros., Bucklin, Kans.

FOR SALE—Early yellow soy-beans. A. M. Dull, Washington, Kans.

EARLY YELLOW SOY-BEANS FOR SALE—At \$1.50 per bushel. H. G. Mosher, Topeka, Kans.

WANTED—TRUSTWORTHY MEN AND WOMEN to travel and advertise for old established house of solid financial standing.

WOOL WANTED—We want, and will pay the highest market price in cash for 500,000 pounds of wool.

EARLY YELLOW SOY BEANS—For sale at \$1.65 per bushel, sacked on track at Vera, Kans. H. H. Clothier.

FOR SALE CHEAP—Four Great Dane pups, 3 months old. Pure-bred and fine individuals. W. H. Richards, V. S., Emporia, Kans.

500 bushels seed sweet potatoes for sale. Assorted varieties; also plants in season. For prices, address N. H. Pixley, Wamego, Kans.

FOR SALE—Feed mills and scales. We have 2 No. 1 Blue Valley mills, one 600-pound platform scale, one family scale, and 15 Clover Leaf house scales, which we wish to close out cheap.

Smith Cream Separator. The only separator on the market that does not MIX the milk and water, and sold under a positive guarantee.

BINDER TWINE. FARMERS wanted as agents. AUGUST POST, Moulton, Iowa

SILBERMAN BROTHERS YOUR WOOL. Will pay you just in proportion as you are able to market it well and to your advantage.

WOOL SHIP DIRECT! There is no way to get full value for your wool except by shipping direct to market.

THE STRAY LIST. Week Ending May 9. Cherokee County—S. W. Swinney, Clerk.

AN INDIAN... SCOUT'S RECIPE. For exterminating Prairie Dog villages and other rodents.

Two Years Ago. 160 Acre Farms in Western Canada FREE. You were advised, if a renter, a farmer's son...

Farmer and Capital, \$1.25. The Semi-weekly Capital, published twice a week at Topeka, Kansas, is an excellent 8-page Republican newspaper.

WHEN IN CHICAGO, STOP... at the newly furnished and decorated hotel. Steam heat and electric elevators.

For Sale—35 High Grade Herefords. Thirty-five head of very high grade Herefords for sale, consisting of 20 cows, from 3 to 9 years old, with calf, or calves at foot from my herd bulls.



ISN'T IT AWFUL

how other companies' agents 'go on' about the PAGE, trying to show how their fences are just as good, or better? They've got a hard job.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Is There Any Reason

why you should pay the dealer a large profit for selling you fence when you can buy the ADVANCE FENCE direct from our factory at wholesale prices? There is no better fence made of wire.

Entirely interwoven—no ends to get loose and injure stock or ravel out. Many heights. Circulars and special discounts free. ADVANCE FENCE CO. 180 Old St., Peoria, Ill.

Build Your Own Fences

Don't pay double prices on ready made fences. Build them yourself with a Steel King Fence Machine. A great reduction in price has been made on the Steel King.



A Davis Gas and Gasoline Engine



Will run your Wood Saws, Well Drills, Corn Shellers, Grinding Mills, Threshing Machines, Creamerys, Etc.

CHEAPER and easier than any other power. Write to-day for Catalogue. DAVIS GASOLINE ENGINE WORKS, Waterloo, Iowa.

BUTTER AND EGGS.

Sell to us at highest market prices. We will always pay you more than your local dealer can. We furnish this package to ship in. Also, Cream Separators. Write for prices and particulars.

O. F. CHANDLER & CO., 1430 Walnut Street, Kansas City, Mo.



RECTOR'S IMPROVED CREAM SEPARATOR

The greatest time and labor saver of the century for butter makers. Separates AUTOMATICALLY in 40 minutes. Gain in cream from 5 cows in one month pays for it.

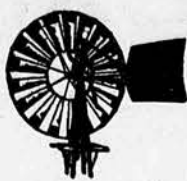
CREAM SEPARATOR FREE

This is a genuine offer made to introduce the Peoples Cream Separator in every neighborhood. It is the best and simplest in the world.

Italian Bees

Full colonies shipped any time during summer and safe arrival guaranteed. It will pay you to try my stock of Italian bees in the Latest Improved Hives.

\$25 ON 5 TON IS WHAT YOU CAN SAVE We make all kinds of scales. Also B. B. Pumps and Windmills. BECKMAN BROS., DES MOINES, IOWA.



KIRKWOOD FOR 1900

STEEL WIND MILLS, STEEL TOWERS, PUMPS, and CYLINDERS, TANKS, and FITTINGS OF ALL KINDS

Kirkwood Wind Engine Co Arkansas City, Kans.

DO NOT BUY WELL DRILLING MACHINERY

until you see our new Catalogue No. 41 We will furnish it to you FREE. Write to our address, either Harvey, Ill., Chicago, Ill., or Dallas, Texas.

F. C. AUSTIN MFG. CO. Factories at Harvey, Ill.



Do you want a WIND MILL?

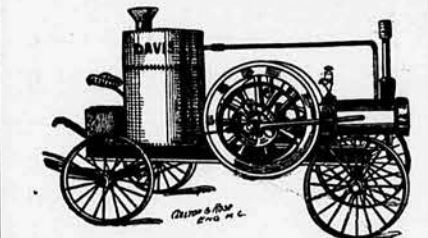
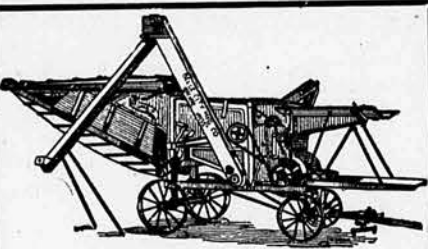


Do you want a FERRIS MILL? We have them the best made and at prices that CAN NOT BE EQUALLED.

CURRIE WINDMILL CO., Topeka, Kans.

DRILLING MACHINERY

FOR WATER, GAS and MINERAL PROSPECTING. Steam or Horse Power. We are the oldest and largest manufacturers of Drilling Machinery in this country.



THE FARMER'S FRIENDS.

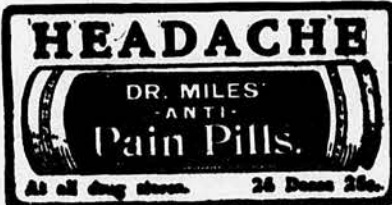
A COMPLETE THRESHING OUTFIT Small in Size, Small in Cost, Large Capacity.

A Portable Gasoline Engine for Any Work—Any Time—Anywhere.

Write for Catalogue of our Machinery Department. John Deere Plow Co., KANSAS CITY.

C. F. MENNINGER M. D., CONSULTING PHYSICIAN

727 KANSAS AVENUE, TOPEKA, KANSAS Specialties: Chronic, and Obscure Diseases. Heart and Lungs.



Epworth League California Excursions

Account Fifth International Convention of Epworth League, San Francisco, July 18-21.

San Francisco is an ideal summer resort—weather always cool. Trip thither in summer, across high tablelands of New Mexico and Arizona, is pleasant—air bracing, no oppressive heat or dust.

Best way to go is via Santa Fe Route, only line under one management, Chicago to San Francisco; daily trains to California, Fred Harvey meal service, personally-conducted excursions.

On the way visit Indian pueblos and petrified forest, also Grand Canon of Arizona—world's greatest scenic spectacle, now easily accessible.

See southern California—its noted resort hotels, idyllic valleys, majestic mountains, smooth beaches and lovely islands, its old missions, its semi-tropic fruits and flowers, its great oil wells. This important section reached via Santa Fe Route cheaper than most other lines and with greater comfort.

Extremely low round-trip rates; liberal stop-over privileges; choice of routes returning; open to everybody. All ticket agents sell via Santa Fe Route. Descriptive literature on request.

Address W. J. Black, Gen. Pass. Agent, A. T. & S. F. Ry., Topeka, Kansas

Santa Fe Route.

THE AGRICULTURAL PROBLEM....

Is being solved in a most satisfactory manner, along the line of the.....

MISSOURI PACIFIC RAILWAY

....AND....

IRON MOUNTAIN ROUTE

All sorts of crops are being grown, and they are large crops, too. Reduced rates are offered the first and third Tuesdays of each month, and these events are called low rate Homeseekers' Excursions.

Zinc and Lead Mining, will be mailed free on application to H. C. Townsend, General Passenger and Ticket Agent, St. Louis.

OKLAHOMA OPPORTUNITY.

HOMES FOR THOUSANDS in the KIOWA, COMANCHE, AND APACHE RESERVATIONS which are to be opened for settlement in 1901.

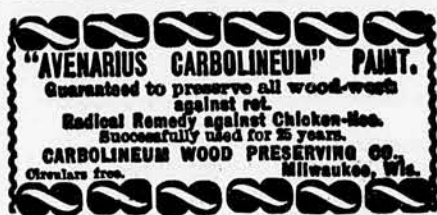
...THE GREAT... ROCK ISLAND ROUTE

is the only line running to, through, or near the RESERVATIONS.

"OKLAHOMA OPPORTUNITY"

A book describing these lands and conditions of entry, SENT FREE.

Address.... E. W. THOMPSON, A. G. P. & T. A., TOPEKA, KANSAS



"AVENARIUS CARBOLINEUM" PAINT.

Guaranteed to preserve all wood-work against rot. Radical Remedy against Choke-Neck. Successfully used for 25 years. CARBOLINEUM WOOD PRESERVING CO. Milwaukee, Wis.

Grindstones.

Direct from maker to user 75-lb. stone, diameter 20 inches, \$2.80. 100-lb. stone, diameter 24 inches, \$3.30. Either size stone mounted, \$1.25 extra. The prices include cost of delivery at nearest railroad station. Write for circular. F. L. COLE, Lock Box 381, Marietta, Ohio.

ONE FARE

FOR THE

ROUND TRIP

—VIA—

THE UNION PACIFIC

FOR

Annual Meeting German Baptists (DUNKARDS)

Lincoln, Neb., May 24-31, 1901,

From points east of Denver, Cheyenne, and in Kansas and Nebraska. In order to give those attending this meeting an opportunity to visit points of interest, an open rate of fare, for the round trip, will be made to all points in Nebraska from Lincoln.

WHEN IN CHICAGO, STOP....

at the newly furnished and decorated hotel. Steam heat and electric elevators. Formerly the Clifton House, but now the

...WINDSOR-CLIFTON HOTEL,

Corner of Monroe Street and Wabash Avenue. Located most central to the wholesale and retail stores, theaters, and public buildings. The prices range from 75 cents and upwards per day. European plan. Visitors to the city are welcome. SAMUEL OREGSTEN, Proprietor.

CENTROPOLIS HOTEL

KANSAS CITY, MO.

KUPER, CAMPBELL, MEYER, PROPRIETORS.

HEADQUARTERS KANSAS STOCKMEN

The Centropolis has been remodeled entire and refurnished complete. American and European plan. Prices very reasonable. Take surface cars in front of Union Depot direct to hotel.

PILES

Fistula, Fisures, all Rectal Troubles quickly and permanently cured without pain or interruption of business. Mr. Edward Somers, Castleton, Ill., suffered with bleeding, swelling and protruding piles for many years, doctors had given his case up as incurable; he was completely cured by our treatment in three weeks.

Thousands of pile sufferers who have given up in despair of ever being cured, have written us letters full of gratitude after using our remedies a short time. You can have a trial sample mailed FREE by writing us full particulars of your case. Address

HERMIT REMEDY CO., Suite 786 Adams Express Bldg., Chicago, Ill.

PILES

Sure cure, quick relief, simple treatment Red Cross Pile and Fistula Cure and Book mailed free. DR. REA & CO., Dept. 41, Minneapolis, Minn.

Ladies Our monthly regulator never fails. Box FREE. Dr. F. May, Bloomington, Ill.

BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill.

TO SHEEP BREEDERS

First edition Stewart's "DOMESTIC SHEEP" sold out. Second edition, revised and enlarged, now ready. 384 pages boiled down sheep and wool knowledge, covering every department of sheep life. Acknowledged everywhere as the best book ever published on the subject. Used as a textbook in Agricultural Colleges. Publisher's price, \$1.50. In club with Kansas Farmer one year for \$2. Address KANSAS FARMER CO., Topeka, Kans.

REBUILT MACHINERY UNLIMITED SUPPLIES at BARGAIN PRICES. PERFECTION PREPARED FELT ROOFING. Two Sheets saturated felt, and between sheets water-proof cement, making a solid, flexible sheet, the layers of composition thoroughly combined. It can be put on without removing the old roof. Can be applied without previous experience, requiring no special tools. Each roll contains 108 square feet. Comes complete with cement for two coats, caps and nails to lay. Price per roll.....\$1.05. A million feet of Brand New and Second Hand RUBBER, LEATHER and COTTON STITCHED BELTING, bought at various Sales. We guarantee to save you from 25 to 50 per cent. We have a job in ENDLESS THRASHER BELTS. ASK FOR FREE ILLUSTRATED CATALOGUE No. 61 CHICAGO HOUSE WRECKING CO. WEST 35th & IRON STS., CHICAGO.

LESS Than DEALERS PAY

Our Price to You is **\$7.25**

This is a sample of our Furniture prices. Here is a Couch which the factory sells to your dealer at about \$8.00. Your dealer will charge you not less than \$10.00 or \$12.00 for a couch of equal grade.



Order No. O2007P.
Price, \$7.25
State color of plush preferred.

An unusually large, luxurious couch, made of selected oak, or, if preferred, in mahogany finish, handsomely carved throughout and supported by massive carved claw feet. It has six rows of deep hand-made tufts, fastened with the celebrated steel tufting buttons which cannot pull off or pull through the cover.

It is well filled and contains the best grade of steel springs turned from special high-carbon wire, over which is placed heavy duck canvas instead of the burlap commonly used, the best grade of figured velour plush in all the staple colors being used for upholstery.

From a sanitary point of view the open bottom presents a special feature. It allows good ventilation and a free circulation of air, which is disastrous to moths and germs.

The frame is massive and substantial, the workmanship first class, the appearance neat and artistic—a good, serviceable couch at the lowest price ever offered. Size 80 inches wide, 78 inches long. Weight 100 pounds.

We do not care to ship goods unless freight charges are guaranteed. If you do not wish to send the full amount, \$7.25, send us \$1.00 to show good faith, and we will do the rest. If you really think that you ought not to take even this risk, write us and say that you prefer to have the couch shipped C.O.D. and that you will pay the full amount upon arrival and examination.

We want to be reasonable from every point of view. It may be returned at our expense if not satisfactory. Send us your order now; do not wait. Order No. O2007P.

Montgomery Ward & Co., Michigan Ave. & Madison St., Chicago

We sell 70,000 articles at wholesale prices, as we do this. They include everything you wear or use, and about everything you eat. Our new catalogue—No. 69—is just issued and it describes them all. It contains over 1,000 pages, 17,000 pictures and 70,000 of the lowest prices ever quoted. It weighs almost four pounds, and the postage alone costs 30 cents. We will send you this catalogue by mail or express prepaid on receipt of 15 cents. It will save any ordinary family at least \$100 per year, and may save that on one purchase. If you are not satisfied when you get it we will send your 15 cents back.

This is the largest mail order house in the world. Established 1872. We have 25 acres of floor space covered with merchandise; 2,000 employes, and two million customers. We quote lower prices, for values given, than any other house in existence.

Montgomery Ward & Company - Chicago

Cut this slip out and send it with 15 cents in stamps Today.
Montgomery Ward & Co., Michigan Ave. and Madison St., Chicago
Enclosed find 15 cents for partial postage on your Buyers' Guide No. 69 for Spring and Summer, 1901.
Name _____
(Be sure to write very plainly.)
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County _____ State _____
Be sure to enclose this slip in an envelope.
This slip was clipped from Kansas Farmer.

The Three Million Acre FARWELL RANCH

(Also known as the X. I. T. Ranch and the Capitol Syndicate Ranch)

in the Panhandle of Texas FOR SALE

IN TRACTS TO SUIT.

The land is largely chocolate or black sandy loam, deep, rich, capable of producing forage crops in great abundance. It is thickly coated with buffalo, mesquite, grama, sedge and other choice grasses. Rainfall ample for production of forage crops, grasses and fruits. Admirably adapted for Grapes, Pears, Peaches, Apples, Plums, Melons, etc. An inexhaustible supply and excellent quality of water is procurable at an average depth of 125 feet.

The altitude varies from 2300 feet at the south to about 4700 at the north. The temperature is equable and the climate unexcelled for healthfulness. This is the best cattle and stock breeding country in the world. Panhandle cattle are of very superior quality, a carload of steers bred on this Ranch having been reserve number for the grand champion carload of fat steers at the International Live Stock Exposition in Chicago, December, 1900. The stock subsists on the pastures the entire year, finding very nutritious food in the cured native grasses. This is an unprecedented opportunity for those desiring to engage in the stock farming business or for investors willing to hold for appreciating values. The small ranchmen in the Panhandle have made more in recent years for the capital and energy invested than the farmers in any section of our country.

The Ft. Worth & Denver City Ry. traverses the north end of this land, the Pecos Valley and Northeastern Ry. (part of the Santa Fe system) the south end, and the Chicago, Rock Island and Pacific Ry. is constructing a line from Liberal, Kas. to El Paso, Texas, which will soon traverse the middle of it.

Title perfect. Will be sold in solid blocks to suit purchaser for cash or very liberal time payment.

To inspect lands call on A. G. Boyce at Channing, a station on the Ft. Worth & Denver City Ry. in Hartley Co., Texas, and for full particulars write him or Wm. Boyce, agent, Amarillo, Texas; or Geo. Findlay, agent, 148 Market Street, Chicago, Ill.

LIGHTNING GAS ENGINE AND SCALES
KANSAS CITY HAY PRESS CO.
129 Mill St. KANSAS CITY MO

WHEN WRITING ADVERTISERS MENTION KANSAS FARMER.

Use Rock Salt for Brine, Pickles, Hides, Meats, Ice Cream, Ice Making, Fertilizing and Refrigeration.

USE
Kansas Lump Rock Salt
GROUND ROCK SALT FOR STOCK. MINES AND WORKS, LYONS & KANOPOLIS, KAN.
PUREST, MOST HEALTHFUL, BEST. HIGHEST AWARDS AND MEDALS FOR PURITY, WORLD'S EXPOSITION, CHICAGO, 1893; TRAN-MISSISSIPPI EXPOSITION, OMAHA, 1899.
WESTERN ROCK SALT CO., ST. LOUIS, MO.

A Sure Preventive of Blackleg

Is Parke, Davis & Company's Blackleg Vaccine Improved. Ready for Immediate Use. No Expensive Outfit Needed.

All you have to do is to put the Vaccine in your syringe, add boiled water according to directions, and inject into your cattle. It will positively PROTECT your cattle from the dread disease, Blackleg, the same as vaccination prevents Smallpox in the human family. Specify Parke, Davis & Co.'s Blackleg Vaccine Improved, and get the kind that is sure to be reliable. EVERY LOT IS TESTED ON CATTLE BEFORE IT LEAVES OUR LABORATORIES. Write for Literature and Full Information, Free on Request.

FOR SALE BY ALL DRUGGISTS.

PARKE, DAVIS & CO., Detroit, Michigan.

BRANCHES: New York City, Kansas City, Baltimore, New Orleans, Walkerville, Ont., Montreal, Que., and London, England.

Trade-Marks



"BLACKLEGINE."

"Pasteur Vaccine"

SAVES CATTLE FROM

BLACK LEG

Nearly 2,000,000 successfully treated in U. S. and Canada during the last 5 years. Cheap, safe and easy to use. Pamphlet with full particulars, official endorsements and testimonials sent FREE on application.

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