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Scotch and Scotch-topped

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Herd bulls, Sir Knight 124403 and Violet Victor 137574. Herd boars, Black U. S. 2d 50606, and L's Sensation 2d 18805. Representative stock for sale.

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Scotch and Scotch-topped, with the richly-bred Cruickshank bulls, Champion's Best 114671 and Gwendoline's Prince 130913, in service. Also high-class DUROC-JERSEY SWINE. Can ship on Santa Fe, Frisco and Missouri Pacific railroads.

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E. R. LOCK's Barred Plymouth Rocks are still in it. Twice in succession my birds have won all of the prizes where shown. Write me for prices on stock Eggs \$1 to \$2 per 15. Catalogue free for writing.

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H. T. FORBES L. C. FORBES.Breeder of....

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Barred P. Rocks, White P. Rocks, Partridge Cochins, Buff Cochins, Light Brahmas, Black Langshans, Black Javas, Silver Wyandottes, White Wyandottes, S. S. Hamburgs, Brown Leghorns, White Leghorns, Pearl Guineas, and Pekin ducks. All our fine breeders of this season, and our earliest spring chicks will go at half price during summer. Write me your wants. Circular free.

A. H. DUFF, Larned, Kans.

Chicken Fixin's.

If you want anything in this line, from a leg-band to an incubator or brooder, I've got 'em—it's a part of my business. Write me for prices, or better, send ten cents (silver or stamps) for my Guide to Poultry Culture, catalogue and price list. It may be worth dollars to you. I also breed first-class poultry, and am now selling EGGS AT HALF PRICE. Send for circular giving varieties and matings for 1899. It's free for 1 cent stamp.

EXCELSIOR FARM, C. B. Tuttle, Prop'r, Topeka, Kans.

Agricultural Matters.

TILLAGE AND SOIL MOISTURE.

J. T. Willard and W. R. Clothier, in Bulletin No. 89, Kansas Experiment Station.

In studying the effect of tillage upon the conservation of soil moisture many sets of samples have been taken which have led to no definite results, owing to the inherent obstacles to such work. Rains may so modify the physical state of the soil as to make plats, designed to be different, practically identical; the difficulty of having plats strictly comparable as to conditions; the difficulty in sampling; these and other obstacles have conspired to make many of our results of little general interest or value. Our chief aim has been to learn what treatment available to the average farmer will most effectively and cheaply assist in conserving the moisture of his soil. This section of this bulletin will include an account of an experiment with small plats to study the effect of a mulch of hay and of a soil mulch; a comparison of several modes of tillage, and a study of the effects of early plowing as compared with late plowing on soil moisture.

DRY SOIL MULCH EFFECTIVE.

An experiment reported in Bulletin No. 68, showed that a dry soil mulch is quite as effective in conserving soil moisture as a hay or straw mulch, and that by its application immediately after a rain, a very considerable amount of moisture can be held in the soil for the use of growing plants during a drought or to germinate seed that might be planted. During the summer of 1897 this experiment was repeated in a modified form. Four small plats were laid off in a field where conditions were as nearly uniform as possible. A mulch of green grass about 4 inches deep was placed upon No. 1; No. 2 was left untreated; No. 3 was cultivated about 4 inches deep, with a hoe, and No. 4 was raked about 1 inch deep with a garden rake. The treatment given plats 3 and 4 was repeated after every rain as soon as the crust became dry enough to work without puddling.

The percentage of moisture was determined in each plat every other day. The samples were taken with a Whitney tube, and the holes filled with the moist soil. The spots were marked with a small stick so that later samples could be taken near without cutting into them. One sample was taken from each plat for each determination.

At the beginning of the experiment, July 10, the plats were of practically the same moisture-content, but by August 13 there was a decided advantage in favor of the mulched plat. A rainfall of 0.65 inch occurred on that date after the sampling, but from that date until October 17 was a period of almost unbroken drought. The change in the moisture-content of the plats during this period is of special interest and value.

MORE MOISTURE IN AUGUST.

August 14 the mulched plat contained about 5½ per cent more moisture than the others, and it continued to maintain about this advantage over the untreated plat up to September 1. The cultivated plats lost water at a much slower rate than the mulched plat, so that by September 3, the three had practically the same amount. From that date on, the tilled plats showed an increasing advantage over the other plats. October 15 the mulched plat was as dry as the untreated one, while the tilled plats contained 5 per cent more than the others. The dry soil covering was thus very effective throughout the entire period in conserving the moisture. The untreated plat was dry to the depth of the sample, 1 foot, while the tilled plats were in excellent condition for seeding below the soil mulch. The soil mulch was very dry, and as it was a part of the sample in cutting a core to the depth of a foot, the part of the sample below the dry covering was more moist than the figures would suggest if compared with determinations of water in soil in the ordinary state. The soil from the lower 8 inches was moist enough to stick together when compressed with the hand.

MORE MOISTURE IN SEPTEMBER.

During the period from September 9 to October 1, a period during which nearly all the wheat in this locality is sown, there was an average of 19.2 per cent of moisture in the cultivated plats, while the untreated plat contained an average of only 15 per cent, a difference of 4.2 per cent. If this difference is calculated upon the basis of the total moisture in the untreated plat, we find that the amount of moisture in the cultivated plats was 28 per cent more than that in the untreated plat. While wheat would have grown well in the tilled plats it would probably not have germinated if planted in the untreated one.

FIELD EXPERIMENTS.

Experiments on the larger scale always appeal more strongly to one's confidence,

and in coöperation with the farm department we have made a considerable number of investigations of the effect of cultural treatment on soil. We have also continued experiments begun under the previous organization of this department, and planned new ones of similar character, in which large plats were given various kinds of treatment, the soil not being cropped at the same time. The object of these experiments was to study the effectiveness of the different modes of tillage, without the disturbing element of a crop which would make accurate sampling so much more difficult. The sampling of soils in fields is a difficult problem at best. During 1897 we used Whitney's method, taking samples to the depth of 1 foot. In 1898 we used the same method, but a wider tube, so that a core 1 inch in diameter was cut instead of but three-fourths of an inch. We found this much more certain to cut the proper sample. With the narrower tube there is great liability that the tube will become choked, and then simply drive into the ground like a stake instead of cutting out a core.

Another principle which we adopted looking toward fair sampling, was the taking of composite sample. To facilitate this, collecting cans were made with screw tops, and with a bail for carrying them. Whenever a field or large plat was to be sampled, cores were cut by means of the tube from six to ten different places and put in the can. After being brought to the laboratory this large composite sample was quickly and intimately mixed, and a portion taken for the estimation of water. In this way it is believed that representative samples have been secured, especially since the wider sampling tube was adopted.

FERTILIZERS' FAILURE.

While not being as sure two years ago as now that the hope that soil moisture could be affected to a practical extent with our soil, by the application of suitable fertilizers, was without foundation, we have from the first recognized that practical methods of conserving soil moisture in our State are limited to modifications of soil culture, and, with small areas, mulching.

METHODS OF CULTURE.

Both last year and the year before a series of plats was prepared by plowing and then treating in various ways. In 1897 nine plats were prepared as follows: plat 7 was plowed only; plats 1 and 5 were plowed and planked; plats 2 and 8 were plowed and packed once with Campbell's subsurface packer; plats 3 and 9 were plowed and packed 3 times with Campbell's subsurface packer; plat 4 was plowed and rolled; plat 6 was plowed, disked and planked. Composite samples were taken from each plat weekly during the months of August, September, October, and November. Rains of considerable amount, setting in October 17, make comparisons before that date of more value. Averaging the results where more than one plat was given the same treatment, the percentages of water in the soil from August 16 to October 11 averaged as follows for the several modes of treatment: Plowed only, 11.5; plowed and rolled, 14.2; plowed and planked, 10.8; plowed, disked, and planked, 12.1; plowed, packed once and planked, 12.0; plowed, packed 3 times, and planked, 12.5.

The results show no marked differences in the average moisture-content except in the case of the rolled plat, which is noticeably higher. As this is contrary to what is usually expected, and to the results obtained the next year, it may be taken as an example of the difficulties attending such experiments. The land used for these experiments was not in ideal condition, having grown up somewhat to weeds and crab-grass so that the roots held the soil in a slight sod to some extent. It would fairly represent the conditions under which much plowing is done, however. The rolling under these conditions probably pressed the sod down so as to close open places without making it so compact as to facilitate the loss of water through increased capillary rise.

In 1898 the same soil was plowed in good condition, June 4, and certain parts given additional treatment calculated to show the effect of tillage. The moisture-content of the several plats was determined frequently up to September 6. The plats were of ample size, each determination of moisture was by means of composite samples made up of 6 samples taken with our large tube, and it is believed that the results fairly represent the actual moisture conditions as affected by treatment of our soil, which is a fertile upland, with stiff clay subsoil. The results are so nearly the same on the different plats as to make it difficult on the whole to be sure that there is any real difference due to culture. The rolled plat is the lowest, and that simply plowed the highest on the average.

The effectiveness of simple plowing as a means of conserving soil moisture, as shown here and in other of our observations is a fact worthy of serious notice. It is not necessary to go to large additional expense in both tools and labor in order to preserve the moisture, but it is necessary to do the

plowing promptly, while the moisture is still in the soil. Experiments involving a large number of determinations of moisture which are not detailed in this bulletin have shown that once out of the soil even daily tillage does not suffice to increase the amount perceptibly over similar land given ordinary treatment.

Varieties of Corn.

Editor Kansas Farmer:—The late Dr. E. Lewis Sturtevant, formerly director of the New York State Experiment Station, was our foremost authority on varieties of corn. The Office of Experiment Stations, U.S. Department of Agriculture, has recently published, as Bulletin No. 57, an important article from his pen entitled, "Varieties of Corn." I will give a few notes upon this for the benefit of your readers.

He divides the varieties of corn into 6 groups or subspecies.

I. The Pod Corns—Each kernel is enclosed in a husk of its own, the whole ear being surrounded by husks as usual. This variety is not commonly cultivated, and then chiefly as a curiosity. Darwin suggests that this may represent the aboriginal form. It may be only a peculiar sport. Since it shows a tendency to produce a large amount of foliage it may be worth developing as a forage corn.

II. The Pop Corns—This group is well known from its property of popping. The starch stored around the germ of all corn consists of two kinds, the white floury portion known as starchy endosperm, and the firm horny portion called the corneous endosperm. In the pop corns the starch is all or nearly all in the form of corneous endosperm, hence under the influence of heat the moisture within the grain explodes and turns the grain inside out. Corn with a greater proportion of starchy endosperm merely splits instead of exploding. A wild kind belonging to this group has been discovered in Mexico and described by Dr. Watson under the name of *Zea Canina*. All the evidence points toward the pop corn as being the least modified from the original type. There are 25 varieties of pop corns described in the bulletin.

III. The Flint Corns—Many varieties have only 8 rows of kernels and are known as 8-rowed corn. The flint corns frequently mature in from ninety-five to one hundred and fifteen days and hence are the prevailing form in the Northern States and Canada. Franklin reports it as growing at Cumberland House, 54° north latitude. Flint corn is grown by the Indians of South and Central America. Sturtevant describes 69 kinds.

IV. The Dent Corns—These are characterized by having corneous endosperm at the sides of the kernel, while the starchy endosperm extends through the center to the summit. During the drying of the kernel the latter shrinks considerably, thus forming a dent at the apex. The kernels in this group are usually colored white, yellow, or red rather than the pale transparent hue of the previous groups. This group is the most extensively grown in the United States and is almost the only kind that is exported. Its range does not extend far north at present, but is extending in that direction. Three hundred and twenty-three varieties are described.

V. The Soft Corns—Here the corneous endosperm is absent. The soft corns were cultivated by the Indians of South America and also of the United States, especially those of the southwestern portion. The mummy corn from that region is a soft corn. Twenty-seven varieties are described; the Blue Squaw corn sometimes grown in this State belongs to this group.

VI. The Sweet Corn—In this group the kernels become much wrinkled in drying. Sweet corn is not grown much in the Southern States and improves in quality toward the North. It is grown as a garden crop and extensively for canning purposes. There are sixty-three varieties.

A few quotations will show the great variation in the corn plant. "The height of the plant in varieties and localities has been reported from 18 inches for the Golden Tom Thumb pop to 30 feet or more for varieties in the West Indies, and single stalks in Tennessee at 22½ feet. I have seen ears 1 inch long in the pop class and 16 inches long in the dent class. The rows in varieties may vary from 8 to 24 or more, and in individual ears are reported from 4 to 48. A hundred kernels of miniature pop weighed 46 grains, of Cuzco soft, 1,531 grains. A variety that ripens in one month is mentioned from Paraguay, and seven months is said to be required in some southern countries.

A. S. HITCHCOCK,
Botanist Kansas Experiment Station.

Hay-fork and Carrier.

Editor Kansas Farmer:—It was with the keenest interest that I read J. W. Martin's well-written article, illustrating and describing his potato digger and planter. I am sure that he has the well-merited thanks of all the readers of the Farmer. I trust others will now follow his example



A Good Wagon

begins with good wheels. Unless the wheels are good the wagon is a failure. IF YOU BUY THE ELECTRIC STEEL WHEEL made to fit any wagon—your wagon will always have good wheels. Can't dry out or rot. No loose tires. Any height, any width tire. Catalog free. ELECTRIC WHEEL CO. Box 46 QUINCY, ILL.

and send in some sketches. I hope the readers of the Farmer realize that they are under obligations to Mr. Martin and the Farmer Company, as the two photos cost \$2, while the engravings cost several dollars more, and it was quite a task to get the photographer out to the farm and to write up such a complete article in warm weather.

One of my neighbors brought me a half-inch steel rod, 20 feet long, and I made him 2 squared and twisted jointed bridle-bits for his mule team and kept the rest of the steel for my trouble. With the steel that was left I made 2 steel tugs and constructed a harness out of an old pair of harness and a back strap, so that the steel tugs hold the singletree up and when putting hay in the barn with the hay fork and carrier, the horse can be turned around and the singletrees will not strike her ankles. I have about 20 tons of corn fodder, all baled, in the barn to thresh out yet, and the horse and hay-carrier make it very handy to get it out. The best hay-carrier outfits are now the swivel-carrier kind, which costs \$3, while the track is solid steel and costs 11½ cents per foot. The hooks to hold it cost 10 cents each and should be about 2 feet apart. A double harpoon fork costs 60 cents while an extra long alfalfa double harpoon costs \$1.30. A single "Nellis" fork costs \$1.20 and a "Star," \$1.35. In buying a steel track, be sure and get a solid rail track that bolts together as a solid, continuous rail by the use of fish-plates, or else your track is liable to become uncoupled and a wreck will occur. Sling-pulleys cost \$2 each, and 3 complete slings for a wagon cost \$6, or a total of \$8. While slings may be better, yet a fork is vastly cheaper and almost as fast. If the trip-hook I illustrated in the Farmer some time ago is used at one end of the slings it will reduce the cost of slings \$1.50 per wagon, and any one can make them, and, as they trip at the end, the sling, in drawing out from under the hay, spreads it some and saves the man who stows the hay away a whole lot of work. When the hay is unloaded with a fork from within the driveway between two mows, the fork should be let down from the carrier with a rope until the mow is so high that the fork must go clear up to the track. This can not be done easily with slings, although I believe there is one make of carrier that permits it. A set consisting of a pulley and a weight should be used to return the carrier and fork. The best pulleys are knot-passing pulleys with steel wheel and sheet steel sheaves. They contain reservoir for oil and are indestructible and cost only 25 cents each. Another advantage of a hay-carrier is that hay can be taken out of the farthest part of the barn and dropped on a wagon or at place desired.

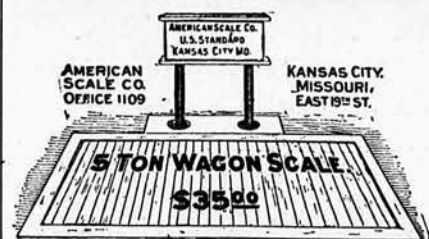
J. C. NORTON.

Morantown, Kans.

New Through Pullman Service Between Denver and St. Louis.

On June 18 the Great Rock Island Route inaugurated through Pullman Sleepers between Denver and St. Louis via Kansas City and the Missouri Pacific R'y. East-bound car leaves Denver daily at 2:35 p. m. on the "Colorado Flyer," arriving in St. Louis 6:15 p. m. the next day. West-bound car leaves Kansas City daily on "Colorado Flyer," at 6:30 p. m., arriving in Denver 11 a. m. next day. This is the fastest through car line between Denver and St. Louis. The cars are broad vestibuled, of the latest pattern and most luxurious type. Advantages in patronizing this service will be: The quickest time, no change of cars, absolute comfort. The best Dining Car Service in the world. For full information see your agent or write

E. W. THOMPSON, A. G. P. A., Topeka.



SCALES SENT ON TRIAL TO RESPONSIBLE PARTIES CATALOGUES FREE; DROP US A POSTAL.

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

AUGUST 10—N. H. Gentry, Berkshires, Sedalia, Mo.
 SEPTEMBER 27—Hamp B. Watts, Herefords, Fayette, Mo.
 OCTOBER 14—Gus Aaron and John Bollin, Leavenworth, Kans., Poland-Chinas.
 OCTOBER 17—George Bothwell, Shorthorns, Kansas City, Mo.
 OCTOBER 18—H. C. Duncan, Shorthorns, Kansas City, Mo.
 OCTOBER 19—Thos. W. Ragsdale, Shorthorns, Kansas City, Mo.
 OCTOBER 20—John Burrus, Shorthorns, Kansas City, Mo.
 OCTOBER 28—E. E. Axline, Poland-Chinas, Oak Grove, Mo.
 NOVEMBER 1—W. T. Clay, Shorthorns, Kansas City, Mo.

THOSE BALD-FACED MERINOS.

How dear to my heart were the sheep in my childhood;
 And as Secretary Coburn brings them back to my view,
 I see them cropping the grass 'mong the Ohio brushwood,
 With two bleating lambs tagging after each ewe.
 Oh, those bald-faced Merinos,
 Those soft-wooled Merinos,
 Those bleating Merinos
 With two lambs with each ewe.

In the old swimming-hole in Muddy Fork bottom,
 With its dart of a chub or splash of a minn.
 I see it there yet, for it's never forgotten,
 Where the sheep single file came down for to drink.
 Oh, that old alder bottom,
 That plum-thicket bottom,
 "Old Muddy Fork bottom,"
 Where the sheep came to drink.

I see the old sawmill and the race that ran from it,
 That in spring was dammed up to make still more deep;
 And right on its bank the sheep-pen stood by it,
 Where we herded them in, when we washed all the sheep.
 Oh, that mirror-faced tailrace,
 That old limpid tailrace,
 That tadpole-filled tailrace
 Where we washed all the sheep.

When father would say, "Now we'll have a young mutton.
 How strongly to the palate that sound yet appeals,
 For my eyes were as round as an overcoat button
 When I saw the fat lamb he hung up by the heels.
 Oh, how I long for that mutton,
 Although I'm no glutton,
 That sweet juicy mutton
 That was hung by the heels.

I see visions of sheep on the old hillside pasture,
 Where to gather wild berries I crawled through the bars.
 Though long since gone by it seems only last year
 When the horny old ram showed me millions of stars.
 Oh, that old wrinkly Merino,
 That long-horned Merino,
 That butting Merino
 That showed me the stars!

PENPOINT.
 To the Hon. F. D. Coburn, this is respectfully dedicated.

ABOUT PLAIN-BRED CATTLE.

In a recent letter, a customer at Durango, Mexico, among other instructions for the purchase of a herd of Hereford cattle, crystalized an old and erroneous notion as follows: "I do not care for fancy strains; would be quite satisfied with the plain families, but insist that all animals be of superior individual merit." These are qualifications frequently specified by my correspondents, and the fact of their coming from all parts of the United States, Canada, and Mexico, shows the notion to be very widely circulated. My reply to the Mexican correspondent was couched in language similar to that used with countless others, to wit: "I note you do not care for fancy strains, but insist on individual merit. No one but a Shorthorn or an Angus man would write thus. The Shorthorn and Angus men make families of their cattle, based on some imported or otherwise notable cow that existed twenty or eighty years ago, and of whose blood, animals carrying the family name, at this day, have not the millionth part. Thus, if Shorthorns trace through the maternal line back to Young Mary or Rose of Sharon they are all 'Rose of Sharon's' or 'Young Marys,' regardless of the intervening crosses. Likewise, if an Angus traces back through the lines of the dam to Erica or Pride, regardless of the superceding crosses, they derive their family name from these cows. But with the Hereford it is different. We go altogether by our great sires. The great Hereford sires of to-day are not the result of fancy or guesswork, but have been intelligently derived from the great sires of previous generations. For instance, all the great American sires of to-day derive their individual excellence and prepotence from the blood of Horatius, The Grove 3d, Lord Wilton, Sir Richard 2d, Anxiety, and kindred sires, who, in turn, derive their individuality and power from Horace, Sir Thomas, Sir Benjamin, Sir David, Walford, etc. These great sires, in turn, rest upon the merits of the great Hower sires, who, in

turn, resulted from the blending of the great bloods of pre-herdbook days."

Replying to my stereotyped allegation, the Durango correspondent says: "You are correct in your guess that I was either a Shorthorn or an Angus man. I bought the first herd of Shorthorns ever in Madison County, Iowa, and continued to use them as long as I was on the farm. Shorthorns are good cattle, but while I was engaged in their breeding, I fully realized that entirely too much attention was paid to family name and long-departed ancestors, and not enough to the individual merit of the animal under consideration and more immediate ancestors, and years ago I determined to turn to Herefords if ever I had an opportunity."

This brings to mind many interesting memories. I recall the days not long ago when the Scotch Shorthorns and other plebeian families were looked upon as good enough to show but were, at the same time, spurned by the breeders of fashionable cattle, as not good enough to breed from. It also recalls the reply of the late Colonel Moberly, who was urged to use Young Abbotsburn in his herd of fashionable Bates Shorthorns when he first bought him. He said: "Young Abbotsburn will do to breed a little, and to show a great deal."

In my youth I could never understand why it was that fabulous prices were paid for Shorthorns of inferior individuality while animals incomparably better sold for a song. Representatives of so-called plain-bred cattle were used to illustrate and advertise the breed at fairs, but their blood was rejected as not suitable for the fashionable herds. Similar conditions arose in the Angus breed, from the admission of countless short pedigrees into the herd-book of animals having unquestioned purity of blood and individual excellence, but for which records were incomplete of ancestors. Good individuals with these short pedigrees sold for comparatively low prices, and, in many instances, individuals much their inferior, but of the fashionable families, sold much higher. Many instances in this year's sales of Shorthorns and Angus fully illustrate the fact that these same conditions still exist.

Now, if there is any science or common sense in breeding cattle, in most cases the best-bred animal should be the best individually. Otherwise breeding cattle is not a practical science, and is a fit subject only for theorists and bookworms. No one denies that even with the most intelligent breeders all the minglings of blood are not successful. The life of a breeder is too short to be able to derive and absorb from actual personal observation the individual characteristics of enough ancestry to sufficiently give him an absolute hold on the factors necessary to the successful blending of bloods. It is possible for a breeder who has accurate personal knowledge of the individual characteristics of the first five generations of the ancestry of the animals in his herd, and a fairly good knowledge by hear-say history and study of the ancestors beyond, to blend the blood of his herd so that he can, with confidence, accurately forecast results. But few have this opportunity; few, indeed, make the business a life study and stay with it long enough to see beyond two generations, or three at the most.

With the Angus and Shorthorn breeders following the Hereford breeder in tabulating pedigrees and beginning to study more minutely all the blood lines of their cattle, it is quite possible that before long we may hear less of plain-bred cattle being the best individuals.

Hereford men have always utilized the blood of a demonstrated great sire, strictly on his proven merits. The word "fashionable" has no place in the Hereford vocabulary. At one time, in the latter part of the last century, the blood of the herd of Benjamin Tompkins spread through the entire breed. After Mr. Tompkins' death, the Hower Bros. were found to be in possession of a very superior herd of Herefords, of great size and quality, and hardly a breeder in England of any prominence neglected to avail himself of the Hower blood. The next great herd to take prominence was the Messrs. Rea's, who developed Sir Benjamin. Sir Benjamin's sons were used in all the great herds, and his best son, Sir Thomas, likewise followed as premier of the breed, and Sir Thomas bulls were widely used. Soon after the wonderful quality of steers, the get of Horace, attracted the attention of the English Hereford breeders and he was brought back from an isolated home in Wales and put to use in the best Herefordshire herds, and his sons, like Horatius and the Grove 3rd (from a Sir Thomas dam), came into general use. And from these strains of blood have evolved all the best in the Hereford breed to-day. Find me a first-class Hereford and I will show you this blood prominent in the top crosses. I would not attempt to say that every Hereford showing a good pedigree is a thoroughly first-class individual, but I will lay it down as an undeniable proposition that an eminently first-class individual can not be

bred outside of the favored lines named. I have never yet seen a thoroughly first-class Hereford that was not a well-bred one. I have my own ideas as to blood lines, and have proven them fairly successful, and to those who have time and thought to give to their study I would be glad to explain them. But to the great mass of Hereford men who may have neither time nor inclination to thoroughly study the blood lines of their cattle, I say you are tolerably safe to select on individual merit alone, and if you get good individuals you can hardly fail to get well-bred ones. But to get the greatest measure of success out of breeding operations, the study of blood lines is absolutely necessary—not one line, but all lines; not one or five generations, but every generation where potent blood is doubled sufficiently to have influence. Not that it is necessary to know the blood lines to keep within the bounds of fashion, or to avoid lowering the standard of the family pedigree, but because great results in breeding pure-bred stock, whether it be horses, sheep, pigs, or cattle, is only achieved by blending intelligently kindred and congenial blood.

T. F. B. SOTHAM.

The Tamworth Hog.

"These reds represent a reaction against the bladder of animated lard type, and, as such, are curious; after a while the reaction will spend its force and people will see that a tendency to fatten is not at all bad."

The above was written many years ago by a gentleman in his report, in a leading journal of the Nottingham meeting of the Royal Agricultural Society, and, notwithstanding the above prediction, the Tamworth pig has grown into popular use as a bacon hog in England, and some years ago made his way to Canada, and has established a strong foothold there. In the year A. D. 1882, an importation of 7 head of them was made by Thomas Bennett of Rossville, Ill., and later many of them have been shipped from Canada into the United States.

In most cases where a thorough trial and a vigorous test have been made, he has proved to the farmers that he is not only a desirable pig to breed on account of the production of good bacon, but, in addition, a profitable hog to breed for revenue.

In my fifteen years experience in breeding Tamworths pure, and crossing them with Poland-Chinas, Berkshires, Chester Whites and Yorkshires, I find them equal to any breed of swine known to me in reproducing their characteristics in their offspring.

NOT POLAND-CHINAS.

I am asked if they will fatten and get broad backed like the Poland-China. Would it not be strange that we would incur the trouble and expense of importing Tamworths from England if they were in all respects like the Poland-Chinas? The value of the Tamworth lies in his ability to produce meat for man.

He is red in color, long bodied, deep sided, vigorous, with a great tendency to take exercise. Therefore in them we have a breed of swine that likes grass, and will produce as much lean meat as any other breed of swine. We had a test of Tamworths compared with a cross of Poland-Chinas and Chester Whites in 1898. In March and April of that year we had some pure-bred Tamworth pigs farrowed. Our neighbor had some produced from Poland-China sows and a Chester White male; late in the year when the culls were selected as the ones to slaughter for home use, we helped our neighbor to slaughter his and he helped us. After his were all salted down and ours had been slaughtered and were hanging up our neighbor became so much interested that he asked to help cut our hogs up for salting that he might further investigate. When done he said he was convinced that there was something in the breed as he knew that my hogs had been fattened by the same kind of feed and the same method of feeding that he had used.

It is not claimed that the Tamworths, as they exist to-day, are perfect. But there is a Tamworth Record Association organized now in the United States with Mr. Edwin C. Hood, of Flint, Mich., as president, and Mr. E. N. Ball, of Hamburg, Mich., as secretary, and it is the aim of this association to improve the Tamworth pig with the facilities at hand, and I am glad that they are much better now than they were fifteen years ago.—F. L. Endsley, Charleston, Ill., in Western Swine Breeder.

The Outlook for Feeders.

With the opening of the grass cattle season there is always more or less speculation as to the course that values will take as the season advances. Under existing conditions a great deal depends on the demand for feeders. For several years feeder-buyers have been taking the big bulk of the western grass cattle. They have outbid the packers on lots of range steers that were already fat and good enough for the

"Evil Dispositions Are Early Shown."

Just so evil in the blood comes out in shape of scrofula, pimples, etc., in children and young people. Taken in time it can be eradicated by using Hood's Sarsaparilla, America's Greatest Medicine. It vitalizes and enriches the blood.

Hood's Sarsaparilla
 Never Disappoints

block. With keen competition from both killers and feeder-buyers values are bound to be high, and this is just about what is going to happen this summer and fall.

Right now there is every evidence of a shortage of good corn-fed cattle, and the market for beef steers is in a most healthy condition. A good strong cattle market, and prospects of continued strength, mean much to the prospective feeder-buyer and encourage him to take chances he would otherwise be unwilling to take. The head buyer of one of the largest slaughterhouses in the country is on record as of the opinion that good fat cattle are going to go higher this summer while the commoner grades will probably sell lower on account of the competition from western grassers. If such should prove true, feeding steers are going to be good property this summer and fall. But whether it is or not there will probably be the biggest demand for stockers and feeders within the next six months that this country has ever seen. More and more every year the farmers and feeders in the corn belt have come to depend on the western ranges to replenish their feed lots. Breeding stock steers east of the Missouri River is getting to be a lost art. Land is too expensive. Men can not raise young cattle in Illinois, Iowa, Missouri, Kansas, and Nebraska in competition with the free range men of further west. It is out of the question, and so great has become this eastern demand for western cattle for feeding purposes that the western cattleman now finds it vastly more profitable to turn off his yearlings and twos as feeders than to hold them longer and sell at 3- and 4-year-olds as beef.

There is so much corn raised in the corn belt that if it were all sent to market the price would be so low that the crop would not be worth raising. The corn farmer is compelled to feed his crop in order to realize on it, and this makes the corn belt also the fat cattle, hog and sheep section. Obviously, then, the greater the corn crop the greater will be the demand for stock to consume it, to concentrate it into an easily marketable and profitable article of commerce.

A Cattle Disease.

Editor Kansas Farmer:—I clipped the following slip from a Kansas City daily. Will you please publish it in the Farmer with my comments and call the State veterinarian's attention to it and ask him what I must do to be saved, as I have several cows and other cattle affected in same way?

"State Live Stock Sanitary Commission has found evidences of a new disease among the cattle in the northern part of the State. Several herds in Jewell County have become affected with the disease, the first indications of which are a number of warts about the brisket and jaws. From this stage the animal affected gradually becomes covered with warts, and finally dies. The herds have been quarantined and a number of the warts have been sent to the State veterinarian for an examination."

Some years ago, I think as much as twelve at least, my herd was afflicted the same as now and if my memory serves me correctly they all got well without the loss of any, or any seeming trouble from it. This time, however, they are much worse; some of them are almost covered with warts all over the neck and chest, on face and around eyes. Some of them do not seem to shed as early as usual nor do as well as one could reasonably expect. Is this a parasite, to be killed by some external application, or must it be treated through the blood?

I. H. DIX.
 Pratt, Kans.

Pilgrimage of Cryptic Masons of Colorado, Denver, Col., August 6-13, 1899.

For the above occasion the Union Pacific has made the greatly reduced rate of one fare, plus \$2.00, for the round trip to Denver, Colorado Springs and Pueblo, from points in Kansas and Nebraska.

Do not complete arrangements arrangements for your trip without first asking your agent about the magnificent train service and fast time to Colorado via the Union Pacific.

When writing our advertisers please mention Kansas Farmer.

HAY-MAKING.

The observant feeder knows well the difference between good hay and that which has been damaged in the making. Chemical analysis does not fully show the great superiority of the fragrant, highly-colored article over that which is weather-stained. The following from our valued English contemporary, The Cable, shows the how and the wherefore of good hay-making in a pleasing manner:

Making hay has a mechanical as well as a scientific point of view. The mechanical part of the process is, however, the more important, for it controls the scientific results. It is not only to cut and dry the grass or clover, for in spite of what the dictionary asserts as to hay being dried grass, it is far more—for it is really cured grass or other plants which make substitutes for grass. Drying is the mere removal of the moisture from any substance, but the curing is more than this—it is the chemical change which occurs in the finished products by which the palatability and nutritiousness of it are secured. Grass, merely dried, has nothing of that delightfully sweet fragrance which has given a name to one of the most popular fragrant scents, new-mown hay. There is a certain process gone through in the curing, by which the essential oils of the plants are developed by fermentation, and the carbonaceous matters are made to undergo a change from odorless cellulose, starch, or fats, into fragrant oils; and when we think of making hay we are to apply the principles involved in this chemical operation going on in the curing, and so direct this that

THE VERY BEST RESULTS MAY BE SECURED.

We certainly are justified in thinking that, to this successful making of the hay, the finest flavor of the winter-made butter may be secured—for all experts will agree in this, that the finest aroma of butter is found in that made from cows fed in the winter on fragrant hay, cut and cured on the true scientific principles.

There are some rules affecting this important part of the farm work that should be well understood, and then made the basis of the practice both of cutting as well as of curing hay. In the first place, the grass or other material must be in the needed stage of growth. This we may learn from the practice of the herbalists, who gather flowers and plants when in full blossom, for making scents, or for distilling the fragrant oils of which scents are compounded by mixtures. Equally this certain stage of growth is insisted upon by those persons who follow the profession of making medicinal extracts of certain plants and flowers. This is no modern thing either. In some herbs found preserved in the ancient pyramids of Egypt, erected and closed up over four thousand years ago, on examination by a microscope the minute oil-glands were found filled with the fragrant contents fully preserved, and fit for use still in extracting the odors from them.

GATHERED WHEN IN FULL BLOSSOM.

Now these plants so used are gathered when they are in full blossom, and naturally emitting their pleasing odors in the form of fragrant vapor emanating from the oil-glands of the flowers or the leaves; and, taking a modern instance from these ancient skilled people, we follow their methods and get the same results. So in the making of hay, both science and practical experience go to show that the very best time to make the best hay is when the plants are in full blossom, for at that time they are filled the fullest with every valuable quality which renders them most useful to the feeder of animals. Then the sweetness of the new-mown hay fills the evening air, and the dwellers in the heart of a great city may easily recognize the sweet scent, as the winds waft it from the fields miles away, and the erstwhile farm boy recognizes, as he walks the city streets, the sweetness which he well remembers he enjoyed years ago in the fields of his boyhood home.

NOT MERE DRIED GRASS.

Now this is hay. It is not mere dried grass. It is food for cows in which exist all that goes to make the butter made from such fodder palatable, and more easily saleable, and most valued. It is not simply food or nutriment to support a mere carcass; it is the material or the making of one of the most delicious and fragrant of all the products of the farm. The quality of cheese, too, depends on this excellence of the food of the cows, for although cows are not, as a rule, fed on dry food at the cheese-making time, yet the same principle will apply that, for the finest kinds of cheese, the pastures must be made up of the sweetest and most fragrant herbage; for the grass or clover then is at its best stage, it is cut when it is free from dew, and is dried quickly from all surface moisture, not by hot sunshine, but by the cooler winds, as is possible; and, as quickly as may be, the herbage is got into the shade, where it is not exposed to scorching heat. The drying of the grass or clover is best

done by its own internal heat brought into action by a moderate internal fermentation. It is this which develops from the oils of the plant the special fragrant food substances existing in the fats, and which give their fragrance to the final products of the milk. So that hay is not merely dried grass; it is cured herbage of any kind, deprived of nine-tenths of its moisture, and having its other more slowly formed by the heat of the curing as it volatile constituents decomposed and re-stands in the cock shaded from the sun's heat, and subjected only to the moist warmth of internal fermentation. The excess of moisture is thus slowly and safely dissipated, and all the fragrance and nutritious substance of the plant are preserved. The heat by which hay is made should be moist, and the warm vapour which is escaping from it as the grass is undergoing this fermentation is not to be got rid of as quickly as possible, but it must be made to cure the grass into air-dry hay.

PROTECTED FROM THE RAIN.

This is the first thing to be done. The next is to preserve this fermenting matter and the products of the fermentation from loss. Necessarily this process must not go on too rapidly or too far, and equally the hay must be so managed that it will be protected from the rain so that the extremely soluble products of the fermentation may not be dissolved and washed out, and the injurious mildew appear and destroy it. The best method of doing this is to put the hay up in narrow tall cocks, so made that the rain which may fall will run off without entering the cock. One may see ill-made cocks of hay in the fields which are quite unfit for this purpose. Low and flat, they take in all the rain which falls, and the hay is soaked, and all these valuable elements of it are washed out, if the hay itself is not wholly or in great part destroyed.

Views of an Expert.

Much surprise has been expressed at the large movement of wheat this season. An inquiry and an answer as to this appeared in the last number of the Cincinnati Price Current, as follows:

"New York, July 19, 1899.

"To the Editor of the Cincinnati Price Current:

"As a reader of your paper I would like to have your opinion on the following: Is the immense quantity of wheat that is being received at primary points actually sold, or shipped to these storage points to make room for new stock? If sold, do you think it recently sold, or contract delivery? If bought recently, does it not indicate that millers regard present prices low, and so look for higher prices? From another standpoint, if sold recently it would indicate that the farmers do not look for higher prices.

"What is your opinion as to all of this?"

"Yours respectfully, READER."

"Comment.—Not having specific information upon these questions an opinion or surmise can only be offered. First, let us introduce the comparative receipts of wheat at primary markets for ten weeks, during the past four seasons, for weeks ending as per dates indicated:

	1899.	1898.	1897.	1896.
Winter.				
May 22 ...	485,000	1,936,000	277,000	345,000
May 29 ...	674,000	1,623,000	283,000	107,000
June 5 ...	852,000	1,089,000	205,000	196,000
June 12 ...	1,070,000	318,000	144,000	259,000
June 19 ...	894,000	221,000	145,000	153,000
June 26 ...	1,289,000	150,000	168,000	232,000
July 3 ...	1,195,000	168,000	177,000	310,000
July 10 ...	958,000	318,000	334,000	765,000
July 17 ...	1,648,000	771,000	725,000	1,293,000
July 24 ...	2,206,000	2,022,000	1,409,000	1,221,000
10 weeks.	11,266,000	8,616,000	3,867,000	4,781,000
Spring.				
May 22 ...	1,511,000	4,079,000	2,351,000	1,549,000
May 29 ...	2,379,000	3,057,000	2,522,000	1,734,000
June 5 ...	3,520,000	2,685,000	1,849,000	2,238,000
June 12 ...	4,175,000	1,010,000	1,489,000	2,339,000
June 19 ...	4,325,000	965,000	1,260,000	2,406,000
June 26 ...	4,477,000	561,000	1,397,000	2,446,000
July 3 ...	4,427,000	410,000	1,267,000	1,826,000
July 10 ...	3,096,000	429,000	1,447,000	2,950,000
July 17 ...	3,333,000	410,000	1,247,000	2,634,000
July 24 ...	3,613,000	606,000	1,907,000	2,642,000
10 weeks.	34,856,000	14,212,000	16,736,000	22,764,000

"With regard to receipts at winter grain markets there is no occasion for special comment. The receipts at spring grain markets have been large beyond precedent for the time of year. We believe this grain has been sold, without regard to sending forward for storage. We also believe this grain to have been recently sold, and not moved now to fill contracts made earlier. We believe it reasonable to consider that the holders of this wheat have been carrying it under the hope of higher prices, strengthened with the advance of the season in its disclosures of an unfavorable nature concerning the winter wheat crop, which hope has vanished with the failure of the market to be influenced as expected from such cause, and under the generally encouraging conditions surrounding the spring wheat promise. With these elements has been the fact of the harvest period being at hand, with its understood influence against a rising tendency in prices. Evidently it was the plentifulness of the wheat

and lack of speculative encouragement for carrying it forward to the new season, that has brought this grain into the distributive centers in the recent past. Millers may have purchased freely under the conviction that while prices may not be regarded as especially low they should not be expected to go much lower under any probable circumstances in the near future. They need not necessarily expect a notable advance."

The Grange and the Trusts.

By Aaron Jones, Master of the National Granges.

I am receiving thousands of letters of similar import from all parts of the United States from farmers, mechanics, traveling men, merchants, manufacturers, not in trusts, asking how they can co-operate with the grange in securing effective State and national legislation that will prevent the formation and successful operation of trusts.

The entire people view with alarm the aggressive and questionable methods of trust combinations to arbitrarily control to their own advantage the labor and the product of labor in all departments of productive industry.

The policy pursued by trusts in limiting production in certain lines, by shutting down factories under their control, and in crushing out those engaged in the same lines who do not join with them in their policy of controlling prices by compelling the public to pay arbitrary prices for their products—to permit men to use capital to crush out legitimate competition, is against public policy, and destroys the independence and liberty of the individual, and deprives him of the free use and benefit of his capital, stifles enterprise and progress, and if continued will subvert all the principles fought for and gained by our forefathers.

The methods pursued by trusts in attempting to influence legislation and decision of courts, should meet with condemnation on the part of every honest and honorable and loyal citizen of the republic.

I am unable for want of time to personally answer all the letters coming to me and asking, "How can we co-operate with the grange in securing effective legislation, State and national, that will prevent the formation and successful operation of trusts?"

The grange heartily accepts the proffered assistance, and I recommend:

First—Prepare petitions to Congress and circulate them and have them signed by all the people who favor freedom and the rights of property, and forward these petitions, when signed, to the legislative committee of the National Grange, No. 514 F street, Washington, D. C., and the committee will present them to the fifty-sixth Congress; or you may send them direct to your members in Congress.

Second—Prepare like petitions to your several legislatures in your respective States, and demand strong anti-trust legislation, and send them to the legislative committee of your State Grange; or send direct to the members of the legislature.

Third—Attend your political caucuses in whatever party you affiliate and demand a strong anti-trust plank in your platform of principles, and see to it that every officer nominated shall be in full sympathy with this part of your platform.

Fourth—Think more of your country and the rights of labor and property than of your party, and give all parties to understand that all patriots will stand together on this issue. This issue overshadows all others. What difference whether we have free trade or protective tariff; whether the outlying islands of the sea, proximate and remote, are made colonies or not, if the individual is deprived of the free use and benefit of his labor and property?

Fifth—Give your party and the country to understand that resolutions alone will not suffice, but effective laws must be passed and enforced.

Sixth—Supplement the above by being active in educating the public to the great dangers that menace the industrial interests of the country. Our country, which stands for liberty and freedom, must protect the rights of the humblest of its citizens, must guarantee to every man the right to legitimately use his labor and capital and receive the full benefit of them.

Plow Early and Harrow.

Editor Kansas Farmer—It is about time for the successful wheat-raisers of Kansas to get together and compare notes in raising wheat in this off year in this State. I saw a piece in the Kansas Farmer by Geo. L. Clothier that suits my idea of how wheat-ground should be prepared. I had in 3 pieces of wheat this last season. Two of them I harrowed right after plowing, about the first of August; let lay until the 10th of September; drilled in with a Superior press drill; put on about 3½ pecks per acre. I think those 2 pieces will average over 20 bushels per acre. One piece has been in wheat two seasons, the other, four seasons in succession. The third piece I



In military prisons an offender is sometimes sentenced to carry cannon balls from one place to another and pile them up all day long. That is all. Perhaps it does not seem very terrible but it soon wears his life out. It is practically a death sentence, and he knows it; he would rather be shot. Many a sick man feels the same way about the burden of disease that he is lugging back and forth from day to day. He would as soon be down with a mortal disease. It will come to that sooner or later.

A man's life can be dragged out by dyspepsia and liver complaint. The experience of Mr. J. T. Cardwell, of Fall Creek Depot, Pittsylvania Co., Va., shows how Dr. Pierce's Golden Medical Discovery saves people from consumption by waking up their nutritive organism and giving it power to supply pure, healthy blood, which drives out blood poisons and dead tissues and builds up sound, wholesome flesh and muscle.

"I feel it my duty," writes Mr. Cardwell in a letter to Dr. Pierce, "to write you of the lasting benefits derived from the use of Dr. Pierce's Golden Medical Discovery and Little Pills." Seven years ago I contracted a severe cold, which baffled the skill of one of the best physicians in my State. It ran on and I continually grew worse until I concluded to write to the 'World's Dispensary Medical Association.' The answer to my inquiry advised me to use 'Golden Medical Discovery' and 'Pills' for indigestion and liver complaint; at this time two months had passed. In two or three days after I had commenced the use of your medicine my cough had entirely stopped, my digestion was better, my low spirits driven away and I felt new life and vigor in my whole body."

This marvelous "Discovery" makes nerve force and rugged power. It is far better than oily emulsions; it does not make flabby fat, it does not increase the weight of corpulent people.

plowed but did not harrow until I got through plowing. It was not worth cutting. The last piece had the same amount to the acre, put in in the same way, and was the third crop on the same ground. Now, if simply harrowing the ground after the plow makes such a difference, why will not the farmers make it a point to do so? The Kansas Farmer has advised its readers all along to pulverize the seed-bed. Some years, to make a success in raising wheat, it is not necessary, but as a general rule it will hold good one year with another. The last season is the first that I have tried it, and I expect to continue it in the future. Now, this is my experience for the last season. I would like to hear from others through the Kansas Farmer.

JOHN W. WILSON.

Talmo, Kans.

A Special Invitation.

Wood Dale Farm.
Sedalia, Mo., July 17, 1899.

All interested in Berkshires: I cordially invite to attend my Fourth Annual Auction Sale of Berkshire hogs, at my farm, on August 10, 1899. I would be glad to have you with us whether you wish to buy or not. Come if possible on the 9th, and tent with us the night before the sale. Tents will be stretched and there will be plenty of room and plenty to eat for all who come. Last year we had a large number of breeders from several different States with us the day and night before the sale which proved the most pleasant part of the program. This year we are making preparations for many more than last year, and hope to make this annual union of breeders the leading feature of my sale. Can we not hope to number you among those to be present? If you wish to buy this will afford you an opportunity to more thoroughly inspect the stock to be sold before the opening of the sale.

All visitors will be conveyed to and from the farm free of charge on both days. Lunch at noon on day of sale, and sale will begin at 1.30.

Copy of sale catalogue has been sent you. If not received please notify me at once. Let me hear when to expect you.

Respectfully,
N. H. GENTRY.

L. A. W. Excursion to Boston.

The Nickel Plate Road will sell excursion tickets from Chicago to Boston and return for trains of August 11 and 12 at rate of \$19 for the round trip. Tickets will be valid returning for arrival at initial starting-point not later than August 31 by depositing same with agent Fitchburg railroad in Boston. Sleeping-car accommodations should be secured early. Address, General Agent, 111 Adams street, Chicago.

WEEKLY WEATHER-CROP BULLETIN.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending August 1, 1899, prepared by T. B. Jennings, Section Director:

GENERAL CONDITIONS.

The temperature for the week averaged nearly normal, with but little wind. Good rains fell, the latter part of the week, over the western and central counties with heavy rains through the northern. Light scattered showers in the southeastern counties, with good rains in Cherokee and southern part of Labette.

RESULTS.

EASTERN DIVISION.

Corn is in fine condition and good color; the early corn generally large, well eared with ears too ripe for cooking; late corn is growing rapidly. Flax harvest is over in the central and southern counties, and threshing has begun, developing a fair yield of good quality. Prairie-haying is in progress south of the Kaw River, and in Woodson much is being baled. Grapes promise well in Leavenworth and Marshall, are rotting in Wyandotte, also in Labette where not cultivated. Apples were damaged in Labette by scab. Plowing for fall sowing is becoming more general. Worms are damaging some crops in the southern half of the division.

Allen County.—A good week for haying and threshing, which are progressing well; corn growing finely; flax harvested, crop good; army-worms in east part have eaten the late millet, Kaffir-corn, cane, broom-corn and crab-grass.

Anderson.—Favorable week for threshing and haying; corn doing well.

Atchison.—Threshing progressing; oats yielding from 15 to 40 bushels, flax 5 to 9, wheat 2 to 15 and poor quality; oats and flax are good quality; corn doing well except where poorly cultivated.

Bourbon.—Corn in good condition, will make average crop with no more rain; with rain it will yield a heavy crop; oats and flax being threshed, both crops injured by too much rain after harvest.

Chautauqua.—A good week for farming and crops; plowing and haying progressing; late planted corn growing finely.

fields; second crop of hay good; potatoes ripening and a good crop; threshing in progress and fall plowing begun.

Osage.—Fine week for work; corn still in fine condition; late potatoes promise good crop; cattle doing well; some apples falling badly.

Pottawatomie.—Alfalfa, millet, and Kaffir-corn mostly well secured; corn growing finely; wheat much damaged in the shock; plowing for wheat well along.

Riley.—Much corn is now safe; web-worm in alfalfa.

Shawnee.—Wheat-threshing begun, is yielding well; corn is fine and promises a heavy crop; prairie-haying begun; pastures fresh and cattle doing finely.

Wilson.—Good farming week; worms working on late millet, Kaffir and gardens. Woodson.—Corn doing well; worms damaging young Kaffir, millet and crab-grass; large quantities of hay being baled.

Wyandotte.—Corn needing rain; fall plowing begun, ground dry and hard; very little threshing done yet; grapes rotting; pastures and stock in good condition.

MIDDLE DIVISION.

Corn is in very good condition and promises one of the largest crops since 1889, though it felt the dry weather some in Jewell, Ottawa, and south part of Smith, and was beginning to feel it in Sedgwick, while in Phillips the poorly cultivated corn was suffering, but the rains the last of week have changed conditions. Harvest is generally over and threshing progressing. Worms are injuring some crops in Barber, Reno and Sedgwick. Plowing for fall seeding has become general.

Barber.—A hot, dry week; corn in best condition for years; cane and Kaffir-corn needing rain; army-worm, web-worm, and chinch-bugs have appeared in a few localities and are attacking forage crops; watermelons and tomatoes on the market; apple crop good, but the apples are now falling; pastures good and cattle in fine condition.

Barton.—Threshing bundle-grain has begun; farmers plowing for wheat; corn is fine.

Cloud.—Corn is progressing finely and promises to exceed the crop of 1889; pastures very good; ground in fine condition.

Cowley.—Clean corn doing well, weedy corn needing rain; ground getting too dry to plow.

Dickinson.—Harvest finished, threshing

Washington.—Wheat all stacked; oats being stacked; these fine rains have relieved all anxiety in regard to corn.

WESTERN DIVISION.

Corn is in fine condition and promises the largest crop since 1889. Forage crops are very heavy, giving promise of abundant winter feed. Spring wheat has been injured by rust in Decatur and Gray, and weeds have nearly ruined the wheat and barley in Scott. Alfalfa and hay were damaged by the rains in Ford. Range-grass is fine and cattle are doing well. Grass-hoppers still bad in Rawlins and Thomas.

Decatur.—Week has averaged rather cool, but had 3 hot days; rust ruined a good share of late spring wheat, everything else doing well; second crop alfalfa mostly cut; corn fine; chinch-bugs pretty well destroyed by rains this week.

Finney.—Feed, hay, forage crops, and range-grass growing finely; corn small acreage but best of condition; plenty of rain; cattle could not do better.

Ford.—Alfalfa and hay damaged by rains; corn the best ever seen in the county; pastures and cattle fine.

Gray.—Fine growing week; rust took spring wheat, very light yield; prospects good for best corn crop ever raised in the county; sorghum and Kaffir very heavy; will be a large feed crop; range-grass and cattle doing finely.

Greeley.—Weather still favorable for good crops of forage and grass; stock doing finely.

Hamilton.—Fine growing weather; everything in the ground doing well; prospect for the hay crop very good.

Haskell.—Crops are growing; harvest is progressing; cattle and horses are in good condition.

Kearny.—Warm, growing weather with timely showers; potatoes, beans, melons, corn, and all sorghums growing rapidly; everything growing finely.

Ness.—Harvest over but crop very light; forage crops very heavy; corn fine; grass, potatoes, gardens, and vines of all kinds very good.

Norton.—Corn promises the largest crop in years; all kinds of forage crops in abundance.

Rawlins.—Harvest about over, was about a half crop; corn, grass, and potatoes looking well; grasshoppers still doing some damage.

Scott.—Corn and forage crops making fine progress; wheat poorly filled, getting weedy, some blown down; barley so full of wild millet it will be stacked for hay and but little threshed.

Thomas.—The late rains are helping corn greatly, except where the grasshoppers are working on it.

Trego.—Harvest about over; threshing and haying begun; corn the best for time of year since 1889; forage crops very heavy; flies bad on stock.

Wallace.—A fine growing week; corn, Kaffir, cane, millet, range-grass, and gardens growing rapidly; cattle doing finely; flies bad on cattle; second crop alfalfa cut, good crop.

Publishers' Paragraphs.

The Page Woven Wire Fence Co., Adrian, Mich., has achieved wonderful success by keeping everlastingly at it as a twelve-months-in-the-year advertiser. This advertiser has a bright little publication, the Page Fence Age, which it will send free for six months to any Kansas Farmer subscriber.

The Great Rock Island Route is placing Interchangeable Mileage Books on sale at all coupon offices west of Missouri River. These books are good on 37 different railroads and will be a great advantage to commercial men and travelers. The net rate is 2 1/2 cents per mile in Kansas, Missouri, Nebraska, Oklahoma, and Indian Territory.

The Farmer has received samples of the improved varieties of seed wheat that are being put out this season by J. A. Everitt, seedsmen of Indianapolis, who says: "Central Indiana is famous for raising splendid wheat, and particularly this year the crop is large and of choice quality, quite in contrast with short crops and poor quality over most of the country. A large part of the success of our farmers in growing wheat, we claim, is attributable to the vigorous, hardy varieties they sow, and we claim we are in no small degree responsible for these conditions."

That prosperity makes prosperity is being demonstrated again in the experience of thousands of farmers this year with the Ertel Victor hay- and straw-press and the "Gem" full circle hay- and straw-press. More farmers have been able to buy their own presses than ever before, and each purchaser has enjoyed greater prosperity through possessing it. The "Gem" press is the most durable one ever mounted on wheels. It is built wholly of wrought steel, excepting a few gray iron castings, and

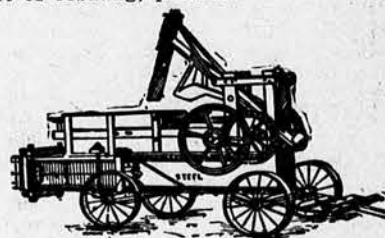


its lightness and strength are strong points in its favor. Three men with two horses and a boy to drive can bale from ten to fifteen tons of hay a day, of which full weight will load into railroad cars. Because of the convenience of the methods of packing, "Gem" bales are preferred by purchasers of baled hay. The "Gem" is so easy of operation that it can be operated by one horse. Full particulars of the Ertel presses can be obtained by writing to the patentees and makers, George Ertel Company, Quincy, Ill.

In putting the "Admiral" hay-press on the market the Cookson Manufacturing Co., of Kansas City, Mo., is offering hay-growers and hay-shippers a press which it believes has many distinct advantages over any other press in existence. The material is so used as to insure a maximum of strength; the construction being of iron and steel, except the pitman which is of wood, and strong enough to withstand any strain necessary to make a heavy bale. The main feature of this hay-press is its triple-lever power which permits three feeds to each circle of the team. It also gives a speed one-third greater than other hay-presses, thus economizing the expense of running. It turns out a much smoother bale than other presses and the percentage of waste is much smaller. Its superior merits are so self-evident that the Cookson Manufacturing Company offers to send it on trial, feeling certain that after trying it the grower or shipper will prefer it to any other press manufactured. Write for a descriptive circular. Mr. Inge, of Inge

& Goodrich, bankers, Neosho Falls, Kans., writes the company as follows: "As an indorsement for the 'Admiral' hay-press, I will say that it is light, rapid, and has been to me a very satisfactory press. In fact, I consider the fact that I have bought three of you this season the strongest indorsement that can be written for any machine."

Any one who is at all familiar with the leading hay markets of the country knows that baled hay always sells from its appearance on the outside of the bale; those bales which are neatly and evenly pressed, square-ended, with large, uniform, folded sections which fairly show the quality of the hay, command the top market price; and those which are soiled, crooked, and chaffed-sided, slant-ended, unevenly pressed, with varying sections and uneven folds, go a-begging at a much lower price. Indeed, it is a common saying in the hay markets that the market loss on poorly baled hay would more than pay the cost of rebaling, provided the rebaling is



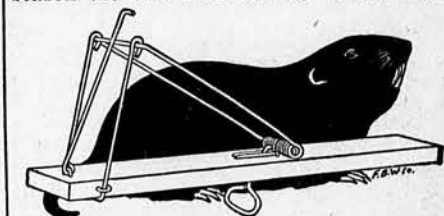
done with a machine thoroughly adapted to the purpose. Mr. Dederick was the original inventor of the baling press, more than thirty years ago, and by constant study of the situation and practical work in baling hay, he has been able to make improvement after improvement, keeping constantly ahead of his competitors, until to-day he makes a line of baling presses of various kinds which are practically perfect. He is very jealous of the reputation of his machines and allows none to leave his factory until he is satisfied that it is faultless both in material and construction. Send to P. K. Dederick's Sons, Albany, N. Y., for their baling press catalogue. It is full of information on the subject of baling, from the mind of the originator of the process.

Taken one year with another it is doubtful if any one single crop grown in this country produces more actual money to the grower than potatoes. This is so notwithstanding the fact that, taken as a whole, the most primitive methods are still employed in growing and marketing the crop. As against this general condition there stand out here and there with special prominence those cases where potato-growing is reduced to an exact science and where the best and most improved appliances are used in the labor connected with producing the crop. These people have learned that the way to produce the greatest profit is to reduce by every means the expense of production. They have learned, or are learning, with the manufacturer,

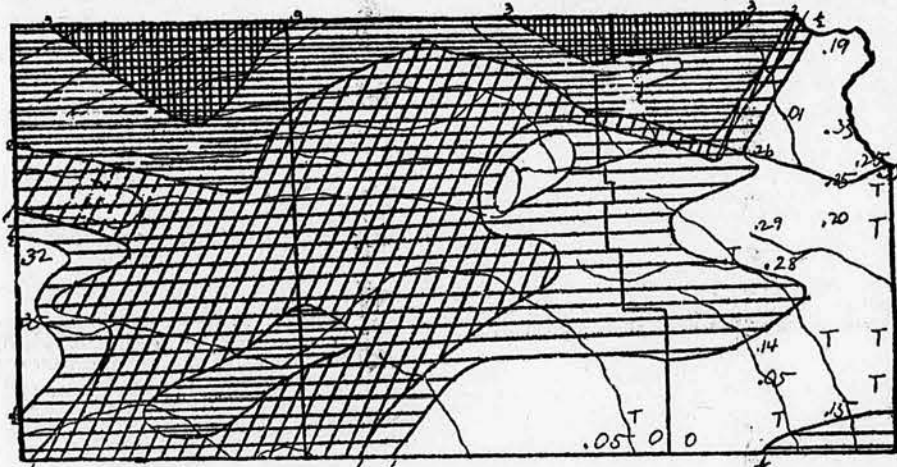


that the expensive element of hand labor must be reduced to the minimum if the resulting product is to leave a margin of profit. To dig or harvest a crop of potatoes cleanly, easily, and rapidly, in the nick of time when the weather is at its best, is a very expensive and laborious job when the work has to be done by hand. Happily for the farmer or special potato-grower there are now machines that will perform this labor in the most perfect and economic manner. A machine of this kind possessing special merit, and which has been long and favorably known to the public, is the Hoover Digger, manufactured by Hoover, Prout & Co., Avery, Ohio. This machine is built upon honor and sold upon its merits. Write these people for catalogue, prices, etc.

Many of our readers are suffering now, as they have suffered in the past from the inroads and ravages of that industrious little pest, the gopher. It is not merely the cutting off the roots of vegetation that causes most concern, but it is the infinitely more far-reaching and serious damage to all kinds of growing trees. The region of orchards, windbreaks, shade trees, and elsewhere about the place, provide favorite haunts for the gopher. He seems to enjoy above all things to burrow under a live, healthy, young tree, and make his home among the tender, succulent and life-giving roots. When you discover the home of a gopher thus situated, just keep your eye on that tree; it is doomed as sure as fate. In a little while, if the gopher is as industrious as usual, the leaves will begin to wilt, then fade, and finally fall. Next season the tree falls entirely to put forth



its leaves, and dies outright. If you were to dig down under the tree you would discover the cause of the trouble. You would find that the roots, and more particularly the tender rootlets, of the tree, had been completely gnawed and cut to pieces. Nor does this end the damaging ability of the gopher. Grain lands and pasture lands suffer in almost like proportion. Is there a remedy for the evil? Yes, don't have the gophers. From their nature and habits gophers are not easily trapped, and many such attempts have in the past resulted in failure. Our attention has been called to a trap, however, which is a pronounced success, largely because it is the result of large experience and close study of the life and habits of the gopher. We refer to the "Out-O'-Sight" gopher trap manufactured by the Animal Trap Co., of Abingdon, Ill., and which is advertised in these columns. Write these people for circulars, prices, etc.



0.00 to 0.50 0.50 to 1.00 1.00 to 1.50 1.50 to 2.00 2.00 to 2.50 2.50 to 3.00 3.00 to 3.50 3.50 to 4.00 4.00 to 4.50 4.50 to 5.00 5.00 to 5.50 5.50 to 6.00 6.00 to 6.50 6.50 to 7.00 7.00 to 7.50 7.50 to 8.00 8.00 to 8.50 8.50 to 9.00 9.00 to 9.50 9.50 to 10.00

ACTUAL RAINFALL FOR WEEK ENDING JULY 29, 1899.

Cherokee.—A good week for farm work; threshing progressing, flax yielding from 3 to 12 bushels; worms destroying much late corn.

Coffey.—A good week for farm work; flax harvest about finished; corn doing well; army-worm injuring Kaffir-corn and late corn in places; haying well advanced; market full of fruits and vegetables.

Crawford.—Good week for threshing; early corn about made; late corn being eaten by the brown roasting-ear worm; ground in good condition for plowing.

Doniphan.—Corn looks perfect; blackberries few and picking nearly over.

Douglas.—Fine week for threshing and haying; corn doing well, but rain needed to keep down chinch-bugs; potatoes turning out well.

Franklin.—Good week for flax harvest, and threshing; corn doing well; flax yielding 8 to 12 bushels, quality good.

Jackson.—Tame haying finished; early corn promises a large yield.

Jefferson.—Fine week for all growing crops and farm work; threshing in full progress.

Johnson.—Good week for farm work; flax about all in the stack; all crops in good condition.

Labette.—A good week for farming; worms did little real damage; corn is fine; grass good; haying in progress; some wheat and oats in shock yet; apples damaged by scab; grapes rotting badly where not cultivated; potatoes taking second growth.

Leavenworth.—Good week for farm work; all crops in fine condition; haying progressing, crop good; early apples poor; grapes promise well; pastures fair, stock doing well.

Lyon.—All crops doing well; army-worm is doing some damage to alfalfa and Kaffir in southern part of county.

Marshall.—A good week for haying and threshing, quality of grain lowered by the heavy rains while it was in shock; grass and corn are the best the county has ever had this time of year; fall plowing begun; tame hay cut, yield heavy, quality very good; fruit and vines doing finely.

Miami.—Gardens, lawns, and pastures beginning to show the effects of the hot, dry weather; corn not being hurt yet.

Montgomery.—Good growing week; corn doing finely, though grassy; some complaint of damage by army-worm to forage crops and alfalfa; flax harvest over; haying in progress; soil in good condition for fall plowing.

Morris.—A hot, dry week till 29th; corn holding color well and forming ears rapidly; early corn too hard for roasting-ears; early Kaffir-corn beginning to head; millet being cut and stacked, a good crop; alfalfa starting a third crop well; army-worms still doing much damage to late Kaffir and cane.

Nemaha.—Earlier corn considered safe and later corn in very good condition; some damage by chinch-bugs near wheat-

in progress; threshed wheat is poor in quality and yield; plowing for wheat begun; corn earing well; Kaffir-corn and sorghum shooting.

Jewell.—Corn was hurt some by the dry weather but the rains of the 28-29th, are bringing it out all right; the rains will also make a good third crop of alfalfa but are retarding stacking of millet and small grain.

Kingman.—Hot, dry weather; all crops needing rain and some suffering.

McPherson.—Threshing in full progress; these fine rains help the plowing, also the corn, which is very fine.

Marion.—Corn doing well; local showers improving grass land and pastures; potato yield large; wheat and oats mostly in stack.

Ottawa.—The dry weather has damaged some corn beyond recovery, other fields are as fine as corn could be, with plenty of rain from now on we will still have the largest crop since 1889; wheat about all in stack; alfalfa has done nothing.

Pawnee.—Much fall plowing in progress; 10 per cent of the wheat acreage sown was cut and will not make over 5 bushels per acre; oat crop good; barley fair; pastures and cattle in fine condition; indications are that 60 per cent of the wheat acreage will be resown.

Phillips.—A very dry, hot week, followed by fine rains on 28-29th; corn not well cultivated suffered some, cultivated corn in fine condition; the rains stopped threshing but have put growing crops in fine condition.

Reno.—Wheat yield very variable, 10 to 15 bushels generally, some less, a few fields up to 20, testing 61 to 60; corn looking well, these rains practically insure a good crop; plowing progressing slowly, has been too dry; early cane and Kaffir look well, late plantings being damaged by worms.

Republic.—Warm and dry first of week, good rains latter part; corn in fine condition and very promising.

Rush.—Harvest is over and threshing from shock in progress; headed grain not in condition to thresh yet; plowing in progress; corn very promising.

Saline.—Hot, sultry week with east winds; late corn needs a heavy rain soon; plowing has begun, but is very hard; apples are falling.

Sedgwick.—Corn beginning to suffer from drought in some localities, local rains have refreshed crops in other sections; army-worm doing much damage to millet, Kaffir and sorghum; plowing retarded by drought; threshing being pushed; oats average 30 bushels, wheat fair.

Smith.—Wheat nearly harvested, with a better yield than anticipated; first of week very hard on corn, and some damage to it in south part; north two-thirds of county in good condition; fine general rains last of week.

Sumner.—Good week for threshing; plowing for fall sowing; corn and pastures need rain.

The Home Circle.

THINGS THAT NEVER DIE.

The pure, the bright, the beautiful,
That stirred our hearts in youth,
The impulses to wordless prayer,
The dreams of love and truth;
The longings after something lost,
The spirit's yearning cry,
The strivings after better hopes—
These things can never die.

The timid hand stretched forth to aid
A brother in his need,
A kindly word in grief's dark hour
That proves a friend indeed;
The plea for mercy softly breathed,
When justice threatens nigh,
The sorrow of a contrite heart—
These things shall never die.

The memory of a clasping hand,
The pressure of a kiss,
And all the trifles, sweet and frail,
That make up love's first bliss;
If with a firm, unchanging faith,
And holy trust and high,
Those hands have clasped, those lips have met—
These things shall never die.

The cruel and bitter word
That wounded as it fell;
The chilling want of sympathy
We feel, but never tell;
The hard repulse that chills the heart,
Whose hopes are bounding high,
In an unfading record kept—
These things shall never die.

Let nothing pass, for every hand
Must find some work to do;
Lose not a chance to waken love—
Be firm, and just, and true;
So shall a light that can not fade
Beam on thee from on high,
And angel voices say to thee—
These things shall never die.

—Charles Dickens.

THE STUDY OF DOMESTIC ECONOMY.

The general object of teaching domestic economy is always understood to be the betterment of homes. It is held that the more knowledge a girl has of home management, the more able she will be to manage her own home, when she has one. It is held, also, that accurate knowledge of the way to perform household duties not only makes a girl independent of hired help, but also makes her a good mistress, if she be able to employ servants.

The many lines which must be taught to a girl when she really studies household economy make the study, of necessity, one which can never be wholly finished. It is not like arithmetic, of which one may say, "I know arithmetic," but is more like botany, which gives a new flower or plant or fungus just as often as the student feels he has thoroughly mastered the growth in life and the death of the one in hand.

We often feel that the definite tasks of sewing and cooking are the first problems that a girl must solve; but do we appreciate how much of brain and hand skill these two branches must employ? Many a girl who "sews a long seam," and does it most perfectly, can not without long training cut a garment accurately. She has not, instinctively, the faculty to make a shape with her scissors, and the study of geometry is necessary for her to do good work in the cutting and shaping.

Again, the one who learns readily to cut and shape may never bring herself to the drudging work of making stitches that are so even and accurate as to make the whole garment seem as one piece. "Talents differ," and every girl holds possibilities of good work; though every girl needs training in some directions more than she does in others. The making of garments is not all; for cloth must be bought—and just here lies a field for much thought. Were we sheep, with our clothes given us, we might still need to sew; for there are many useful lessons in the task itself. But when the various materials made from cotton, linen, silk, and wool are put in tempting array before the average woman's eyes, the selection of such as will best serve her purpose and still be within reach of her purse is a problem that every woman must solve many times every year.

There are few studies which can be spared from the list of those which are helpful to a full knowledge of domestic economy. Botany must be given a place; for how much of our food comes directly from the plant. Horticulture also; for our gardens are most desirable helps in our daily menu. Hygiene can not be neglected; for no woman does her best work without the vigorous good health that should be her heritage. Mathematics, to teach her to reason, will also help her in cooking; for even the colored "mammy" reasons from cause to effect in her preparation of many foods.

No study which trains the brain or helps the imagination or strengthens the will or enlarges the reason can come amiss; for every power will find place in the work of the home. The cooking, the deft handling of materials, the proper combination of those which will together produce the food needed in the system, call for so much knowledge of chemistry as will aid in the selection and the mixing of the materials, as well as the application of heat. There are fixed laws that govern all the cooking of foods.

Heretofore we have all had to learn by

experience and our mothers were better cooks—when they were 50 years old, perhaps—than the graduates of cooking schools are when they graduate. The school of experience is a wonderful teacher. To-day we learn to apply our known principles.

After all, the whole problem resolves itself into the task of making the home the spot where men and women obtain that which will enable them to become strongest and wisest.

We seem inclined to think if a woman can make many palatable dishes, if she can serve each meal in a dainty manner, and keep her bills within her allowance, she is an expert in domestic economy; but she knows there are many skeletons in her kitchen which come grinning at her every day, and which demand her anxious thought to keep them from disturbing the peace of her household.

Truly, "A woman's work is never done." When a girl in her college course studies domestic economy, she soon finds that she is only opening for herself new lines of thought and care. The practical details which she teaches her hands to master will help every day, because she can then put more thought on the problems of management. While sewing and cooking are important matters in the life of a school girl, the ability to think is the most desirable of any attainment. The girls who find themselves able to recite one hour in general history, and spend the next making digestible bread, or who can turn from the pie just put in the oven to the characters in Hamlet, will wake up some day to the fact that they can control their thinking powers as well as they can their well-trained fingers.

The full study of domestic economy means the work which will make capable, helpful women; and when this is accomplished, one-half the world is educated.—Mrs. Nellie S. Kedzie.

The Disgrace of Being Sick.

The disgrace of some one; it may not be you. But some one has blundered, either through ignorance or carelessness, if you are not strong and well, perfect in limb and feature, as God meant you should be. If you have weak eyes, whose fault is it? Probably your own; possibly the fault of those who had your childhood in guidance. Are you a dyspeptic? Again, whose fault is it? This time it may be your great-grandparents', but some one is to blame. Some one has had no control over his appetite, and you suffer. Have you had to go through a siege of scarlet fever, diphtheria, smallpox? Now, this can only be somebody's carelessness. Some one, utterly careless of the well-being of others, has selfishly thought only of his own comfort and gone catering to his own wishes, mingling with his fellows, carrying from the sick-room the germs of disease in his clothes, brushed against them in the jostling crowd, dealing suffering, perhaps death, to this one and to that one, of course missing many, and gone gaily on his way, and you have the measles or scarlet fever or consumption.

But, some one says, the air is pregnant with the germs of disease, and often one takes such diseases without what is usually called "being exposed." Now, in this case you can't lay it to the careless passerby. But if you go back to first causes, you will find, I think, that it is "all on account of somebody." If you are strong and vigorous, every organ in health and throbbing with vitality, the germs to be found in the air will not trouble you. Your system will scorn such intruders and throw them off with little trouble. If the air is so full of disease germs as to endanger a healthy person, then it is time to move yourself; go somewhere else. Such plague-infected places are hard to find; no need of your staying there. "How about colds?" I believe half the colds could be avoided by proper bathing at the proper time. Many colds come from carelessness in dress or exposure to bad weather, or passing in and out from over-heated rooms to extreme cold air and back again (some one's poor management again, you see), and so on through the line of ailments.

Some seem to think it interesting to pose as an invalid, to be delicate; but if they would stop to think that every physical weakness was to the shame of somebody, they wouldn't be so anxious to display their infirmities. If not for their own sake, they wouldn't want to expose the folly of parents or grandparents, but would try to build up by every care the weakened organism that had fallen to their lot.—Julia R. Pearce.

The Children on Sunday.

"Children can not keep still long at a time, and a quiet drive in the country, a walk through fields or woods, a stroll through orchard or garden, are all in harmony with the spirit of the day," writes Emily D. Striebert, of "With the Children on Sunday," in the August Ladies' Home Journal. "There is no better day than Sunday in which to think kindly and lov-

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ingly of others. Let the children gather flowers for some old lady, autumn leaves for a sick friend, nuts for a playmate, or a collection of leaves of different sorts to surprise papa with their botanical knowledge. On the same principle let them work for children's hospitals and asylums, for mission schools and missionary boxes. Let them make scrap-books, cut out pictures and stories and arrange them in envelopes or boxes. Hallow all these pastimes with loving thoughts of the dear Father in Heaven, who wants us to be kind to His other children who are poor, sick, and neglected. One of the best of influences over children comes with loving care for plants and animals; therefore I should let them water garden beds and house plants, trim up the canary's cage, make a warm, soft bed for the kitten, and feed the rabbits and chickens. Let children make Sunday visits to the old, the sick, and the poor. Let them write or dictate letters to grandma or auntie, to some shut-in friend or old nurse. Music is always a delight on Sunday afternoon, and should never be left out of the program."

Immortality.

Lucky is the poet who can say with Horace that he has, in his works, reared unto himself, "a monument more enduring than bronze." The approval of one generation may be unanimous and the next may consign the unfortunate verse writer to oblivion. A notable case of this kind is recalled in the current number of Literature.

Fifty years ago Robert Pollok's poem, "The Course of Time," was one of the popular books of the day. In 1869 it had reached its seventy-eighth thousand, and there was still a large demand for it.

There seemed every reason to believe that the poet had achieved a lasting fame. Over his grave his friends placed an obelisk with the inscription:

"His Immortal Poem Is His Monument."
"Alas for prophecy," says Literature. "Poor Pollok, it is to be feared, is remembered now only by the few. Yet he has not been entirely forgotten. At the time of the celebration of the centenary of his birth a proposal was made to erect a memorial to him in the vicinity of the place where he was born in Scotland, and the scheme has received a fair measure of support."

Sweet Watermelon Pickles.

Take off the green rind and cut off the pink portion from the inside of a watermelon. Weigh, and to each seven pounds allow four pounds of sugar, a pint of vinegar, two teaspoonfuls of allspice, the same of cinnamon, half the quantity of cloves, half a teaspoonful of ground mace, and a teaspoonful of ginger. Mix all the spices together; separate them into four parts, and tie each part in a piece of cheesecloth. Put the watermelon over the fire in cold water, bring to boiling point and cook until it is transparent. Drain it. Put the sugar and vinegar with all the spices in a porcelain-lined kettle. When boiling add the watermelon, a little at a time; cook until it is dark—not more than five or ten minutes; then put away in a stone jar. Next morning drain off all the juice, heat to boiling point, and pour it over the watermelon rind. Do this for nine consecutive mornings, the last morning heating the watermelon rind again in the juice and boiling the juice down until it will just cover the rind.—August Ladies' Home Journal.

New Beautifiers for the Summer Maiden.

I had almost forgotten to tell you of a new sort of neck arrangement which a pretty girl had on over a white muslin shirt-waist at the golf-links at Newport the other day. It was a sort of collar with sailor's bow attached. Let me tell you how to make one. Get about three yards of black chiffon. First cut off enough to

make yourself a plain belt, which you should tie around your waist over a silk belt to give it body and keep it in place. Then take the rest and put the middle to the front of your bodice, passing it around the neck. Cross it over there and pin it with some pretty stickpins. Then bring the two ends in front, and just about half way down tie them in a regular sailor knot and fasten with a pretty brooch or pin. The ends of the one I saw were trimmed with several rows of narrow black satin ribbon.—Edith Lawrence, in the August Ladies' Home Journal.

To Remove Smoke from Calcimined Walls.

Smoke on calcimined walls may be removed by rubbing the soiled place lightly with stale bread, changing the pieces of bread as soon as they become soiled. This may make the spot a little lighter than the surrounding surface; in which case pass a piece of cheesecloth lightly over the wall, working toward and over the light part, as this will take a little of the color over, and so shade up to the light spot that it will not be noticeable.—Maria Parloa, in the August Ladies' Home Journal.



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The Young Folks.

HE SHALL PROSPER WHO OBEYS.

There is no royal road to right;
No victory comes at idle call;
Prosperity is not for might;
Fair Wisdom's way is free to all.
This grand old law forever stays—

Old Israel heard with trembling awe,
Proclaimed from Sinai's Mount sublime,
The dictates of that righteous law
That echoes throughout all time.
God taught them in a thousand ways,
That he shall prosper who obeys.

Woe unto him who dares to spurn
The truth Jehovah maketh known!
Too late, alas! he yet shall learn
That right must not be overthrown.
Though retribution long delays,
He only prospers who obeys.

The cattle on a thousand hills,
The sunset's mystic glory-bars,
The cataracts and mountain rills,
The sun and moon and rolling stars,
All show—yea, heaven itself portrays—
That he shall prosper who obeys.

A STORY OF WASHINGTON.

While encamped at White Plains the army's supplies became exhausted. The commissary had given out the last ration; and under protest Washington was obliged to permit his soldiers to forage the country. The helpless women and children—for the fathers and brothers were in the army—were constantly harassed by scouting parties who seized everything they could find, even driving off the cows, on which the poor people, especially the young children, depended for subsistence. At length they could stand it no longer, and a delegation of the wives and mothers determined to see Washington himself and lay their case before him.

So one fine morning they started for White Plains, two hundred strong, a veritable "mother in Israel" at their head. Arriving at headquarters, they were observed by Washington, who very likely conjectured their errand, and who at once sent his servant to inquire what they wished. They all with one voice replied:

"We want General Washington."

Washington immediately invited the old lady to approach, he seated and make known the grievance, which she proceeded to do, relating the distress of families who were deprived of food for their little ones and daily necessities by the ruthless soldiers.

Upon hearing her story Washington promised that their wrongs should be redressed, and invited the delegation into his quarters. He then had a long table set in the hall and loaded with the best the camp afforded, and soon the "fair dames" were partaking of his hospitality. The general, who was seated at the head, invited them to drink his health, which they did, their toast being "May every one in power have the justice and humanity of General Washington." It is added that "two hours before sunset they were on their way home, following their recovered property." Soon after, the battle of Trenton occurred.

Twelve years passed, the epoch-making years so dear to us all. Washington is on his way to take his place as President of the young nation. As he drew near to Trenton bridge the well-known and interesting ceremonies at that place occurred. It will be remembered that the ladies designed the whole, and thus they sought to reward an unforgotten kindness. The triumphal arch that spanned the bridge was covered with foliage and flowers intertwined with laurel, and in the center, in letters of gold, was the since oft-quoted motto, "The defender of the mothers will be the protector of the daughters."

We may be sure that not one of the "two hundred delegates" who could get there was missing in the group of comely matrons, and the rosy daughters who were then children had not forgotten the story. Washington, seeing the array of ladies, gallantly dismounted and with head uncovered approached the arch. At this the little girls, of whom, we are told, there were several hundred dressed in white carrying basket of flowers, began to sing an ode written for the occasion, and at the last line, "Strew your hero's way with flowers," they scattered the fragrant blossoms in his path. As he passed under the arch a beautiful girl, perched in the foliage and nearly hidden from view, placed on his head a wreath of laurel. Washington was overcome by these demonstrations, and the hero of many battles was seen to shed tears as he passed on in the flower-strewn path, at the end of which there were other honors, than which there were none greater in the nation's gift.—Massachusetts Ploughman.

Children's Sunday Evening Diversions.

At the close of a long, stormy Sunday afternoon, when the children have been read to, and talked to, and instructed until minds are weary, and active bodies are longing for some physical exercise, I have put them through some simple, light gymnastics. I have let them lie on the floor

with folded arms to see who could get up first without unfolding the arms. I let them strike all sorts of attitudes, and make "statuary" of themselves. After such a performance we have a play called "Work," which is played by writing on slips of paper "Put books away," "Pick up papers," "Arrange the table," and so forth. Each child draws a slip and hastens to do as it directs, and in a very few minutes order is restored. After an evening hymn all gather close around mamma for a last little talk. Prayers are said, "good-nights" and kisses are exchanged, and 8 o'clock finds every "chick and child" in bed. Whatever is done on Sunday the vital consideration is to develop the moral and spiritual nature, and to make Sundays at home delightful to look back upon in after years. This may be done whether the house be a cottage or a palace, provided it contain loving and sympathetic parents willing to devote their time on Sundays to their children.—Emily D. Striebert, in the August Ladies' Home Journal.

Why Captain Dreyfus Promised to Live.

In the letters of Alfred Dreyfus which have been recently brought out in an English translation, by Harper & Brothers, it is revealed that Captain Dreyfus, when all hope seemed lost, was resolved to commit suicide, and that he was only restrained from his purpose by the entreaties of his wife.

She exacted from him the promise that whatever came, however hopeless and humiliating his lot might become, he would continue to live for her sake. The letter which was written in connection with this promise shows how keenly Dreyfus was suffering, and what an effort the promise must have cost him.

"I will not tell you," he writes, "what I have suffered to-day. Your grief is great enough already. I will not augment it."

"In promising you to live, in promising you to resist until my name is rehabilitated, I have made the greatest sacrifice that a man of deep feeling of heart, an upright man, from whom his honor has been taken, can make. My God, let not my physical strength abandon me! My spirit is unshaken; a conscience that has nothing with which to reproach me upholds me, but I am coming to the end of patience and of my physical strength. After having consecrated all my life to honor, never having deserved reproach, to be here, to have borne the most wounding affront that can be inflicted upon a soldier!"

"Oh, my darling, do everything in the world to find the guilty one; do not relax your efforts for one instant. That is my only hope in the terrible misfortune which pursues me."

Origin of Flower Missions.

To the inspiration of Miss Helen W. Tinkham, of Boston, the missions for the distribution of flowers among the poor, the sick, and the aged in our cities owe their origin. Thirty years ago the first flower mission was formed, with Miss Tinkham at its head, and she has ever since been identified with the work.

In the spring of 1869 Miss Tinkham spent a few days in the country, rejoicing in the flowers that burst into fragrant bloom under the magical breath of April. Upon returning to Boston she observed with what wistful eyes the children playing about the railroad station viewed the flowers she brought with her, and how eagerly they accepted those she offered them. This incident led her to urge the church-going people to co-operate in collecting and distributing flowers. A meeting was held and the work soon started. Boston is, therefore, the birthplace of the flower missions, a form of charity which has extended to every section of this country, and crossed the Atlantic.—August Ladies' Home Journal.

The Sugar Industry in Cuba.

All sugar is produced from two sources—the sugar-cane and the sugar-beet. The cane grows in tropical countries almost entirely, the fields in Louisiana, in our own country, being a small and almost inconsiderable part in the vast output. The beets grow in the temperate zone. It has not been proved that raw sugar made from the beet can be produced and landed at the refinery at 2 cents a pound, and hence one can see what an advantage Cuba has in her great industry. It is for that reason that the question of the ultimate annexation of Cuba to this country may play an important part in our national life. We all remember what a row was caused by the beet-sugar men and the cane-growers of Louisiana over the tariff a few years ago, when it became necessary for the success of the McKinley bill to pay a bounty for sugar produced in this country in competition with free sugar from other countries. The sugar problem always complicated the relation of Hawaii to the United States before annexation. Should Cuba become an integral part of the United States, another tariff row will undoubtedly

result. It is for that reason that the probabilities that Cuba will ever become more than a colony of this country are remote. It is only fair, however, to the Cuban sugar-producers to say that while for business reasons they would prefer annexation to this country, they all declared, so far as I was able to get their personal sentiments, that they would be satisfied with an American protectorate or a colonial government. All they wanted, they said, was a settled condition of the politics of Cuba. They declared that under the present tariff conditions they could make money, and that if the time of the mortgages were extended, which has been done, they saw a profitable future ahead of the industry in the island.—Franklin Matthews, in Harper's Weekly.

Spanish-American War Panorama and Greater America.

is one of the war books which is likely to be in continuous demand. It is a panoramic record of the triumph of Yankee Doodle. The eagle flaps his wings on every page, and "Old Glory" waves around and above every scene. Prominent officers connected with the war are here portrayed, as well as many of the "men behind the guns." Military life is pictured to the eye from recruiting to guard-mount and skirmish-line. Nor is the ludicrous omitted. The company cook receives the attention due to his importance; the mess is shown; cavalry scenes are given; the hospital arrangements are depicted; the heroines of the Red Cross service are displayed; street scenes in Havana, Santiago, and elsewhere are unrolled, the new citizens or subjects (which are they?) of Uncle Sam appear and disappear as the leaves are turned.

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It is no longer doubted that Kansas' corn crop will break the record.

A farmers' institute will be held at Sibley, Douglas County, Kansas, on August 8, 1899. Professors Cottrell and Hitchcock, of the State Agricultural College, and successful Douglas County farmers are on the program.

The latest estimates place the population of the world at 1,500,000,000, an addition of 20,000,000 for the last seven years. The American Indians and their probable relatives, the natives of the Pacific islands, are dying out, while the white race is rapidly increasing.

"Eggs in Cold Storage" is the title of a little book by Madison Cooper. The subject is handled in a plain and simple way, but the discussions are based on correct principles and a wide experience in refrigerating engineering. It is well worth while to obtain it on account of its presentation of principles applicable to all kinds of cold storage. It will be sent to any subscriber who on renewing his subscription will enclose 10 cents extra for the book.

The twenty-sixth biennial session of the American Pomological Society will be held at Philadelphia, September 7-8, 1899. Biennial membership costs \$2; life membership \$20. The partially completed program shows that the proceedings will have to do with subjects of present interest rather than glories of the past. Kansas will doubtless be represented. The secretary is Wm. A. Taylor, 55 Q street, N. E., Washington, D. C.

The wheat crop of the United States from the 1898 harvest is officially estimated to have been 675,149,000 bushels. Exports of wheat for the year ending June 30, 1899, were 222,700,000 bushels. Never before were the exports so large. For the year ending June 30, 1898, the exports were 217,306,000 bushels. The year of next largest exports was that ending June, 1892, for which the figures are 191,832,000 bushels. The intervening years averaged less than 150,000,000 bushels.

The State Live Stock Sanitary Commission last Friday extended the quarantine against tuberculosis to include all States east of the Mississippi River, and Minnesota, Iowa, Arkansas, and Louisiana. The quarantine extends to breeding and dairy stock, Kansas receiving no feeders or meat stock from those States. In May, the board quarantined against Illinois, after the members witnessed the slaughter of diseased cattle at Chicago. The commission has taken charge of and quarantined 300 head of cattle owned by Hull & Dillon at Pittsburg. This herd has Texas fever, ten head having already died.

The Eads jetty contract, which was entered into by the United States with Capt. James B. Eads, in 1874, to keep a channel of at least 26 feet at the mouth of the Mississippi River expired July 8. The Eads estate will be compelled, however, to keep the channel open for five hundred and thirty-five days, in order to make good the number of days in which the water of the channel was under 26 feet. On the day of the expiration of the contract a ship drawing 26 feet 10 inches went through the jetties without touching bottom. The benefits conferred upon the West by the perseverance of Captain Eads and the resultant success of the jetty system of opening, and keeping open, ports at the

mouths of great rivers, can scarcely be measured. But for this success the current of heavy freight from the great West would have continued forever to flow over the Allegheny Mountains to the Atlantic. Not only has the obstructing bar at one of the mouths of the Mississippi been overcome by Captain Eads, but his plan has been applied to the bar at Galveston, at Sabine Pass, and at other formerly obstructed ports. By the expiration of another quarter of a century of success it will be fitting to hold a grand exposition in commemoration of the man and the work.

ARE CROP REPORTS BENEFICIAL?

Editor Kansas Farmer:—Tell me, please, if it is any benefit to the farmers of Kansas to give monthly statements as to conditions of crops. The papers will blow up these statements till the world will think the present crop will never be consumed and hence not thank the producer if he would give it all it wants. F.
Emporia, Kans.

Our correspondent's objection is not to the effect of the truth but of its perversion by those who are inclined to "blow." But it should not be forgotten that the world, especially that part of it interested in buying grain, learned long ago to discount the utterances of the "blow-hard." They do little, if any harm, and they seem to amuse the individual who originates or repeats them.

There are those who object to official or other efforts to give to the public accurate estimates of the condition of crops on the assumption that such information will be used in determining prices. But is it at all certain that lack of information would tend to higher prices for the farmer? Is it possible to keep speculators in farm products in ignorance as to growing crops? Boards of trade do not always wait for the official monthly or weekly estimates of condition of crops. They are able to employ experts in judging crop prospects who can form a fair idea of conditions from a car window. To the man who has so invested or expects to so invest in "futures" that a rise or fall of a cent or two cents means hundreds of thousands of dollars lost or made, the expense of having such experts ride a few thousands of miles through growing grain is insignificant. Such advance estimates are now obtained, and would be obtained, regardless of official or of other private estimates. They are made the basis for speculative deals to either depress or advance the market according to whether the speculators have bought or sold for future delivery. The fact that the inside speculators have generally sold, and are, therefore, interested in depressing the market, does not lessen the value of their comparative monopoly of latest information. If this monopoly were complete on the part of the speculative cliques, producers would be at their mercy, not knowing whether or not prices represented the relation of probable supply to demand. By representations from those possessed of the best knowledge, producers might be led to sell when fuller knowledge would indicate holding, or to hold when they ought to sell.

On the other hand, the farmer does not and probably can not obtain for private use such information of the crop condition of the world. His only protection is in the fullest possible published reports. If, therefore, the farmer's were the only interests to be considered the benefit of monthly and other statements of condition of crops should be made as full and as accurate, and should be published as widely as possible.

ANOTHER COMMUNISTIC FAILURE.

Experience of the most advanced peoples of the world has shown that the general welfare and the greatest good to each individual may be attained only by individual effort, under ample protection to the individual, in the enjoyment of the results of his efforts. True, in all civilized, as well as savage and barbarous countries, there is much coöperation and much that is done for the common good. Among the lower orders of men tribal ownership of land is only just disappearing, but among advanced people individual ownership was long ago recognized as essential to permanency of homes and of improvements and even to proper care of land.

There have always been those, however, who hold that communism is better than individualism, and there have not been wanting people ready to embark in communistic enterprises. The claim has not infrequently been made that these are more Christian than the organization of society which has so long been approved by the vast majority among the most enlightened and progressive peoples of the world. But, on one account or another, the communistic settlements and enterprises finally fail.

One of these about which much has been said of late was the Ruskin Coöperative Colony, in Tennessee. The following news item under date of July 28 tells its tale:

"The property of the Ruskin Coöperative Colony, located at Ruskin, Tenn., 50 miles

northwest of Nashville, was sold by a receiver yesterday. The land, 1,700 acres, and buildings, brought \$12,000. This means the failure and the end of the Ruskin Colony, which was founded by J. A. Wayland, editor of the Coming Nation, in 1893, and which has been looked upon both in this country and in Europe as the most successful experiment in socialism ever inaugurated. The voting population of the colony was 133, the largest representation being from Ohio. It was prosperous, revenues far exceeding expenses, but became disorganized by a faction favoring free love, contending it was sound socialism."

The Kansas Farmer can wish no better fortune for its readers than that they may realize that the lessons of experience have been well incorporated into the organization of society and into the system of government of the United States; that as experience slowly points the way to improvements society considers them, discusses them, and finally adopts such as commend themselves strongly; that each individual will find himself able to accomplish more for himself, for his own welfare and for the welfare of people in general, by accepting the results of the experience of civilized mankind as mainly correct and by getting into harmony with these results and expending his efforts in useful work along the line of progress which society is making, rather than by undertaking to graft upon our institutions any of the ways of inferior peoples.

There is, in thus accepting the general correctness of the judgment of mankind on human experiences, no lack of opportunity for reforming and improving human conditions. But progress is not to be made by attempts to turn the stream out of its course and efforts in disregard of the teachings of experience are likely to come to naught.

THE IRON BAROMETER.

The condition of iron trade has by many writers been taken as a barometer showing the degree of prosperity of the country. Although it is not a faithful index of the entire situation it is worth while to note it in passing. The Iron Age says:

"Every market report deals with the story of the scarcity of material and the advancing tendency in prices for delivery during the next four or six months. Values are exceedingly firm for the balance of this year, and the possibility of higher prices is being faced. Complaints of delays in deliveries continue frequent, particularly so far as old low-priced contracts are concerned. Some large concerns, however, report that they are beginning to catch up a little.

"Some consumers are beginning to face the question of a supply of material for the first half of next year. The conviction seems general that it is safest to cover for any contracts taken, but thus far the quantities involved seem to be moderate. There has been some buying of pig iron for 1900, but so far as we can ascertain good sound concerns are having prices named to them considerably below those now prevailing. This insures to the makers a very handsome profit on a part of their tonnage.

"A glance at our table of comparison of prices shows that since July, 1898, values on nearly the whole line of raw and finished materials have just about doubled, and in some cases the rise has gone beyond that. The feeling in the trade is that no reaction is likely for deliveries for this year, and that what readjustment may come for 1900 delivery, particularly for the first half, it is likely to leave values on a plane which will be highly remunerative to well-equipped, well-located and well-managed concerns. Under these circumstances the harvest in sight for the balance of 1899 seems safe.

"The really crucial fact in the situation, and the one which differentiates it from the last boom of 1879-1880 and from the 'soda-water rise' of 1895, is that the enormous development of the demand is worldwide, and that there is no danger of foreign makers pouncing upon our market."

PICKLED HORSE-BEEF.

An English paper has the following rather old news and fresh comment:

"News comes from the States that a new industry has sprung up, namely, the pickled horse-beef industry. The British Consul at Portland, Ore., says in his report for 1898: 'A large business has been done in pickled horse-beef. Large numbers of range horses have been brought here and butchered within the last two or three years, and the meat is pickled and shipped overland to European ports. Some has also been tinned as an experiment. Details are kept very quiet.' Query: How many of our consumers of tinned meats in this country have partaken of horse-flesh and not known it?"

If there is any one thing that will wake the opposition in John Bull that thing is tampering with the quality of his beef. But he need not at this date concern himself much about horse-beef. A few years

ago horses were cheap enough to make it profitable to slaughter them for their flesh if that flesh could be sold at the price of even inferior beef, but that condition does not exist in 1899. A year ago the attention of the writer was called to a large horse which had been bought for \$10. He had a blemish on one foot and the condition of the purchase was that should this blemish unfit him for farm work the price should be refunded. The same horse—blemish and all—was sold a few days ago for \$90. At \$10 he would have made cheap pickle, for he was fat. At \$90 his flesh would cost too much for John Bull, even though he should prefer it to beef. Our epicurean relatives over the water may, therefore, compose their minds and quiet their stomachs on the subject of horse-flesh from America. The noble animal has to work now and has no time to develop the qualities of steaks and roasts.

HOW MUCH IS A DAY'S WORK?

The question of the number of hours which shall constitute a day's work has not become so acute on the farm as in the industries in which large numbers of wage-earners are congregated. The attempt to define a day's work by law has often been made. In Colorado such a law has recently been brought to the test before the supreme court of the State. The law was held to be unconstitutional. The decision has been severely criticised. The New York Mail and Express, however, finds much to commend in the decision. It says:

"By the unanimous vote of its members the Colorado supreme court has repelled a serious attack upon the real interests of labor. In an opinion, rendered July 17, it holds that the eight-hour law recently enacted by the Colorado legislature is unconstitutional, the decision being based on the general principle that the measure is an invasion of personal liberty and prejudicial to the rights of the individual.

"This judgment is thoroughly sound and wholesome. The Colorado enactment proposed that the State should determine how much of his time and labor a man might sell to an employer. It sought to deprive him of his right to settle the matter for himself, and if upheld it would have destroyed his personal independence. The authors of the measure set up the contention that a man might properly demand ten hours' pay for eight hours' work, and it was in resisting this fallacious proposition that the act was taken into court and defeated.

"It is a fortunate thing for the working men that this attempt to restrict his liberty has been thwarted. If the State had the power to say how few or how many hours he should work out of every twenty-four he would be little better than a slave. He and his fellows may combine, if they please, to fix the length of the working day, but it would be a bit of tyranny for the State to do so. And to declare by legislation that a man shall receive ten hours' pay for eight hours' work is simply to say that he shall receive 25 per cent more than he has earned. No honest toiler asks or expects any such thing. He is neither a beggar nor a cheat. In view of all the circumstances the decision of the supreme court will be applauded by all true friends of the labor cause."

IRRIGATION SURVEY.

Hon. F. H. Newell, who has been recently traveling through Colorado, has made some interesting observations concerning the waters of that State. Mr. Newell is the hydrographer of the Geological Survey, and spends his summers each year in traversing the western country for the Government in connection with reservoir surveys and general irrigation work.

"There is enough water in Colorado to irrigate the whole State thoroughly, if it is used sensibly," Mr. Newell is credited with saying.

"The work of our office is to make it possible for people to go after the irrigation problem rationally. We furnish data and statistics upon which people intending to build reservoirs or dig ditches can base their estimates. It was with that in view that the Government inaugurated the river gauge system. With the results from the various stations we can tell exactly how much water a given stream can be relied upon to give at the different seasons of the year. With the tables we make, and the voluminous books we issue, the most reliable facts are at hand. We hope this year to establish many more gauge stations, as the working of those we have already established has proved beneficial.

"Reservoirs," he said, "are the great necessities. The whole western country needs them. It is still a discussed problem whether they should be built by State, Government, or private capital. Our Department has nothing to say in regard to building reservoirs; it only points out where they should be built. However, if the State of Colorado, or any western State, makes up its mind that it wants to have the Government build its reservoirs, it can

have it done. It is merely a matter of using the balance of power that the West holds in the Senate, and securing the appropriation.

"The smaller canons of the rivers, where they come out onto the plain, furnish splendid opportunities for reservoirs, which could be built at very small expense.

"My experience makes me favor some sort of governmental construction, as private enterprises are too often built to sell out, are flimsily constructed and likely to go to pieces.

"We are also investigating artesian conditions and making maps of the water-bearing rock, showing the depths at which water will be found. A proper use of artesian wells as a means of irrigation is something worth more consideration than it has been getting. A well with a windmill to pump would furnish enough water to cultivate profitably a moderate-sized plot of ground. It is valuable as an educational method, making the farmers decently careful of their water, and ready to make the best use of ditch water when it finally comes."

Review of Trade.

R. G. Dun & Co., in their Weekly Review of Trade, say:

"There is certainly room for some decrease when the volume of payments through the clearing house is 47.2 per cent larger than last year, and 59.6 per cent larger than in 1892, the best of all previous years. So great an advance would warrant expectation of some setback under ordinary circumstances. This year, the unusual freedom from labor troubles about July 1 is followed by some signs of a tendency to strike because great works are committed far ahead and can not halt without loss. But interruption of business by labor troubles of all sorts has been less than in any July for years.

"Nor is the movement of products hampered. Western wheat receipts in July were 18,863,826 bushels, against 7,309,333 bushels last year to date, and of corn, 20,485,251 bushels, against 9,173,355 bushels last year, even the latest week showing large gains over last year. Exports of wheat from both coasts were 9,939,280 bushels, flour included, against 8,833,192 bushels last year. Corn exports also continue surprising, 11,684,521 bushels for the month thus far, against 6,767,963 bushels last year.

"In spite of large foreign buying, cotton declined to 6.12 cents. Official returns make the iron output for the first half of 1899 only 6,289,167 tons, with decline in known stocks outside the great steel companies of 288,140 tons, and net exports were probably over 100,000 tons. While the increase of steel companies' stocks would probably make actual consumption less than has been estimated, it is much larger than ever before, and yet appears less than the production in June, while the production has much increased this month. Meanwhile, no advance in prices and a slackening of demand in some important branches are significant. The heavy rise in prices naturally cuts off much buying for an advance and retards buying for consumption. All records are broken in the Connellsville output of 190,700 tons of coke for the week, with 18,694 ovens yielding and only 634 idle. Copper is strong at 18½ cents for lake, with spot scarce, and lead weak at \$4.55, but tin is quoted at \$31.55, London leading, as usual.

"Manufacturers have been buying much wool, it is stated, but less the past week, although many are taking sample bales. Goods are in fair demand, but no further change in prices is mentioned. Sales in four weeks have been 46,799,600 pounds, of which 38,954,800 pounds were domestic; in 1897, with a new tariff coming, speculation took 46,109,200 pounds, normal consumption being about half that quantity.

"Cotton goods are stronger for bleached, and the general tone is good in spite of cheap cotton. Shipments of boots and shoes from the East in four weeks have been 394,379 cases, against 360,539 cases last year, and in 1895, the nearest previous year, 351,359 cases. Leather continues strong and scarce with a combination of packers lifting prices of hides at Chicago, so that many of the tanners are quitting that market.

"Railroad business for July shows the largest increase in any month this year, 16.1 per cent larger than last year, and 10.4 per cent larger than in 1892.

"Failures for the week have been 151 in the United States, against 225 last year, and twenty in Canada, against twenty-six last year."

"An Empty Sack Cannot Stand Upright." Neither can poor, weak, thin blood nourish and sustain the physical system. Hood's Sarsaparilla is the standard purifier and true tonic for the blood.

Hood's Pills do not gripe. All druggists 25 cents.

Look out for malaria. It is seasonable now. A few doses of Prickly Ash Bitters is a sure preventive.

Wheat as the Trader Sees It.

The American Elevator and Grain Trade, discussing the wheat situation, inclines to the view that speculators are justified in holding prices at moderate figures. That journal says:

"Evidently the trade at large thinks there is nothing alarming in the future of wheat, judging from the downward sag of prices. The Government's report of July 10 would indicate a spring wheat yield of 256,896,000 bushels and a winter wheat yield of 266,770,000 bushels; or a total yield of 523,666,000 bushels, against 675,000,000 bushels of last year.

"At first blush it would seem that a slashing off of 150,000,000 bushels of wheat would constitute a very large bull argument, but then the supplies in farmers' hands are calculated at 64,370,000 bushels on July 1 of this year, as against only 18,102,000 bushels a year ago. Further, the European stocks of wheat are given as more than 10,000,000 bushels in excess of what they were on July 1, 1898, and the visible supply in the United States and Canada, of wheat and flour, on July 1, 1899, is given as 70,860,000 bushels, against 27,424,000 bushels a year ago. These three items conspire to make a deficiency in the crop of 1899 look of less importance than the figures would suggest.

"While the world's crop this year is about 300,000,000 bushels less than last year, it is, nevertheless, larger than the crop of 1897 by about the same figure, and it was the short crop of 1897 that made the big prices of 1898. Last year the world saw the greatest wheat crop ever harvested. So that while the experts figure the present world's crop at from 300,000,000 to 340,000,000 bushels less than last year, the world's supplies are figured at fully 200,000,000 more on July 1. It is the item of supplies that has made the market impervious to tales of crop disaster at home and abroad."

August Notes.

Stock need shade now.
Look out for the water supply.
Sow turnips at the first opportunity.
Finish up the plowing for the fall wheat.
Do not allow the millet to get too ripe.
Be careful not to pasture the meadows down too close.

Commence feeding the stock before they begin to run down in condition.

Cut clover for seed when the heads have all turned brown.

Gather up and haul the manure out on the ground to be plowed for wheat.

Commence feeding the hogs intended for early market as soon as the corn will admit.

With good pasturage now is the best time to fatten the old cows and sheep. It is only in exceptional cases that it will pay to store a grain crop to market later. Save everything that will make feed. It is an exceptional case when there is too much.

While there is leisure is a good time to provide the necessary shelter for the stock and poultry.

Stack all of the wheat, oat, and clover straw so that it will keep in good condition.

If grass or clover seed is to be sown this fall, arrange to sow as early as the conditions of the soil will admit.

The disk harrow is one of the best implements with which to prepare the seed-bed for wheat or grass-seeding.

With the early varieties of corn, at least, cutting for fodder should begin by the middle of this month, to secure the best feed.

By the last of this month the spring colts should be weaned. Feed a little grain every day for a few days before weaning.

If a green growth of any kind is to be turned under, when the plants are in full bloom is the best stage, if the best possible results are desired.

With all stock intended for early market it is best to commence feeding in good season, giving a small quantity at first and gradually increasing.

If the early potatoes are dug they should be scattered out thin in a loft or some place where there is a good circulation of air and yet protection from the sun.

Eldon, Mo. N. J. SHEPHERD.

Paint Talks, XIX.

"PERFECT PAINT."

There is no such thing as perfection in this world; therefore, there is no perfect paint, and the use of paint is, in itself, an admission that wood, iron and steel are not perfect building materials. If they were they would not require the protection of paint.

But if there is not perfection there is always a best. The best building is that which endures the longest, the best paint is that which gives the best protection and the longest wear. If ordinary dull colors satisfy there is nothing superior to good metallic browns, ochres, lampblack and graphite for exterior house painting,

and zinc white ground in oil with such colors will lighten the tint or shade without affecting their durability.

But usually tastes require something brighter than these dull earth colors and carbons—a white base, to be tinted or shaded at will, is generally demanded. This white base may be either pure white lead, pure zinc white, a mixture of either with some "inert" pigment (barytes, gypsum, etc.), a mixture of lead and zinc, or a combination of the two with one of the inert materials.

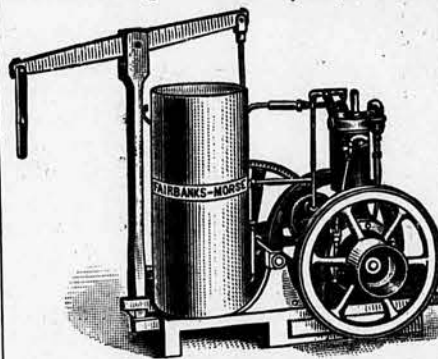
If pure lead be used it will readily lose its gloss, darken and chalk or dust off—and the dust from it is poisonous. Pure zinc can be used under proper conditions by a skillful painter in such wise that it will come as near being a perfect paint as any yet devised. Usually, however, such condition and skill are not available. But under no condition will pure zinc lose its gloss, change color, or chalk off. This fact naturally points to the use of combinations based on zinc, and nearly every white or tinted paint in the market that is not made by a lead corroder is really such a combination. These paints when they bear the name of a known paint manufacturer, are, generally speaking, superior to lead in every respect and far more economical in the long run. They do not discolor, chalk off, nor peel off, and many of them are guaranteed for a term of years. They do not require frequent renewal, and when repainting is thought desirable it is usually more for the purpose of "freshening up," than for renewal as protective quality of the coating is lost very slowly. Indeed I have seen work done with such paint where at the end of twenty-two years the paint, for protective purposes, was still in excellent condition. No one ever saw a job done with pure lead on the outside of a building where the paint was not all dried up and washed away within half that time, or where the paint had not lost its protective value in much less than half that time.

While a perfect paint is unattainable the best is easily found, for generally speaking the best is a combination paint containing zinc white, and the market is full of such paints

STANTON DUDLEY.

A "Jack of All Trades."

Fairbanks, Morse & Co., of Chicago, the well-known scale, gasoline-engine and windmill manufacturers, have recently placed upon the market a remarkable little machine which will be of much interest to all farmers, stock-raisers and dairymen. This machine has been very appropriately named a "Jack of All Trades," as it is capable of doing such a variety of work in and about the farm. It consists of a one and one-half horse-power gasoline-engine all connected up ready for work. The following cut shows the machine with pumping attachment. When water is put in the cooling tank, gasoline in the gasoline tank, and lubricating oil in the oil cups, the engine is ready for work. The gearing can be thrown out of mesh and the engine will then drive machines by belt from pulleys. The machine is particularly valuable on account of being so light that it is easily transported from place to place to perform work wherever it is most convenient to the owner. Among purposes for which this machine may be used are the following:

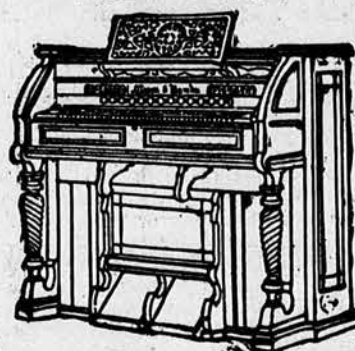


Pumping water, sawing wood, shelling corn, running feed-cutters, sewing-machines, churns, butter-workers, coffee-mills, washing-machines, cream-separators, ventilating fans, dynamos, air-pumps, sheep-shearing machines, ice-choppers, ice-cream-freezers, horse-clippers, and in fact, it is adapted to furnish power for a hundred different purposes. Upon application the manufacturers will be glad to furnish further information in detail and send circulars fully describing the machine.

"What's in a name?" The word "bitters" does not always indicate something harsh and disagreeable. Prickly Ash Bitters is proof of this. It cleanses, strengthens and regulates the system thoroughly, yet it is so pleasant the most delicate stomach will not object to it.

Mr. Editor.—My crop of Fultz-Mediterranean Wheat yielded 3,309 bushels on 80 acres. Average over 41 bushels. Part of it was on corn ground which cut the average down considerable. I raised it for J. K. Everitt, Seedsman, of this place, of whom your readers can get free samples if

Mr. Ira D. Sankey always uses Style 431 Mason & Hamlin Organ.



THE SANKEY MODEL

Having no top, presents no obstruction between the player and his audience, while its wonderful range, the great power and effects produced by its 14 stops, make it a most valuable instrument, and to-day it is sold by dealers (or delivered by us, freight prepaid) for \$180.

Our ORGAN CATALOGUE gives full particulars about "THE SANKEY" and a score of other models, from \$27 up.

Mason & Hamlin Co.

Boston, New York, and Chicago.

Intending purchasers should send for our Piano Catalogue describing our New Scale Pianos.

they mention this paper. It is the greatest wheat I ever saw. D. C. CHENOWETH, Indianapolis, Ind.

Very Popular.

The "Osgood" Standard Scales, manufactured by Osgood Scale Company, 13 Central street, Binghamton, N. Y., are the subjects of an illustrated announcement to the trade, in this issue. The company emphasizes the fact that it wants dealers and agents everywhere to handle the farm scale; the house adds a proposition to ship scales on a thirty-days' trial. The wagon scales made by this firm are becoming very popular and the sales are larger than were expected. A catalogue will be sent on application.

Kansas Fairs in 1899.

Allen County Agricultural Society—C. H. Wheaton, Secretary, Iola; September 5-8.
Anderson County Fair Association—C. H. Rice, Secretary, Garnett September 26-29.
Brown County Fair Association—Grant W. Harrington, Secretary, Hiawatha; August 29-31.
Butler County Fair Association—Chas. Dillenbeck, secretary, Eldorado; October 3-6.
Clay County Fair Association—E. E. Hoopes, Secretary, Clay Center; September 12-15.
Coffey County Fair Association—J. E. Woodford, Secretary, Burlington; September 11-15.
Cowley County Fair Association—W. J. Kennedy, Secretary, Winfield; September 20-22.
Douglas County—Kaw Valley Fair Association—Tracy Leonard, Secretary, Lawrence; September 12-15.
Farmers' and Merchants' District Fair Association—F. G. Welch, secretary, Topeka; September 4-8.
Finney County Agricultural Society—D. A. Mims, Secretary, Garden City; September 12-15.
Franklin County Agricultural Society—E. M. Sheldon, Secretary, Ottawa; September 19-22.
Greeley County Fair Association—J. B. Newman, Secretary, Tribune, October 4-5.
Jackson County Agricultural and Fair Association—S. B. McGrew, Secretary, Holton.
Jefferson County Agricultural and Mechanical Association—Edwin Snyder, Secretary, Oskaloosa; September 5-8.
Jewell County Fair Association—LeRoy Hulse, secretary, Mankato; October 3-6.
Johnson County Co-operative Fair Association—J. M. Warren, Secretary, Edgerton; September 26-29.
Linn County Fair Association—Ed. R. Smith, Secretary, Mound City.
Marshall County—Frankfort Fair Association—C. W. Brandenburg, Secretary, Frankfort; September 26-29.
Miami County Agricultural and Mechanical Fair Association—W. J. Carpenter, Secretary, Paola; September 12-15.

BETHANY COLLEGE,

Bethany College for Young Ladies and

Bethany College of Music and Fine Arts.

Three chartered institutions of learning all in one. Nine departments, thirty professors and instructors, 600 students. LARGEST CHURCH COLLEGE IN KANSAS. Classical, scientific and literary college courses, leading to a degree and to LIFE CERTIFICATES to teach. Admission to Freshman same as in State University. SPLENDID ACADEMY. NORMAL course leading to three years and life certificates. Greatest musical CONSERVATORY of the West. Home of famous annual "MESSIAH" concert. Fine ART department. Fully equipped BUSINESS COLLEGE, with SHORTHAND and TYPEWRITING. Splendid school of ELOCUTION and ORATORY leading to a degree. MODEL SCHOOL for very young students. Excellent board at \$1.50, \$2 or \$2.50. Steam heated buildings. Beautiful grounds. Location in the center of Kansas and just right for Oklahoma and Indian Territory patronage. Send 5 cents for 120-page illustrated catalogue. Add 5 cents for 20x16-inch portrait of the faculty, 5 cents for same size picture of college. 50 cents buys a very large and handsome college thermometer. Write to-day to President

CARL SWENSSON, Lindsborg, Kansas.

SHORTHAND Book-keeping, Penmanship, 64-page illustrated catalog free. Board and tuition reasonable. Situations for Graduates. Address, D. L. MUSSELMAN, President, Gen City Business College, Quincy, Illinois.

Horticulture.

KANSAS EXPERIENCE IN ORCHARDING.

From "The Kansas Apple."

M. D. Wellner, Westmoreland, Pottawatomie County. Have been in Kansas eighteen years. Planted 800 apple trees ten years ago. I do not own this orchard at present. I planted Ben Davis, Missouri Pippin, Winesap, Jonathan, and Maiden's Blush. I prefer sandy or black loam, with clay subsoil, bottom land or gentle slope to the north. I set good, thrifty, clean, 2-year-old trees. I thoroughly plow my ground, then run a lister for the row, and throw out with spade or shovel where the trees are to go. I cultivate with potatoes and corn, using the plow, harrow, and 5-tooth cultivator, until 10 or 12 years old, then sow to clover. I use no windbreaks. For rabbits I wrap with building-paper or wire screen. I believe it pays to prune with the knife and saw a little each year, to train the tree to grace, beauty, and profit. I never tried thinning fruit. Would fertilize with a little stable litter spread over the ground. Never would pasture an orchard. Had some canker-worm and curculio, but never tried spraying. I pick from a step-ladder into a shoulder sack.

V. E. Hathaway, Council Grove, Morris County. Have lived in Kansas thirty years; have an orchard of 1,000 trees 2 to 12 inches in diameter. Have tried and discarded Willow Twig and Smith's Cider on account of blight. I prefer a gravel or clay bottom with northern slope. I prefer healthy trees set 40 by 20 feet. I cultivate my orchard to corn until too large, plowing very shallow. Windbreaks are beneficial; would make them of cedar. I prune by cutting out the inner limbs that rub; I think it pays. I do not thin the fruit on the trees. I sometimes fertilize with stable litter; would advise its use on all soils. I do not pasture my orchard; do not think it advisable. My trees are troubled with canker-worm, and my fruit by codling-moth. I spray just after the blossoms fall, with London purple, and I think I have reduced the codling-moth. I dig out insects not affected by spraying. I pick my fruit from inside of tree from a ladder; sort into three classes; pack in apple barrels, pressed down, and marked with the quality; then transport to market on a wagon. I wholesale, retail, and peddle; sometimes sell in the orchard. Feed the culls to hogs. My best market is at home; never tried distant markets. Do not dry any. I store apples in boxes or barrels, and am successful. I find Missouri Pippin, Winesap, and Ben Davis keep best. We have to repack stored apples before marketing, and lose about one-eighth or one-tenth. I do not irrigate. Prices have been from 50 cents to \$1 per bushel.

S. Marty, Longford, Clay County. Have lived in Kansas twenty-eight years; have an apple orchard of 200 trees from 7 to 15 years old, 8 to 10 inches in diameter. Have tried and discarded Grimes' Golden Pippin and Willow Twig. I prefer sandy bottom, loam soil, with a north or northeast aspect. I prefer 2-year-old, low, stocky trees, set in rows 30 feet each way. Have tried root-grafts with very good success. I cultivate my trees eight years; first four to potatoes, using a disk harrow; plow shallow among young trees; plant nothing in a bearing orchard. Windbreaks are essential; would make them of Osage orange and box-elder on both south and west sides of the orchard. I trap and shoot the rabbits. I prune very little; only cut out the branches that interfere. I fertilize my orchard with barnyard litter; I think it beneficial. I do not pasture my orchard for I do not think it advisable. Do not spray; sort into two classes, good and bad.

J. L. Steele, Minneapolis, Ottawa County. Have lived in Kansas fourteen years. Have 200 apple trees from 6 to 12 years old. I prefer bottom land with sandy loam and similar subsoil, north slope. I plant 2-year-old trees branched near the ground, in deep furrows made by plow. Have tried root-grafts with good success. I cultivate with corn and potatoes, using disk and harrow all the time; plant nothing in bearing orchard; cease cropping when about 8 or 10 years old. Windbreaks are essential, on the south; would make them of honeylocust, 2 or 3 feet apart in the row. I wrap the tree with corn-stalks to protect from rabbits. Have not been troubled with borers. I only prune out the limbs that interfere with others. Never thin apples. I fertilize with stable litter, and think it beneficial; would advise its use on all soils. I do not pasture my orchard; it does not pay. My trees are troubled with canker-worm. I spray with London purple when the worms first begin their work, to kill leaf-eating insects; do not think I have reduced the codling-moth. I irrigate with a 4½-inch cylinder pump and well.

J. C. Campbell, Campbell, Washington County. Have lived in Kansas fifteen

years; have 250 trees from 3 to 14 years old, 8 to 12 inches in diameter. I prefer for family orchard Ben Davis, Missouri Pippin, Winesap, and Rawle's Janet. I prefer hilltop with deep soil and red subsoil, and an eastern slope. I prefer 3-year-old trees, set 24 by 30 feet, as deep as they were in the nursery. I cultivate in buckwheat for eight years with the plow; after that plant nothing. Windbreaks are essential on the southwest or north and south; would make them of Osage orange; plant them 40 feet distant and do not trim. For rabbits I wrap with corn-stalks and leave them on summer and winter. I prune with a saw; then cover the wound with wax; I think it beneficial. Have never thinned fruit. Never use fertilizer; do not think it advisable. Do not pasture my orchard; would not advise it. My trees are affected with twig-borer and leaf-roller. The codling-moth troubles my apples. I do not spray. I pick my apples early and leave them in piles in the orchard until cold weather.

William Young, Brantford, Washington County. Have lived in Kansas twenty-one years. Have 200 apple trees, five to twenty-five years planted, 4 to 12 inches in diameter. I prefer for commercial orchard Winesap, Ben Davis, and Rawle's Janet. I prefer bottom land, with black loam and clay subsoil. I prefer 3-year-old trees, good, smooth bark, and 3 or 4 branches. Have tried root-grafts and seedlings with good success. I cultivate in corn, using plow for thirteen years; plow toward the trees one year, then away the next. Windbreaks are essential, and I would make them of cottonwood, box-elder, or catalpa planted in rows on the north side. Am not troubled with rabbits or borers. I prune with a saw and knife, to produce better fruit; I think it beneficial. I fertilize with stable litter and wood-ashes; I would advise its use on all soils. I pasture my orchard with hogs; think it advisable, and that it pays. My trees are troubled some with insects; codling-moth troubles my apples. I pick my apples by hand into a basket, then sort and put in the cellar. I sort into 2 classes, good and bad; we sort as we pick them. I sell my apples at home and in town, sometimes in orchard; retail, wholesale, or peddle. Make cider for vinegar of culls. My best market is Clifton; never tried distant markets. Never dry any. I store some for winter market in thin layers on shelves, in cellar 7 feet deep, and find the Winesap keeps best. Prevailing price has been 80 cents.

H. E. Penny, Hiawatha, Brown County. Have lived in Kansas twenty-eight years. Have 1,800 apple trees—600 planted fifteen years, 1,200 planted ten years. Grow nothing but Ben Davis. Planted 2-year-old trees, 24 by 30 feet, on a southern slope. Cultivate in corn for ten years and then sow to clover. I prune only to keep the watersprouts from bothering the tree. I believe fertilizing pays, although I have not tried it. I never allow any stock but poultry in the orchard. I spray after the bloom has fallen, and ten days later, with Paris green, to destroy the codling-moth. We sort out only one grade, allowing the culls to rot. We pack in 3-bushel barrels, and usually sell in the orchard at wholesale. Our best market is Minneapolis, Minn., but I have not made shipping pay. I have tried artificial cold storage; they did not keep satisfactorily, I do not know why. I had to repack, and lost over 20 per cent. Prices have varied from 75 cents to \$1.50 per barrel. For help I use boys at 50 cents to 75 cents per day.

J. D. Hazen, Leona, Doniphan County. Have been in Kansas forty years; have an apple orchard of 13,200 trees; 10,000 have been planted fourteen years, and 3,200 for two years. I would plant nothing but Ben Davis for commercial purposes. For the family orchard I would add Winesap, Jonathan, and Rawle's Janet. Prefer rather high land, well underdrained, with a northeast slope. I plant good 2-year-old trees, in rows 2 rods apart east and west, and the trees 1 rod apart in the row north and south. I grow corn or potatoes for six years, then seed down to clover. I cultivate the trees while young with a small horse plow. I think windbreaks essential on the south and west sides; Osage orange is good, set the same as for a fence, and allowed to grow tall. I wrap my trees against rabbits, and try all ways to destroy them. I prune with the saw to get the trees up so I can get around them, and believe it pays, or I would not do it. Have been at it fifteen years, and see no harm. Don't think it would pay to thin apples on the trees. I believe it is better to mix varieties in the orchard; I have 7,000 Ben Davis and 300 Winesaps in one orchard, and where the Winesaps are mixed with the Davis the trees are always fuller. I believe fertilizing would be good, but my orchard is too large to practice it. I pasture with horses in the spring, and believe it does no harm, and that it pays.

Canker-worm is my worst insect pest, and I have been spraying for many years, using 1 pound of London purple to 160 gallons of

water. I spray when the blossoms fall, using a big tank and a small engine to pump. I can not say that I have reduced the codling-moth any by spraying. I cut borers out. I sort into 2 classes, No. 1's and No. 2's, bests and second bests; best ones go into No. 1, and those that are not rotten in No. 2. I have a table, or what I call a culler; the apples are picked and put into these cullers; I have 12 men to each culler and a boss over them. They stand and cull the apples. I have the cullers numbered, so if any one put up bad apples I can catch him. I use barrels for the No. 1's; fill and press so they will not shake. I put them up in good shape, and sell at wholesale to the first buyer that comes. I ship my culls and second-grade apples to western Kansas and to Nebraska in cars in bulk. I never send to commission men. I have never tried drying, or storing apples for winter. For family use I put away some in barrels, and keep the above varieties successfully. Prices, last year, \$2 per barrel; a year ago, \$1 per barrel; two years ago, \$1.50 per barrel. I use any help I can get, paying 75 cents per day and board.

J. B. Avery, Clifton, Washington County. Have lived in Kansas twenty-eight years; have an apple orchard of 1,500 trees, from five to fourteen years planted, 3 to 15 inches in diameter. For planting I prefer 2-year-old whips. I cultivate my orchard to potatoes or any hoed crop, when it is first planted; keep this up as long as the roots and branches will admit. I have used a disk and common drag harrow for the last three years. I plant my bearing orchard to clover. I prune my trees with a pruning-knife and saw when necessary. I fertilize my orchard with thoroughly rotted stable litter. I think it beneficial and would advise its use on all soils. I have pastured 8 acres of my orchard with calves; have not seen any injury. I sort my apples into three classes, first, second, and culls. I sell my apples to neighbors, restaurants, stores, etc. The culls I dry, make cider, feed to pigs, and give away. Clifton is my best market; have never tried distant markets. I store some in boxes, barrels, and sacks in a cellar.

T. S. Anderson, Oneida, Nemaha County. Have been in Kansas twenty-seven years; have an orchard of 1,000 trees 15 years old, 10 to 18 inches in diameter. Prefer for market Ben Davis and Winesap; for family use, many kinds. Have discarded Rawle's Janet, Early Pennock, Bellflower, and Russets. I prefer limestone soil; bottom land with northern slope. I plant 2-year-old, straight-bodied, thrifty-looking, live trees. I cultivate in corn, with riding plow, for six years, and then seed to grass. I believe a windbreak is essential, and would make it of Osage orange, maple, or cottonwood. I prevent rabbits and borers by painting with ashes and lime. I prune with saw and knife to make larger apples, and give them better color, and think it pays. I do not thin, and would put fertilizer on the barn-yard on the land. I pasture my orchard with cattle and hogs, but do not think it advisable. I am troubled some with canker-worm, tent-caterpillar, root-aphis, borers, codling-moth, and curculio, but do not spray. I gather only the best by hand, and put them immediately in a bin in the cellar. I sell to stores, use plenty at home, make cider, and feed the hogs on culls. My best market is Seneca, Kans. Have never tried drying apples. I store for winter on shallow shelves, 6 inches deep and 2 feet wide, in a dry cellar, and keep them successfully; Ben Davis and Winesap keep the best. Prices have ranged from 25 cents to 75 cents per bushel. I use common laborers, and pay from \$1 to \$2 per day.

Howard Morton, Tescott, Ottawa County. I have lived in Kansas thirty-two years; I have 20 old apple trees and 400 set two years ago. I prefer Ben Davis, Gano, and York Imperial for market, and Maiden's Blush, Early Harvest, and Winesap for family use. My orchard is in a bottom with a north slope. I plant 2-year-olds with a fair amount of large roots, in furrows made with a lister, and enlarged with a spade where necessary. I cultivate with a disk harrow as long as possible, and grow nothing on the ground among the trees. I believe windbreaks are essential, and would make them by planting Osage orange, Russian mulberry, and box-elders in rows 6 feet apart. I do not prune much; only thin out inside shoots to prevent contact. I believe it pays to thin the fruit some when the apples are perhaps half grown. I use no fertilizers. I do not pasture my orchard. I spray a little before the buds swell, after the blossoms fall, and two weeks later, with Bordeaux mixture, to prevent wormy apples. I dig out borers with a jack-knife and a small wire.

I. N. Macy, Longford, Clay County. Have lived in Kansas fifteen years; have 150 apple trees 9 years old, from 15 to 18 feet high. For family orchard prefer Ben Davis, Winesap, and Jonathan. I prefer bottom land. I plant 2-year-old trees. I cultivate in corn for the shade as long as there is room, using the plow, cultivator, and

harrow, and cease cropping when trees shade the ground. Windbreaks are beneficial on the south. I prune to balance the top and prevent the limbs from chafing; I think it beneficial. I never thin apples. I fertilize my orchard with barn-yard litter, keeping my ground as rich as a garden, and would advise its use on all soils. I never pasture my orchard, it is sure death to it; allow nothing larger than chickens in it. I spray only for canker-worms, using Paris green and lime, when in bloom; am successful. I do not irrigate.

A. C. Griesa, Lawrence, Douglas County. I have lived in Kansas thirty years. For market I prefer Ben Davis, Gano, Jonathan, and Missouri Pippin, and, for a family orchard, the leading medium early and late sorts. I prefer upland or second bottom with a clay subsoil; all slopes, if well drained, are good, excepting south. I prefer good 2-year-old trees, set in land laid off with a plow. I plant my orchard to corn for four years and use an 8-tooth cultivator; cease cropping when the trees are 4 or 6 inches in diameter; plant clover in a bearing orchard. Windbreaks are not essential in this locality. For rabbits I wrap the trees, and dig the borers out. I prune when the trees are young to thin the top; I think it beneficial and that it pays. I do not thin the fruit while on the trees, but would advise doing so when the fruit is one-third grown. I fertilize my orchard with barn-yard litter, and would advise its use, especially on uplands. I do not pasture my orchard; do not think it advisable; it does not pay. My trees are troubled with canker-worm, root-aphis, flat-head, and roundhead borers, and woolly-aphis; and my apples with codling-moth. I do not spray, but would advise it. I am sure it would reduce the codling-moth. I hand-pick my apples in a sack over the shoulder.

A. G. Axelson, Randolph, Riley County. I have lived in Kansas forty years; have an apple orchard of 300 trees 18 years old, 16 feet high. For a family orchard I prefer Ben Davis, Missouri Pippin, Winesap, and Maiden's Blush. I prefer black bottom land with a clay subsoil, and a northern slope. For planting I prefer 2-year-old, straight, smooth trees. I cultivate my orchard till the trees begin to bear, with a cultivator and hogs, planting nothing. Windbreaks are not essential. For rabbits I wrap the trees with paper. I do not prune my trees, nor thin the fruit while on the trees. I do not fertilize. I pasture my orchard with hogs at certain times in the spring when worthless apples are dropping. My trees are troubled with canker-worm and tent-caterpillar. I do not spray. I pick my apples by hand and carry them to the cellar. I do not store any apples for winter market.

Fruit Report to Date.

Editor Kansas Farmer:—The following is a summary of fruit report of Kansas to date:

Apples.—Bearing trees in State, 7,533,358; 75 counties aggregating 6,931,159 of bearing trees report the average at 47 1-12 per cent.

Pears.—Bearing trees 191,660 in the State; 49 counties aggregating 142,620 of these bearing trees report an average crop of 33 per cent.

Peaches.—Bearing trees 4,058,762 in State; 14 counties reported, averaging 32 per cent.

Plums.—Bearing trees 638,233 in State; 59 counties aggregating a large majority of these, reported an average of 45½ per cent.

Grapes.—Acreage in State 6,354 acres; 69 counties aggregating about seven-eighths of this area, give an average of 70 5-7 per cent.

Trees throughout the State are making vigorous growth, and those injured but not killed by the extreme cold weather of February last are fast recuperating, and bid fair to be heard from next year.

WILLIAM H. BARNES,
Secretary State Horticultural Society.

\$100 Reward, \$100.

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

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In the Dairy.

Conducted by D. H. OTIS, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

PROGRESS REPORT ON CALF EXPERIMENT.

On April 1, 1899, the Kansas Experiment Station inaugurated a series of experiments in feeding skim-milk to calves. Every alternate calf born on the college farm receives creamery skim-milk, and the remainder fresh hand-separator skim-milk. The first 4 calves of the experiment are fed Blachford's meal as a substitute for butter fat, the next 5 (originally 6, but one met with an accident that unfitted him for the experiment) are fed skim-milk without any substitute for butter fat, and the last 4 receive flaxseed-meal for butter fat. The Blachford's meal and the flaxseed-meal are made into a jelly and added to the milk just before feeding. In all cases the calves receive all the Kaffir-corn meal they will eat, except when the heifer calves lay on too much fat. The latter are then fed a mixture of Kaffir-corn meal, oats, and bran. The following table gives the results up to July 22, of the lot receiving Blachford's meal:

KAFFIR-CORN MEAL WITH BLACHFORD'S MEAL SUBSTITUTED FOR BUTTER FAT.

Calf.	Weight at beginning of experiment, April 1, '99.	Weight July 22.	Creamery Skim-milk.		Hand-separator Skim-milk.	
			Total gain pounds.	Daily gain pounds.	Total gain pounds.	Daily gain pounds.
Zada.....	201	*369	168	1.69	.....	.....
Zenith.....	181	*398	.....	.....	217	2.19
Yazold.....	135	335	200	1.78	.....	.....
Yatesa.....	121	334	.....	.....	213	1.90
Average.....	150	359	184	1.73	215	2.04

* Weight July 8, at which time the calf was weaned from skim-milk.

From the above table it will be seen that all calves are making good gains and those on hand-separator skim-milk are doing a little better than those on creamery skim-milk. We must not lay too much stress upon the latter fact, since the number of calves in the experiment are small and the difference might be due to individuality. Furthermore, the following tables would indicate that the two kinds of skim-milk are of about equal feeding value:

KAFFIR-CORN MEAL WITH NO SUBSTITUTE.

Calf.	Weight at beginning of experiment, April 22, '99.	Weight July 22.	Creamery Skim-milk.		Hand-separator Skim-milk.	
			Total gain pounds.	Daily gain pounds.	Total gain pounds.	Daily gain pounds.
Yerksey.....	137	319	182	2.00	.....	.....
Yavoca.....	127	310	.....	.....	183	2.01
Yewana.....	102	233	131	1.44	.....	.....
Yoranda.....	106	247	.....	.....	141	1.55
Yerika.....	101	246	.....	.....	145	1.50
Average.....	114	271	156	1.72	156	1.72

It is interesting to note in the above table that the average gain for the creamery and the hand-separator skim-milk are identical; also the gains on skim-milk and Kaffir-corn meal are nearly equal to those that receive Blachford's meal in addition.

KAFFIR-CORN MEAL WITH FLAXSEED-MEAL SUBSTITUTED FOR BUTTER FAT.

Calf.	Weight at beginning of experiment, May 13, '99.	Weight July 22.	Creamery Skim-milk.		Hand-separator Skim-milk.	
			Total gain pounds.	Daily gain pounds.	Total gain pounds.	Daily gain pounds.
Yakith.....	107	195	88	1.25	.....	.....
Yerina.....	114	211	.....	.....	97	1.38
Yomena.....	106	204	98	1.40	.....	.....
Yoxsey.....	107	196	.....	.....	89	1.27
Average.....	108	201	93	1.31	93	1.31

Here again it will be noticed that the creamery and hand-separator skim-milk are making equal gains, but the results for the flaxseed-meal are below those for the Blachford's meal or the Kaffir-corn alone. It should be noted, however, that the calves on flaxseed alone are younger than the others and as the experiment progresses results may be changed. The following table gives a summary of the experiment up to date:

SUMMARY.

Treatment.	Daily gain per head.
Creamery skim-milk.....	1.59
Hand-separator skim-milk.....	1.69
Blachford's meal.....	1.89
No substitute.....	1.71
Flaxseed-meal.....	1.32

While this experiment is yet incomplete, the results thus far obtained indicate that with proper treatment good calves can be raised on either hand-separator or creamery skim-milk. They also indicate that Kaffir-corn meal is not only constipating and thus helps to prevent scours, but it serves as a good substitute for butter fat.

D. H. O.

Easing the Conscience With Butter Fat.

Editor Kansas Farmer:—Mr. Sample's article in the Farmer for July 2, on calf-raising, is the practice of many others who have not figured how expensive it is, and some go even farther than he does and let the calf have all of the milk and do its own milking besides. When one is able to sell calves at fancy prices for breeding stock this plan may be followed without absolutely bankrupting the one who practices it; but the average farmer, raising stock to sell on the market, can not afford such an extravagance.

Mr. Sample gives no figures as to the amount of milk consumed by his calf, but it is fair to presume its dam was a good producer, and probably furnished her offspring with nearly 2,500 pounds of milk in the six months it was fed the whole milk. If it tested 4 per cent he gave it 100 pounds of butter fat to "ease its conscience." The Pittsburg Creamery Company would have paid him \$17.50 for this butter fat if he would have delivered it during July, 1899. Three hundred pounds of corn-meal cooked into gruel would have cost less than \$2 and would have afforded a good substitute for the butter fat he fed to it and have saved him \$15.50 on the cost of raising his calf. Our patrons are raising nice calves, and are getting from \$3.50 to \$4 per month from the sale of surplus butter fat from their cows, patronizing the creamery. These skim-milk calves are

gains than those which get it; so it seems to me that the flaxseed-meal is not necessary in order to make good gains.

J. A. CONOVER.

Concerning the Kansas Dairy School.

CREAMERY BUTTER-MAKING.

Our appropriation will enable us to secure a model creamery equipment, and instruction will be given in creamery butter-making and creamery management. We will have one of the most complete refrigeration plants in the State and creamerymen who desire can take additional work in refrigeration and the planning, erection, and management of refrigeration plants. A butter-maker in Kansas must know more than how to make the best quality of butter and to successfully manage a creamery. He must be able to show his patrons how to select, feed, and handle the cow and her products. He must be able to teach them how to raise good calves with skim-milk and how to get the most out of skim-milk and buttermilk in feeding hogs. He must show his patrons what crops to raise in order to secure good milk yields without buying grain. He must show his patrons how to make shelter for dairy stock and products that will be cheap and at the same time suitable for the work. For this reason all students taking creamery butter-making will be required to also take the instruction we give to the farmers.

CHEESE-MAKING.

Kansas is particularly adapted to the production of the highest grades of cheese, and when we have competent cheese-makers scattered over the State, Kansas will not only supply her home demand, which she fails to do now, but will sell cheese in all the world's markets. We will have a complete equipment for factory cheese-making, the best constructed cheese-ripening rooms in the State, and will furnish thorough instruction in factory cheese-making. All students taking cheese-making will also be required to take the instruction given to farmers for the reasons given under the head of creamery butter-making.

ADMISSION.

Any person 18 years of age or older, of good character, who has sufficient knowledge to understand the lectures and textbooks used, is admitted without examination. An applicant should have a common school education and should be able to handle readily problems in fractions, decimals, and percentage. Examinations will be held at intervals during the term. Students not doing satisfactory work are promptly dismissed.

EXPENSES.

Tuition is free. Board and rooms can be secured for \$2.50 and upward per week; lunches may be had at the college dining-room at cost; laundry costs about 50 cents per week. Each student will need two white suits and caps for use in the dairy room. These can be purchased in Manhattan. Unnecessary breakage will be charged at cost. Incidental expenses will be high or low as the individual determines. The total of all expenses for the entire time—exclusive of railroad fare in coming and returning—need not exceed \$40, and with close economy may be made less. Students in the dairy course can not expect to earn any part of their expenses while at the college, as every hour will be needed for class work, practice, and study.

EQUIPMENT.

One hundred dairy cows, a herd of calves being raised on skim-milk, 200 hogs fattened on skim-milk and grain, 100 fall pigs having skim-milk in their ration. A dairy barn for 100 cows. A model dairy school building two stories and basement 100 by 105 feet, with butter, cheese, milk, and testing rooms, cheese-ripening cellars, refrigerating plant, and cold storage rooms, all apparatus needed for milk-testing and for handling milk from the cow, through the creamery to the butter-tub or cheese-room. Students in the dairy course have free use of the college library, containing 18,559 books,

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and in which are kept on file all the leading dairy and farm papers. The Students' Farmers' Club meets weekly to discuss farm questions, and furnishes a valuable part of the education offered.

Russian Exhibition of Dairy Products, Etc.

The United States Department of Agriculture has received through the Department of State notice that the Imperial Free Economical Society of St. Petersburg will hold an exhibition of Russian dairy products and an international exhibition of machines, apparatus, kinds of packing, and appliances for transportation of milk products, at St. Petersburg during September, 1899. None but Russian products will be admitted to the exhibit of dairy products, but the exhibit of machines, etc., will be international. Preserved milk (condensed milk, milk flour, etc.) will be admitted to the international exhibit.

The exhibition of dairy products will consist of milk, cream, curds, butter, cheese, koumiss, kefir, gaseous milk, milk brandy, condensed milk, etc.

The international exhibition will embrace apparatus and machines to work milk, separators, churns, butter-driers, cheese-kettles, pasteurizers, elevators, apparatus for scientific and practical analysis of milk, butter, and other products, dairy buildings, ice wagons, cooling rooms, etc.

The exhibition will open on the 13th of September and continue one month. Exhibitors will be required to notify the committee of organization of the amount of space wanted for their articles and to pay an entrance fee of one rouble per square arshin (about 85 cents per square yard).

All articles for exhibition must be delivered not later than five days before the opening and all expenses for delivery and return of articles will be charged to the exhibitor.

Diplomas of honor (the highest award), gold, silver, and bronze medals, and certificates of honor will be given for the best exhibits.

Intending exhibitors can obtain blank applications from the Bureau of Animal Industry, United States Department of Agriculture.

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VERMONT FARM MACHINE CO., Bellows Falls, Vt.

The Apiary.

Conducted by A. H. DUFF, Larned, Kas., to whom inquiries relating to this department should be addressed.

INQUIRIES FROM AN AMATEUR.

Editor Kansas Farmer:—Following the directions of the Kansas Farmer, I send you the following inquiries: Why will not my bees work in sections? The colony is a first swarm of about June 1 and seems very strong; when I look into the super I always find many bees in the sections, and I think there are plenty of blossoms. We have plenty of buckwheat coming into bloom now but do not see the bees on it. They worked on the alfalfa till it was cut a week ago. Can they get nectar from the corn blossoms, and why do they cluster on the front of the hive? There was a second swarm two weeks later than the first; is it unreasonable to expect them to store honey in the pound sections?

I am just beginning with bees and know absolutely nothing about them. We have had a colony of Italians—so I suppose them to be at least—in a box for two years and no attempt has been made to hive the swarms or do anything with them until this year. I intended to transfer them from the box to frame hives as soon as I could get competent help, but have almost decided to leave them in the box until I learn more about the work. Can't I prevent their swarming so much hereafter? The bees at first were very good natured, never attempting to sting, but they are becoming quite cross owing to my awkward attempts at investigation and management. I am very anxious to succeed in bee-keeping but often despair.

Barnes, Kans. **ADA INGMAN.**

It is evident that your honey flow has stopped for the present, which is the reason why your bees do not store honey in the sections. The bees living idle and clustered on the outside of the hive is the best evidence of this. It may again open up from some source when they will again go to work and store surplus honey. The bees have not yet found out the buckwheat which is just beginning to open, but may later work on it, but you can not expect much, if any, surplus from buckwheat. We hear of but little surplus honey from buckwheat west of the New England States. Bees do not get any honey from corn but gather large quantities of pollen from corn blossoms. It depends altogether on the management of late swarms as to their storing surplus honey. If they are hived upon a full set of combs, or foundation-comb, they may fill up, and store honey in the section boxes.

Yes, you can prevent swarming, to a great extent, by giving the bees plenty of storage-room for honey, and by keeping the combs clear of queen-cells.

Drones, and How to Get Rid of Them.

Editor Kansas Farmer:—I have several swarms of bees that have an oversupply of drones. I killed about 300 drones from one hive in one hour's time by catching them as they came out of the hive. Other hives seem to have equally as many. What is the best way for me to proceed to get rid of them and prevent having them in the future? Is there any good way that I can substitute full frames of foundation for the old brood-combs and save the brood? My bees are not making any surplus honey in spite of the fact that they have plenty of alfalfa to feed on. Please answer through the Kansas Farmer. **C. L. BROWN.**
Beloit, Kans.

There is no way, for the time being, to rid your hives of drone bees except to kill them about as you are doing. We sometimes use a drone-excluder; this is perforated tin or zinc which will admit the workers and exclude the drones. This may be placed over the entrance of hives during the time of day when most drones are out of the hive, and thus on their return they are barred out, and may be killed in large numbers. The proper thing to do is to prevent their being bred in the hives, by using full sheets of worker-foundation in the frames. Yes, you can remedy the old combs by cutting out all worker-comb, and comb containing worker-brood and fitting this all into one or more frames, and filling all others with foundation, thus excluding all drone-comb. Your bees seem to be on the decline from some cause, for they should now be storing surplus honey for you. The queens may be defective, or they may be poor stock, or they may have been taken all season for them to get strong enough to store surplus honey.

CANDY CATHARTIC
Cascarets
REGULATE THE LIVER

Gossip About Stock.

Berkshire swine-breeders already report splendid inquiry and sale of their favorite breed.

B. W. Gowdy, Garnett, Kans., is offering some choicely bred Shorthorn bulls of serviceable age. See his advertisement.

W. H. McCall, College View, Neb., is offering high-class yearling Holstein-Friesian bulls. See his advertisement and write him at once.

The demand for up-to-date-bred Duroc-Jersey swine is reported as quite lively. Our latest advertiser is J. C. Leach, of Carbondale, Kans., who has choice registered stock for sale from the best families. Mr. Leach was successful in the show ring last season.

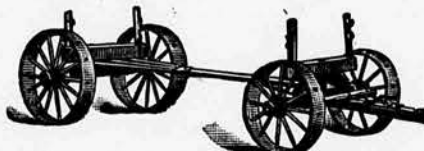
T. J. Pugh, Fullerton, Neb., is advertising some Berkshire fall boars, and bred gilts, all sired by Baron Lee XVI. The gilts are bred to Flossie Director 49895. Spring pigs are by both of the sires named. Our readers will find that Mr. Pugh's Berkshires are quite representative and choice.

Dietrich & Spaulding, Richmond, Kans., write: "Another fine rain last night; corn will be an immense yield. Our Poland-Chinas are selling fast. The fine boar by Seldom's Look goes to Penn & Dunn, Goodland, Kansas. We are well pleased with the outlook. We have a pair of May boars that we will have something to surprise the boys on in another issue."

In the August McClure's, Miss Tarbell will give an account of the death of Lincoln, based on the unpublished recollections of persons who were with Lincoln in his last hours and were more or less eye-witnesses of his assassination. The article will be illustrated with the last life portrait of Lincoln, a facsimile of the last bit of writing done by him, a picture of the scene at his death-bed, and other pictures.

A Low Wagon at a Low Price.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire.



This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

THE STRAY LIST.

FOR WEEK ENDING JULY 20, 1899.

Harper County—W. W. Taylor, Clerk.
HEIFER—Taken up by T. T. Sevier, in Eagle tp., (P. O. Anthony City), May 25, 1899, one 2-year-old red heifer with white face and belly, and red spots on face. Branded a T on left hip and with under bit out of left ear, and upper bit out of right ear; valued at \$20.

Lyon County—H. E. Peach, Clerk.
STEERS—Taken up by Antoine Delbort, in Center tp., four 2-year-old steers, two red and white spotted, one red, and one roan, all small sized, all branded with an indistinct brand, all have tails cropped about six inches, and have both ears slit; value of each steer is \$25.

HORSE—Taken up by John Russell, in Shawnee tp., June 26, 1899, one roan horse, 10 years old, star in forehead and shod; valued at \$20.

FOR WEEK ENDING JULY 27, 1899.

Wallace County—O. N. Thorne, Clerk.
HORSE—Taken up by E. Busserson, whose residence is S. E. cor. 18-15-38 in Harrison tp., June 27, 1899, one sorrel horse, 3 years old, and one bay horse 4 years old, also one mouse-colored mule, 2 years old all branded N. B. on left shoulder; total value \$35.

Labette County—E. H. Hughes, Clerk.
HORSE—Taken up by D. R. Walker, in Montana tp., (P. O. Montana), June 17, 1899, one 2-year-old gray horse, 15 hands high; valued at \$20.

FOR WEEK ENDING AUGUST 3, 1899.

Chase County—M. C. Newton, Clerk.
MARE—Taken up by G. W. Martin, in Bazaar tp., (P. O. Bazaar), July 5, 1899, one bay mare, wire cut on left front foot; valued at \$25.

Wyandotte County—Leonard Daniels, Clerk.
COW—Taken up by John Barry, in Shawnee tp., (P. O. Turner), July 11, 1899, one dark red cow, about 700 pounds, blind in left eye, dehorned, stump tail; valued at \$10.

Wilson County—C. W. Isham, Clerk.
MARE—Taken up by S. Swenson, in Colfax tp., (P. O. Chanute), Neosho Co., Kans., one light gray mare, about 8 years old, wire cut on left front leg below knee; tip of right ear split; valued at \$30.

Wallace County—O. N. Thorne, Clerk.
HORSE—Taken up by N. N. Rosendahl, in Stockholm tp., July 13, 1899, one gray horse, branded C. K.; valued at \$20.

Greeley County—Robt. Eadie, Clerk.
MARE—Taken up by Frank D. O'Neal, in Tribune tp., July 8, 1899, one sorrel mare, weight about 1,000 pounds, small blaze in face; valued at \$20.

Saline County—A. L. Brown, Clerk.
MULES—Taken up by Frank Robbins, in Eureka tp., (P. O. Klipp), June 14, 1899, one gray horse mule, over 10 years old, 13½ hands high, split in right ear. One brown mare mule, over 10 years old, twelve hands high, scar on right fore knee; total value, \$70.



"MUSIC HATH CHARMS"
to soothe the savage breast," but Page Fence soothes domestic animals like a charm. Ask anybody. **PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.**

Your Butter Money



and cow profit may be greatly increased if you only embrace the means within your easy reach. For instance, if you buy a Little Giant Separator you will not only get more butter from the same cows, but it will be so much improved in quality as to command a much better price. Our free Illustrated Catalogue

No. 19, explains the details.

The Sharples Co., Canal & Washington Sts., CHICAGO. P. M. SHARPLES, West Chester, Pa. U. S. A.

STARK have a 74-YR. Record. Fruit Book Free **STARK BROS. PAY FREIGHT** Stark, Mo. We

No Money in Advance!

\$1550 HIGH GRADE BICYCLES. Shipped anywhere C. O. D., with privilege to examine. Latest styles for Men, Women, Boys and Girls, well made and durable. \$40 "Oakwood" \$24.50 \$50 "Arlington" \$22.00 No better wheels made. Others at \$10, \$12.50, \$15.50, \$17.50 & \$19.50; all splendid value. Buy direct from manufacturers, thus saving dealers' large profits. Write today for special offer. Illustrated Catalogue Free. **CASH BUYERS' UNION,** 162 W. Van Buren St., B-64, Chicago, Ill.

THE "HOOVER" DIGGER

DIGS POTATOES Rapid, Clean and Cheap. By mentioning this paper you can get illustrated book free. **HOOVER, PROUT & CO. Avery, Ohio.**

FOR SALE!

TEXAS SCHOOL LANDS.

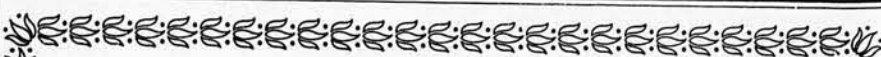
Soon to Be on the Market.

In addition to the public free school and asylum lands belonging to the State, now on the market, by an act of the last legislature, which takes effect and goes into operation on August 27th, 1899, three million acres more will then be placed on the market for sale by the State, at the minimum price of one dollar per acre for grazing land, and \$1.50 per acre for agricultural land, on terms within reach of all, viz.: one-fortieth of the purchase money cash, and the balance on forty years' time, at 3 per cent annual interest. This and all the other free school and asylum lands can be bought by actual settlers in tracts of from 80 acres to four sections (640 acres each). All detached sections can be purchased by any person over 18 years of age, regardless of settlement or place of residence.

On receipt of one dollar will send a map of the State by counties, and a pamphlet giving a full text of the State laws governing the sale of these lands, the forms used in making application to purchase same, the names of the counties in which the same are located, and the quantity in each, together with full instructions, how to proceed to purchase any part of the same when placed upon the market. This is an opportunity of a lifetime to get some good land cheap, as cheap lands in Texas will soon be a thing of the past. Send money by draft, P. O. order or express. Money order payable to undersigned.

Address all communications to **G. W. MENDELL, Sr.,** Austin, Texas.

References: Any of the State or county officers, or any bank in the city.



A Colorado Tour via Santa Fe Route.

The Santa Fe has been designated as the official route for the Pilgrimage of Cryptic Masons to Colorado, August 6-13. A special train composed exclusively of Pullman Palace Sleepers has been arranged for. It will leave Kansas City August 6th, at 11 o'clock a. m. A rate of one fare plus \$2.00 has been made for round-trip tickets to Pueblo, Colorado Springs, and Denver. Stopovers permitted between Pueblo and Denver. Very favorable reduced rates to and from Cripple Creek, Glenwood Springs, Idaho Springs, as well as to Pike's Peak, have been secured for patrons of this special train. Tickets will be on sale August 5-7, inclusive, at all ticket offices. These tickets may be purchased by any one, whether Masons or not. Everybody welcome.

Illustrated itinerary, with daily program of special attractions prepared for entertainment of patrons of this train, free, by applying to **W. J. BLACK, G. P. A.,** Topeka, Kansas.

Save Hogs.

Prevent Hog Cholera by giving occasional doses of a remedy that has saved thousands. You can buy drugs and make it for 10 cents a pound. Fifteen years a success. Recipe and full directions \$1.00. Sent to any address by **H. D. RECORD, Kiowa, Kans.**

SPANISH NETTLE OIL!

FOR MAN AND BEAST.

An infallible remedy for Rheumatism, Cuts, Sprains and Bruises. For Barb Wire tears it has no equal. For the Destruction of the Screw Worm it acts like magic. Sample sent free on application—a postal card is sufficient.

SPANISH NETTLE OIL CO., St. Louis, Mo.

Gluten Feeds.

The cheapest source of Protein for a Balanced Ration.

Will produce richer milk and more of it; a more rapid growth and development of Cattle and Hogs, and better meat for market purposes than any other feed on the market. Highly recommended by Prof. H. M. Cottrell, of Manhattan Agricultural College. For information and prices address **N. T. GREEN & CO. Kansas City, Mo.**

CREAM TESTER, 50 CENTS.

Do not guess at the richness of your cow's milk. Test it before taking to the creamery. The "Scientific" tests to one one-hundredth fraction. Simple and easy to operate—better and more accurate than the old \$10 tester. Delivered free to any address on receipt of 50 cents. No stamps taken.

THE SCIENTIFIC TESTER CO., Oswego, Kans.

Successful Dairymen use 1 cent's worth of SHOO-FLY.

Saves 3 quarts milk daily if used in time. **NO FLIES, TICKS, VERMIN OR SORES ON COWS.** Thousands duplicate 10 gallons. Beware of imitations. "I have used several so-called 'Cattle Comforts', none equal to 'SHOO-FLY'. It is effective and cheap. Used 100 gallons." H. W. COMFORT, Fallington, Pa. President Pennsylvania Dairy Union. Send 25 cents. Money refunded if cow is not protected. **SHOO-FLY MFG. CO., 1005 Fairmount Ave., Philadelphia, Pa.**

BE HUMANE

And Profit at a Cost of Only One Cent per Day by Using



The only reliable Lotion positively preventing Flies, Gnats and Insects of every description from annoying Horses and Cattle. Soothing and Healing if applied to sores. Applied to cows it secures gains in Flesh and Milk. Guaranteed Pure, Harmless and Effective. Gallon Can, \$1.50; ½ Gallon \$1.00; Quarts, 50c. Beware of imitations. Sold by Druggists, Saddlery, Agricultural Implement, Flour and Feed and Seed Houses, or **The Crescent Chemical Co., Philadelphia, Pa.**

SEND FOR OUR ROOFING

It tells you all about best methods and materials for roofing all buildings at reasonable cost. **P. & S. Ruberoid** roofing has been proven in quality by years of use. Tough, Strong, Flexible and Durable, resists heat, cold, acid, alkali, smoke, rain, etc. **P. & S.** sheathing papers and **Donkey** paint are also sold by us as exclusive southwestern agents. Send for catalogue. **The Kansas City Roofing and Corrugating Co., Kansas City, Mo.**

LIVE STOCK AUCTIONEERS.

GEORGE W. BARNES, Auctioneer, Valencio, Kas. Lowest terms. Extensive experience both as breeder and salesman. All correspondence given prompt attention.

J. N. HARSHBERGER,

LIVE STOCK AUCTIONEER, LAWRENCE, KAS. 15 Years of experience. Sales made anywhere in the United States. Terms the lowest. Write before claiming date.

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

MARKET REPORTS.

Kansas City Live Stock.

Kansas City, July 31.—Cattle—Receipts since Saturday, 7,756; 809 calves; shipped Saturday, 659 cattle; no calves. The market was steady to 15c lower. The following are representative sales:

DRESSED BEEF AND SHIPPING STEERS.			
No.	Ave. Price.	No.	Ave. Price.
17.....	1,111 \$5.30	35.....	1,305 \$5.25
26.....	1,317 5.25	38.....	1,140 5.20
28.....	1,321 5.00	1.....	1,270 4.85
4.....	915 4.75	1.....	1,550 4.00

WESTERN STEERS.

22.....	1,116 \$4.85	41.....	1,383 \$4.80
41 fdrs.....	1,153 4.75	50 T. T.....	1,172 4.65
20 stk.....	477 4.60	83 fdrs.....	1,059 4.50
42 stk.....	827 4.00	19 stk.....	682 3.50

NATIVE HEIFERS.

25.....	886 \$4.25		
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NATIVE COWS.

3.....	956 \$3.85	1.....	1,403 \$3.65
9.....	1,070 3.55	6.....	1,116 4.50
8.....	1,004 3.40	12.....	858 3.25
5.....	974 2.85	1.....	1,040 1.50

NATIVE FEEDERS.

25.....	956 \$4.50	1.....	1,010 \$4.40
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NATIVE STOCKERS.

20.....	477 \$3.00	1.....	540 \$4.40
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Hogs—Receipts since Saturday, 3,628; shipped Saturday, none. The market was strong to 5c higher. The following are representative sales:

37.....	144 \$4.55	65.....	318 \$4.52 1/2	19.....	151 \$4.52 1/2
40.....	253 4.50	5.....	240 4.50	65.....	235 4.47 1/2
13.....	145 4.47 1/2	69.....	204 4.47 1/2	15.....	168 4.47 1/2
95.....	195 4.47 1/2	78.....	201 4.47 1/2	83.....	197 4.47 1/2
89.....	183 4.47 1/2	66.....	275 4.45	149.....	226 4.45
68.....	240 4.45	33.....	217 4.45	80.....	180 4.45
79.....	172 4.45	49.....	201 4.45	16.....	208 4.45
77.....	242 4.45	17.....	158 4.45	77.....	227 4.45
11.....	147 4.45	63.....	235 4.45	70.....	241 4.45
76.....	199 4.42 1/2	74.....	205 4.42 1/2	25.....	298 4.42 1/2
64.....	201 4.42 1/2	69.....	224 4.42 1/2	88.....	229 4.42 1/2
60.....	273 4.42 1/2	62.....	232 4.40	14.....	196 4.40
67.....	253 4.40	58.....	239 4.40	40.....	189 4.40
78.....	119 4.40	15.....	202 4.40	19.....	252 4.40
59.....	252 4.37 1/2	81.....	225 4.35	1.....	430 4.03
1.....	480 3.85	2.....	90 3.85	1.....	400 3.15
1.....	350 3.75	1.....	270 3.70	1.....	240 3.50
1.....	160 3.00	1.....	310 3.50	2.....	280 3.50

Sheep—Receipts since Saturday, 4,128; shipped Saturday, 541. The market ruled steady to strong. The following are representative sales:

14 lms.....	80 \$5.75	13 lms.....	67 \$5.75
10 lms.....	66 5.00	17 lms.....	61 5.25
101 Idaho.....	98 4.00	1 Col. yrl.....	70 4.65
30 lms.....	59 4.05	52 sheep.....	91 4.00

St. Louis Live Stock.

St. Louis, July 31.—Cattle—Receipts, 4,000; market steady; beef steers, \$4.40@5.85; stockers and feeders, \$3.00@5.00; cows and heifers, \$2.25@4.75; Texas and Indian steers, \$3.15@4.90; cows and heifers, \$2.25@3.75.

Hogs—Receipts, 3,000; market 5c higher; pigs and lights, \$4.55@4.65; packers, \$4.50@4.65; butchers, \$4.60@4.70.

Sheep—Receipts, 800; market steady; natives, \$3.25@4.50; lambs, \$4.50@6.50.

Chicago Live Stock.

Chicago, July 31.—Cattle—Receipts, 17,000; market steady; beef steers, \$4.60@5.90; cows and heifers, \$2.25@5.10; Texas steers, \$3.90@5.25; stockers and feeders, \$3.40@4.85.

Hogs—Receipts, 30,000; market weak; mixed and butchers, \$4.30@4.60; good heavy, \$4.00@4.60; rough heavy, \$4.00@4.65; light, \$4.35@4.70.

Sheep—Receipts, 17,000; market steady; sheep, \$3.25@5.15; lambs, \$4.00@6.85.

Chicago Grain and Provisions.

	July 31.	Opened	High'st	Lowest	Closing
Wht.—July....	69 1/2	69 1/2	69 1/2	68 1/2	68 1/2
Sept.....	70	70 1/4	70 1/4	69 1/2	69 1/2
Dec.....	70 1/2	70 1/2	70 1/2	71 1/4	71 1/4
May.....	74 1/2	74 1/2	74 1/2	74 1/2	71 1/2
Corn—July....	31	31 1/4	31 1/4	30 3/4	31
Sept.....	30 3/4	30 3/4	30 3/4	30 3/4	30 3/4
Dec.....	29 1/2	29 1/2	29 1/2	29 1/2	29 1/2
May.....	34 1/2	34 1/2	34 1/2	30 3/4	30 3/4
Oats—July....	24	24	24	20 1/2	21
Sept.....	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2
Dec.....	19 1/2	19 1/2	19 1/2	19 1/2	19 1/2
Pork—July....	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2
Sept.....	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2
Lard—July....	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2
Sept.....	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2
Ribs—July....	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2
Sept.....	5 1/2	5 1/2	5 1/2	5 1/2	5 1/2

Kansas City Grain.

Kansas City, July 31.—Wheat—Receipts here to-day were 202 cars; a week ago, 185 cars; a year ago, 419 cars. Sales by sample on track: Hard, No. 2, 62 1/2@65 1/2c; No. 3 hard, 60 1/2@64 1/2c; No. 4 hard, 55 1/2@61 1/2c; rejected hard, 56 1/2@59 1/2c; no grade, 51 1/2@54 1/2c. Soft, No. 2, nominally 68c; No. 3 red, nominally 62@66c; No. 4 red, 57 1/2@58 1/2c.

Corn—Receipts here to-day were 52 cars; a week ago, 101 cars; a year ago, 18 cars. Sales by sample on track: Mixed, No. 2, 29@29 1/2c; No. 3 mixed, 28 1/4@28 3/4c; No. 4 mixed, 25@26 1/2c; no grade, nominally 24@25c. White, No. 2, 29 1/2@30c; No. 3 white, nominally 29c; No. 4 white, 26@27c.

Oats—Receipts here to-day were 12 cars; a week ago, 3 cars; a year ago, 14 cars. Sales by sample on track: Mixed, No. 2, 22c; No. 3 mixed, nominally 21c; No. 4 mixed, 18c. White, No. 2, 25 1/2@26c; No. 3 white, 24 1/2@25c; No. 4 white, nominally 23@24c.

Rye—No. 2, 51c; No. 3, nominally 50c; No. 4, nominally 49c.

Hay—Receipts to-day were 115 cars; a week ago, 51 cars; a year ago, 41 cars. Quotations are: Choice prairie, 6.00; No. 1, \$5.50@5.75. Timothy, choice, \$7.50. Clover, pure, \$5.50@6.50. Alfalfa, \$6.00@7.00.

Chicago Cash Grain.

Chicago, July 31.—Wheat—Cash, No. 2 red, 71@71 1/2c; No. 3 red, 69@70 1/2c; No. 2 hard winter, 67@67 1/2c; No. 3 hard winter, 66@67c; No. 1 northern spring, 70@71c; No. 2 northern spring, 69 1/2@70c; No. 3 northern spring, 66@69c.

Corn—Cash, No. 2, 31 1/2c; No. 3, 31c.

Oats—Cash, No. 2, 24@25c; No. 3, 19 1/2c.

St. Louis Cash Grain.

St. Louis, July 31.—Wheat—Cash, No. 2 red, elevator, 69 1/2c; track, 70@70 1/2c; No. 2 hard, 68@69c.

Corn—Cash, No. 2, 31c; track, 32c.

Oats—Cash, No. 2, 20 1/2c; track, 21@21 1/2c; No. 2 white, 20@20 1/2c.

Kansas City Produce.

Kansas City, July 31.—Eggs—Strictly fresh, 8 1/4c per doz.

Butter—Extra fancy separator, 16 1/2c; firsts, 14 1/2c; seconds, 11c; dairy, fancy, 14c; store packed, 11 1/2c; packing stock, 11c.

Poultry—Hens, 7 1/2c; broilers, 9 1/2c; roosters, 15c each; ducks, 5@7c; geese, 5@7c; turkeys, hens, 7c; toms, 6c; pigeons, 75c per doz.

Vegetables—Lettuce, home grown, 15@25c per bu. Pieplant, 10c per doz bunches. Spinach, home grown, 60@75c per bu. Asparagus, home grown, 25@40c per doz bunches. Radishes, 5c per doz bunches. Green beans, 20@35c per bu.

Peas, 40@75c per bu. Sweet corn, 3@6c per doz.

Tomatoes, home grown, 10@20c per peck. Cucumbers, 20@50c per bu. Cabbage, home grown, 20@40c per doz.

Potatoes—Home grown, new, 12@17 1/2c per bu; Kaw valley, sacked, 15@20c per bu.

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A valuable book for the farmer or breeder. It fully describes Hog Cholera and Swine Plague, and gives a positive and proven

CURE.

It is so plainly written that even a child can learn to know the two diseases. Free for the asking. Address the publishers,

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IS THE ORIGINAL AND SUCCESSFUL PREVENTIVE REMEDY FOR

BLACK • LEG.

Write for particulars, official endorsements of our Vaccine and testimonials from thousands of stockmen who have used Pasteur Vaccine upon nearly one million head in the United States during the last three and a half years and prevented losses from Black Leg. "Single" Vaccine and "Double" Vaccine, as preferred.

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FINEST EQUIPPED, MOST MODERN AND BEST FACILITIES.

The Kansas City market, owing to its central location, offers greater advantages than any other.

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Largest Stocker and Feeder Market in the World.

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Principal Buyers for Export and Domestic Markets in Constant Attendance.

	Cattle and Calves.	Hogs.	Sheep.
Official Receipts for 1898	1,846,233	3,672,909	980,303
Sold in Kansas City 1898	1,757,163	3,596,828	815,580

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The Poultry Yard

A RELIABLE REMEDY.

Probably the best and most effective remedy for all serious poultry ailments, in young or old, is the application of a good sharp ax where it will sever the head from the body. This remedy is scouted by some, but it still remains the best time- and money-saver, and the surest means to promote health in our poultry. Many poultry ailments serve as a warning from nature that the affected birds are unfit for breeders through some constitutional taint. If we doctor these individuals which nature has marked as unfit, and succeed in pulling them through, we defeat our own best interests. Unless we weed out the ailing and weaklings, and refuse to breed from such, we must expect a large mortality in the offspring.

A GOOD SHARP AX.

A correspondent writes us that after five years of using no remedy for sick fowls except "a good sharp ax," he now finds disease in his flock of very rare occurrence, and usually of trifling character, which recovers spontaneously. Previous to using the ax freely he had much trouble with sick hens, and never got through a winter without rump. Another correspondent, who always uses the medicine bottle and can not bring himself to killing off the diseased breeders, is complaining of great mortality among his chicks this year from "no apparent cause." His chicks die at all stages of incubation, and some are dropping off all the time from hatching up to maturity—a sure sign of unhealthy parentage, and evidence of the working of nature's law, that of "the survival of the fittest." Had he used the ax and aided nature he would now be better off.

We are not afraid to advocate the free use of the ax as a poultry remedy. There is no danger of any one overdoing it; people are not built that way. Every one will hold on to a miserable puny or diseased specimen until he is sure that there is no relief except in the ax.

LIKE BEGETS LIKE.

The way to succeed in the poultry business is to start with the best, always keep the best, and always strive to improve it. Build it up, and keep it built up, and remember that "like begets like." The very first requisite in breeding birds is a strong constitution and sound health. Unless you have this solid foundation, all attempts at improvement are time and money wasted. You can not secure healthy fowls with the aid of the medicine bottle; but you can rid yourself of undesirable specimens, and prevent the reproduction of disease in the offspring, if you will only use sound common sense—and an ax.

This remedy is only a starting point on the road to health. Used as it should be, it leaves you with only your best and strongest specimens to be used as breeders. You have made a right start, but because you have kept only the strongest and healthiest specimens you must not be careless of them. You can wreck the health of the best and strongest birds if you do not use them as you should. Starting with healthy fowls is a good beginning, but you must keep them so, and when weakness shows itself that may not be controlled by simple means the reliable ax is again called for.

NOT UNIVERSAL SLAUGHTER.

This advice will be termed radical by some, worse than that by others, but we believe that the judicious use of the ax treatment for many poultry diseases is the surest way to promote health. It does not necessarily mean a great slaughter, although some disease-breeding flocks we now have in mind would be almost wholly wiped out if the use of this remedy became general. This would be a blessing to the poultry industry, and would save many an amateur from losing his hard-earned cash in the purchase of eggs or fowls out of diseased stock. We do not believe that the breeding life of any of our fowls is long enough to outgrow the probability and possibility of transmitting such disease as rump, canker, rheumatism, tuberculosis, nerve diseases, and diseases of the reproductive organs; for all such diseases killing the victim of the disease is the only safe and sure means of stamping it out. When all breeders make it a rule to kill fowls affected with the above-named or any constitutional disease, there will be a happy and wonderful lessening in the number of cases of disease in both chicks and fowls.—Dr. Woods, in Farm Poultry.

Water-glass for Preserving Eggs.

There is needed a simple method for preserving eggs, a method that will enable farmers, poultrymen, and even the consumers to put away eggs during the summer months when they are so plentiful and worth only 5 cents and 10 cents per dozen, and to preserve them until the winter months when it is quite impossible to find

a supply of fresh eggs and they command a price of 20 cents or 30 cents per dozen.

At the present time eggs are largely packed in lime, salt, and other products, or are put in cold storage for winter use, but such eggs are very far from being perfect when they come upon the markets, and frequently more than one-half of them are unfit for use, if we are to judge from the condition of the Fargo market. A method to be generally employed must be simple, cheap, and the eggs when wanted for use must be of good quality.

During the past summer a statement was made in one of the agricultural journals that water-glass was a preservative for eggs. From the nature of this product the method seemed promising, and it was decided to make

SOME EXPERIMENTS

to determine whether it had any real value for this purpose. The shell of an egg has a very thin coating of mucilaginous, albuminous matter upon its surface that seems to protect the eggs for a considerable time from atmospheric action or the introduction of the germs of decomposition. If this coating be removed immediately after the egg is deposited, while still warm, the keeping quality seems to be much reduced, or if eggs that become soiled in the nest are washed, this albuminous coating is softened and the life of the egg shortened thereby. This would suggest that a method for preserving eggs should be one based upon experiments that would tend to more thoroughly protect the natural condition of the egg, and at the same time keep the air as far as possible from the eggs.

NOT WHOLLY SATISFACTORY.

For this purpose lime has not proved wholly successful, neither has salt nor brine, for while each of them aid in protecting against air, the albuminous coating of the egg has been destroyed and the shell much weakened. These adverse conditions seem to be more largely overcome by the use of water-glass than in either of the other methods. After experiments with solutions of various strengths, and under varying conditions, we found that

A 10 PER CENT SOLUTION

of water-glass would preserve eggs very effectually, so that at the end of three and one-half months eggs that were preserved the first part of August still appear to be perfectly fresh. In most packed eggs, after a little time, the yolk settles to one side, and the egg is then inferior in quality. In boiling eggs preserved for three and one-half months in water-glass the yolk retained its normal position in the egg, and in taste they were not to be distinguished from fresh unpacked store eggs. Again, most packed eggs will not beat up well for cake-making or for frosting, while eggs from solution in water-glass seemed quite equal to the average fresh eggs of the market. It should be borne in mind that in these experiments only fresh eggs were used for preserving; no egg was more than 4 days old. Eggs that have already become stale can not be successfully preserved by this or any other known method so as to come out fresh.

WATER-GLASS CHEAP.

Water-glass is a very cheap product that can usually be procured at not to exceed 50 cents per gallon, and one gallon would make enough solution to preserve 50 dozen of eggs, so that the cost of material for this method would only be 1 cent per dozen. Water-glass is sodium and potassium silicate, sodium silicate being usually the cheaper. If wooden kegs or barrels are to be used in which to pack the eggs they should first be thoroughly scalded with boiling water to sweeten and purify them. For those who may desire to try this method I give the following:

DIRECTIONS.

Use pure water that has been thoroughly boiled and then cooled. To each ten quarts of water add one quart of water-glass. Pack the eggs in the jar and pour the solution over them, covering well.

Keep the eggs in a cool dark place. A dry cellar is a good place.

If the eggs are kept in too warm a place the silicate is deposited and the eggs are not properly protected. Do not wash the eggs before packing, for by so doing you injure their keeping quality probably by dissolving the mucilaginous coating on the outside of the shell.

For packing use only perfectly fresh eggs, for stale eggs will not be saved and may prove harmful to the others.

All packed eggs contain a little gas, and in boiling such eggs they will crack. This may be prevented by making a pin-hole in the blunt end of the egg. To do this hold the egg in one hand, place the point of a pin against the shell of the egg at the blunt end and give the pin a quick, sharp blow, just enough to drive the pin through the shell without further injury to the egg.—E. F. Ladd, Agricultural College, North Dakota.

Health for 10 cents. Cascarets make the bowels and kidneys act naturally, destroy microbes, cure headache, biliousness and constipation. All druggists.

When Pain Racks the Body

Frank Long, who lives near Lennon, Mich., says:

"I was taken with a pain in my back, and I was obliged to take to my bed. The physician pronounced my case muscular rheumatism accompanied by lumbago.

"I gradually became worse, until I thought death would be welcome release. I was finally induced to try Dr. Williams' Pink Pills for Pale People, and after using five boxes, was entirely cured.

"I am confident that Dr. Williams' Pink Pills saved my life. I will gladly answer inquiries concerning my sickness and wonderful cure, provided stamp be enclosed for reply.

FRANK LONG."

Sworn to before me at Venice, Mich., this 15th day of April, 1898. G. B. GOLDSMITH,

Justice of the Peace.

—From the Observer, Flushing, Mich.

Dr. Williams' Pink Pills for Pale People contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after-effects of the grip, palpitation of the heart, pale and sallow complexions, and all forms of weakness either in male or female.

Dr. Williams' Pink Pills for Pale People are never sold by the dozen or hundred, but always in packages. At all druggists, or direct from the Dr. Williams Medicine Company, Schenectady, N. Y., 50 cents per box, 6 boxes \$2.50.

DR. COE'S SANITARIUM.

11th and Walnut Sts., KANSAS CITY, MO.

We use the X Rays in the Examination of Diseases.

Consultation Free, In Person or by Mail. Write for Catalogue.



THIS SANITARIUM

Is a private hospital—a quiet home for those afflicted with medical and surgical diseases, and is supplied with all the remedial means known to science and the latest instruments required in modern surgery.

50 ROOMS

For the accommodation of patients, together with our complete Brace-Making Department, make this the largest, oldest and the only thoroughly equipped Sanitarium in the west. We treat Spinal Curvature by means of a suspension carriage giving ease and comfort to the patient while this dreadful deformity is being successfully overcome. Club Feet, Bow Legs, Knock Knees, etc. are successfully treated.

DISEASES OF DIGESTION.

Dyspepsia, "Liver Complaint," Obstructed Constipation, Chronic Diarrhoea, Tapeworm and kindred affections are among those chronic diseases in the treatment of which we have attained great success.

DISEASES OF WOMEN.

Space will not permit us to enumerate the diseases peculiar to women. We pay special attention to all the diseases, and have every advantage and facility for their treatment and cure. We have comfortable and well furnished rooms and offer a quiet home during confinement. We have a neatly prepared treatise describing Diseases of Women which will be mailed free to any address.

IF YOU ARE AFFLICTED with any of the above diseases, or in any way in need of medical or surgical aid, and are thinking of going abroad for treatment, you are requested to call on the Editor of this Paper, who will give any information you may desire concerning the reliability of this Sanitarium. Address all communications to **DR. C. M. COE, Kansas City, Mo.**

PILES AND FISTULA.

There is nothing that so completely unfits a man for business as Piles. Many men and women suffer for life with this annoying disease. There is no cure so safe and permanent as a surgical operation. We have permanently cured hundreds of patients who have suffered for years, having tried all kinds of remedies without relief. We have published an illustrated book containing many testimonials from patients treated with entire satisfaction; will be mailed to you free.

VARICOCELE.

Varicocele is radically and permanently cured by our surgical operation in from five to fifteen days. No medicine or local application will ever cure this trouble. We annually cure hundreds of this class of patients, leaving them in a vigorous, healthy condition.

SURGICAL OPERATIONS.

As a means of relief are only resorted to where such interference is indispensable. In such cases as Varicocele, Piles, Stricture, Fistula, Ruptures, Hernia, Cleft Palate, Cross Eyes, Tumors, etc. Although we have in the preceding made special mention of some of the ailments to which particular attention is given, the Sanitarium abounds in skill, facilities and apparatus for the successful treatment of all chronic ailments, whether requiring for its cure medical or surgical means. We have a neatly published book, illustrated throughout, showing the Sanitarium, with photographs of many patients, which will be mailed free to any address.

Breeders' Annual Report.

The Kansas Improved Stock Breeders' Association has just issued from the press of the Kansas Farmer its first published Annual Report in book form. It contains an introduction by Secretary Coburn, of the State Board of Agriculture, a history of the live stock organizations in Kansas by Secretary H. A. Heath, the full proceedings of the ninth annual meeting of the Kansas Improved Stock Breeders' Association, and the consolidation of the other live stock organizations of the State with it, together with the addresses, papers, and discussions as to the various branches of the animal industry of Kansas and live stock husbandry in general.

It is the first distinctive live stock report ever issued for Kansas and is a veritable live stock manual for the State. The Report also contains the Association's Kansas Breeders' Directory for 1890. As the Association receives no State aid, but is supported entirely by its membership fee of \$1 per year, it has been decided to charge a nominal price for the annual report, as follows: Single copy, 25 cents; 10 copies, \$1.50; or 100 copies, \$10. Address all orders, or applications for membership to H. A. Heath, Secretary Kansas Improved Stock Breeders' Association, Topeka, Kans.



The American Steel Tank Co. is making the same high grade Tanks, all shapes and sizes. If you are interested, write for prices and catalogue "A."

Farmers, Stockmen, Creamery, Dairy and Sheep-Dipping **TANKS.**

AMERICAN STEEL TANK CO.,
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CURRIE WINDMILL CO.,
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A Big Hay Crop

has now to be marketed. The easiest way to get it there is in the form of bales. **THE BEST MACHINE to bale with is an "ELI" BALING PRESS.**

46-in. Feed Opening. You can get more hay in a bale—cheaper freight. 28 Styles and Sizes—Horse or Steam Power. Made entirely of steel. It is light, strong and durable. Better send at once for our free illustrated catalogue.

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Send for catalogue illustrating the old Reliable Peck Well Auger, Rock Drills, Hydraulic Machinery, etc. **FREE.** Have been in use over 13 years and are no experiment.

W. M. THOMPSON CO.,
Successors to Sioux City Engine & Iron Works
SIoux CITY, IOWA.



"A MOLE on the Neck, Money by the Peck."

but there is no money in having a mole in your garden or on your lawn. Don't have them. Catch them with the

"OUT-O-SIGHT" Mole Trap.

Every trap has our guarantee to catch. Sample trap 85c. by mail or, have your dealer order for you.

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HAVE YOU SEEN THE

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GEM FULL CIRCLE Baler

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It finds a market anywhere and everywhere.



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WE SELL DIRECT TO THE FARMER AT ONE-HALF DEALERS' PRICES.

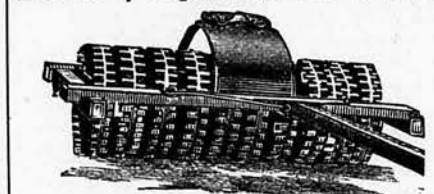


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The McCollum Clod Crusher and Compress Field Roller.

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The machine attaches to an ordinary wagon bed, easily operated, and a machine that has been thoroughly tried during the season of 1897-'98, in the Kaffir-corn district. This machine will cut and elevate into a wagon, about 8 acres per day. It cuts one row at a time. This machine is adjustable to the will of the driver; can be raised or lowered to suit the height of uneven corn while in motion. Inquire of your dealer or write for prices to.....

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Keystone Side-Delivery Rake means "Quick Haying, Quality Prime." Turns the hay completely and leaves it in a light, loose windrow ready for loader. Its use means air-cured, not sun bleached hay. Better than a Sulky Rake and saves use of tedder. Takes up no trash, that means clean hay.

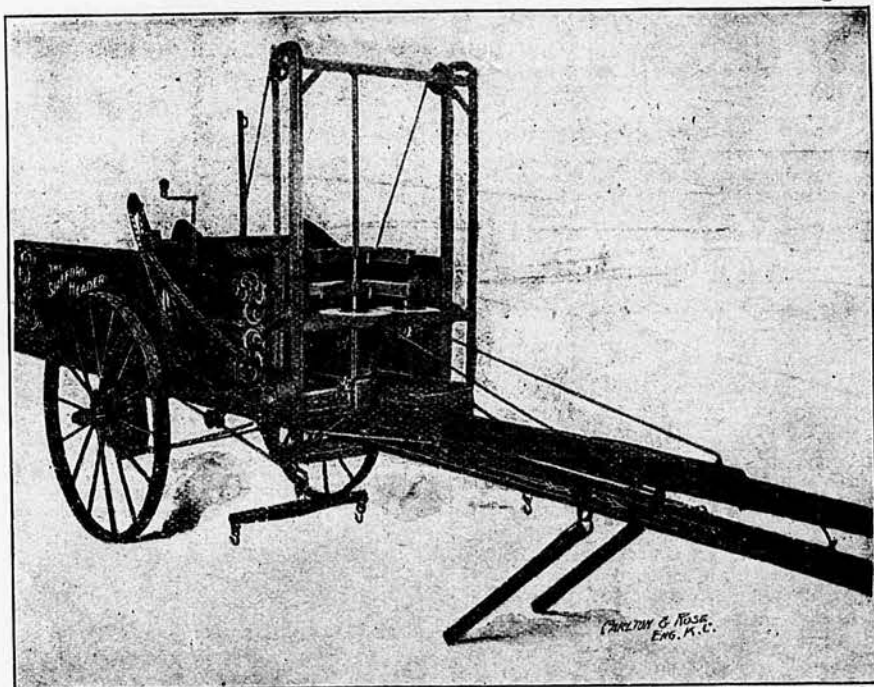
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"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time, will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with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

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

BUCKWHEAT—Turnip seed, millet, oyster shells and all kinds of poultry supplies. Lee's Lice Killer—a specialty at Topeka Seed House, 306 Kans. Ave.

BARGAIN—For sale. 640-acre farm in eastern Kansas, Morris County, one mile from Herlington where there are four railroads, car shops, mills, elevators, business houses. A modern ten-room house, bay window, good cellar, large cistern, outbuildings, two never-falling wells, two windmills, four large tanks; all fenced; 450 in three p. stures, good grass, fifty in meadow, 140 under cultivation, young orchard, vineyard; other trees. \$19 per acre. If you mean business, will send picture of house and plat. Address Box 346, Herlington, Kans.

STRAYED or STOLEN from my pasture, one-half S mile north of Carbondale, Osage Co., Kans., about June 20, 1899, one gray mare 3 years old, well bred, trim built, weight between 800 and 900, one black filly, 2 years old, small blocky Norman, one bay filly, 2 years old, fair size, rather heavy built. A reward of \$15 will be paid for information leading to the recovery of the above colts. R. H. McClair, Carbondale, Kans.

FOR RENT—Fine blue-grass pasture that will accommodate 30 head of stock, with never-falling water, good shelter for stock, 12 miles from Kansas City, located at Whitechurch, Kans., one and a half miles from R. R. Station. Will be at my farm every Sunday. Address C. W. Scheller, 611 North Fourth Street, Kansas City, Kans.

BERKSHIRES—Fine Berkshire boars for sale. Now ready for delivery. Write for prices. John L. Wyatt, Jetmore, Kans.

FOR SALE—Ten full-blood and high-grade Short-horn bulls from 15 to 20 months, all reds. Also litter of St. Bernard pups. F. H. Foster, Mitchell, Kans.

FLIES! FLIES!—Send 10 cents, and learn how to make tanglefoot fly paper. Holds all that can get on. Inexpensive; no humbug. Box 267, Newton, Kans.

FARM FOR SALE CHEAP—Of 160 acres in eastern Kansas, two miles from town, 75 miles from Kansas City, in good cultivation, fine orchard, good buildings and fences. A snap at \$18. Easy payments. Address owner, Geo. E. Winders, Mount Ida, Kans.

FOR SALE—10 high-grade Hereford and 10 high-grade Shorthorn bulls, 12 to 20 months old. Address Hugh A. Hodgins, Topeka, Kans.

PURE-BRED Aberdeen-Angus cows and helpers; also bull calves old enough to wean, can be got from Conrad Kruger, Norfolk, Kans.

PUPS, SCOTCH COLLIES—Eligible to pedigree. (From registered stock), for only \$3 and \$5. A. P. Chacey, North Topeka, Kans.

WE POSITIVELY PAY \$16 a week and expenses, to men with rigs, to introduce Egyptian Lice Killer and Poultry Compound in country. Address with stamp, Egyptian Drug Co., Parsons, Kans.

BREEDERS' ANNUAL REPORT FOR 1899—The great Kansas Live Stock Manual and proceedings of the Ninth Annual Convention of the Kansas Improved Stock Breeders' Association, contains 125 pages; price 25 cents. Address H. A. Heath, Secretary, Topeka, Kans.

FOR SALE—Imported English Coach stallion and Galloway bulls. W. Guy McCandless, Cottonwood Falls, Chase Co., Kans.

EGGS FROM PURE-BRED WHITE AND BARRED Plymouth Rocks, \$1 per 15. S. F. Glass, Marion, Kans.

FOR SALE—100 cars cottonseed meal. Also corn and feed. Address Western Grain and Storage Co., Wichita, Kas.

WANTED—Every breeder in Kansas to become a member of the Kansas Improved Stock Breeders' Association. Send membership fee of \$1.00 to H. A. Heath, Secretary, Topeka, Kans., and you will receive the Breeders' Annual Report for 1899.

BERKSHIRE SOWS BRED—To farrow in May. Choice of individuality and breeding, eligible to registry, at \$20. Also two fine boars ready for service. Rutger Farms, Russell, Kans.

POLAND-CHINAS—No better anywhere. Five dollars each. Write for breeding. Hemenway, Hope, Kans.

BLOSSOM HOUSE—Opposite Union depot, Kansas City, Mo., is the best place for the money, for meals or clean and comfortable lodging, when in Kansas City. We always stop at the Blossom and get our money's worth.

NO EXCHANGE—A daughter of Hadley Jr., dam by Kiever's Model, for ten bushels of alfalfa seed on track. F. W. Baker, Council Grove, Kans.

FOR SALE—Poland-Chinas and Duroc-Jerseys, all sizes. Barred Plymouth Rocks and Single Comb Brown Leghorns. Eggs \$1 per 15. Write D. Trott, Abilene, Kans.

FOR SALE—Good hedge posts, in car lots. E. W. Melville, Eudora, Kans.

If you have timothy, clover, prairie, alfalfa, or millet hay to market, correspond with J. W. Lowe & Co., 1313 W. Eleventh street, Kansas City, Mo. Liberal advances on shipments.

FOR SALE—Imported and full-blood Percheron, Clydesdale and Coach stallions. Good individuals, colors and ages. For further information address W. H. McMillen, Manager, Box 204, Topeka, Kans.

675-ACRE FARM FOR SALE—Only ten miles from the State capital, improved; has never-falling water. \$15.50 per acre if taken soon. Address J. Ferguson, Station B., Topeka, Kans.

ABERDEEN-ANGUS BULLS—Twelve extra individuals of serviceable ages; registered. Wm. B. Sutton & Son, Russell, Kas.

WRITE TO ALEX RICHTER—Hollywood, Kas., how to sub-irrigate a garden, etc., and cost of same. Send him the size or dimensions of your garden, and he will give full information.

HORSES.

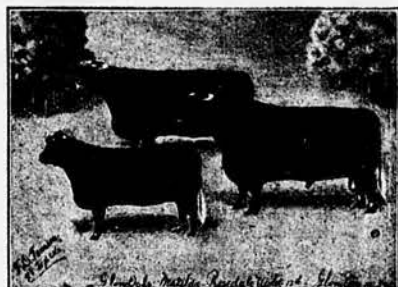
PROSPECT FARM—CLYDESDALE STALLIONS, SHORT-HORN CATTLE, and POLAND-CHINA HOGS. Write for prices of finest animals in Kansas. H. W. McFee, Topeka, Kas.



HERD BULLS FOR SALE

KANSAS LAD 134085, eighteen months old sired by Duke of Kansas 123126, and tracing to Imp Orlando and Imp. Golden Galaxy. Also **CONSTANCE DUKE 134083**, twenty months old, by Duke of Kansas out of 5th Constance of Hillsdale by 6th Duke of Oxford 55734. These two grand bulls should be herd-headers. Come and see them or address

B. W. GOWDY, Garnett, Kansas.



GLENDAL SHORTHORNS, Ottawa, Kans

Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bulls, Glendon 118370, by Ambassador, dam Galanthus, and Scotland's Charm 127264, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Young bulls for sale.

C. F. WOLF & SON, Proprietors.

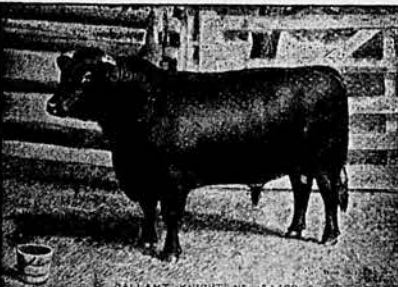


CEDAR HILL FARM.

Golden Knight 108086 by Craven Knight, out of Norton's Gold Drop, and Baron Ury 2d by Godoy, out of Mysie 50th, head the herd, which is composed of the leading families. Young bulls of fine quality for sale.

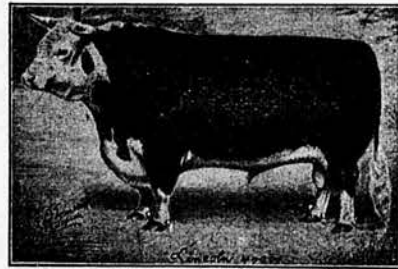
C. W. TAYLOR, PEARL, DICKINSON CO., KANS.

ELDER LAWN HERD OF SHORTHORNS.



THE HARRIS-BRED BULL, GALLANT KNIGHT 124466, a son of Gallahad, out of 8th Linwood Golden Drop, heads herd. Females by the Cruickshank bulls, Imp. Thistle Top 83876, Earl of Gloster 74522, etc. Size, color, constitution and feeding qualities the standard. A few good cows for sale now bred to Gallant Knight. A few young bulls of serviceable age for sale. Address

T. K. TOMSON & SONS, DOVER, KANS.



SPRING VALLEY HEREFORDS.

Lincoln 47095 by Beau Real, and Klondike 42001, at the head of the herd. Young stock of fine quality and extra breeding for sale. Personal inspection invited.

ALBERT DILLON, HOPE, KANS.

RIVERSIDE STOCK FARM.

Percheron and Roadster Horses and Shelland Ponies; also one Denmark Saddle Stallion; also Shorthorn Cattle. Stock of each class for sale

Also a car-load of young Shorthorn bulls for sale. Pedigrees guaranteed. Address

O. L. THISLER, Chapman, Kas.

SEEDS AND POULTRY SUPPLIES.

Seeds, bulbs and poultry supplies, T. Lee Adams, 419 Walnut street, Kansas City, Mo.

1839.

THE "CORRECTORS" ARE HERE.
THE "IMPROVERS" ARE COMING.

1899.

WEAVERGRACE BREEDING ESTABLISHMENT.

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Past is
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Future
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The Weavergrace present will bear the closest investigation and comparison. No Hereford is too good for Weavergrace. Neither time, labor, money nor any other factor within our reach will be spared in an open, honest, energetic effort to make the **WEAVERGRACE HEREFORDS** the best herd of beef cattle in the world. Nothing from the herd offered privately. All reserved for annual spring auction. Three hundred and sixty-four days of the year devoted to the general Hereford interests, one day to the sale of the Weavergrace Herefords.

I have an **Unrivaled List** of registered Herefords (both sexes) and of grade Hereford steers and females on file for sale throughout the country, in my office, New York Building, Chillicothe, Mo. There are several great bargains. All are invited to inspect this list, and spend a day at Weavergrace.

Hereford literature on application; also a colorotype reproduction (16x22) of an oil painting of **Corrector**, free to all who will frame it.

Sunny Slope Herefords.



100
HEAD
FOR
SALE.

CONSISTING of 32 BULLS, from 12 to 18 months old, 21 2-year-old HEIFERS, the get of Wild Tom 51292, Kodax of Rockland 40781 and Stone Mason 13th 42397, and bred to such bulls as Wild Tom, Archibald V 54433, Imported Keep On 76016 and Sentinel 76063, Java 64045.

40 1-year-old HEIFERS and 7 COWS.

These cattle are as good individuals and as well bred as can be bought in this country.

Finding that 400 head and the prospective increase of my 240 breeding cows is beyond the capacity of my farm, I have decided to sell the above-mentioned cattle at private sale, and will make prices an object to prospective buyers.

Address **C. A. STANNARD, Emporia, Kans.**

VALLEY GROVE SHORT-HORNS.

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 breed Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.

Address **T. P. BABST, PROP., DOVER, SHAWNEE CO., KAS.**

Nelson & Doyle

Room 220, Stock Yards Exchange Building, KANSAS CITY, MO.,

Have for sale at all times, singly or in car lots... **Registered Herefords and Shorthorns.** Cross-bred Hereford Short-horns and grades of other breeds. Bulls and females of all ages

Stock on Sale at Stock Yards Sale Barn, also at Farm Adjoining City.

N. B.—We have secured the services of John Gosling, well and favorably known as a practical and expert judge of beef cattle, who will in the future assist us in this branch of our business.

FOR SALE.

Ten Shropshire Ram Lambs,

80 to 100 pounds each, well marked, low and blocky, and with magnificent quality of fleece. These ram lambs are the result of the eighth top cross of registered Shropshire rams on ewes from a Merino topped Cotswold cross. Price, \$10 and \$12 crated and delivered at Moran, Kans. Missouri Pacific and M., K. & T. Cash must accompany order.

J. Clarence Norton, Moran, Allen Co., Kans.

200
Shropshire
Rams.

Extra Choice Registered Rams to Head Pure-bred Flocks

Car Lots of pure-bred and high-grade yearlings, large, strong, well-wooled rams for range trade, all at prices to meet hardest competition. Come and see them or write wants.

KIRKPATRICK & SON, Connor, Wyandotte Co., Kansas.

GALLOWAYS ARE THE ORIGINAL POLLED BEEF BREED!

For full particulars write to **FRANK B. HEARNE**, Secretary American Galloway Cattle Breeders' Association, Independence, Mo. If you want to buy a Galloway he can give you the address of breeders.

PLEASE MENTION KANSAS FARMER WHEN WRITING ANY OF OUR ADVERTISEES.