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BREEDERS' DIRECTORY.

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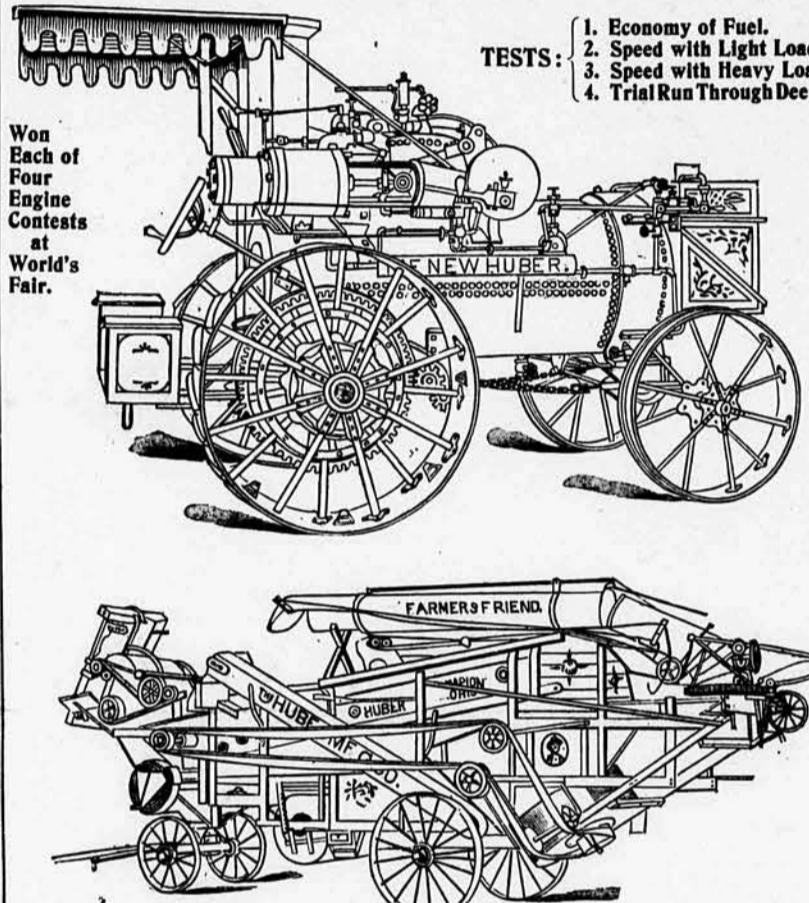
TEN POLAND-CHINA BOARS—\$10 to \$20 apiece. J. H. Taylor, Pearl, Kas.

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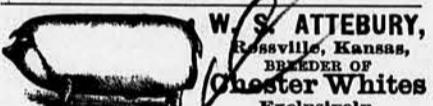
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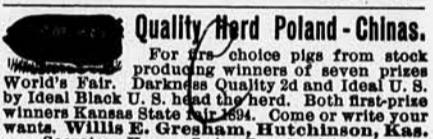


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Young stock at all times. Satisfaction guaranteed.

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Westphalia, Anderson Co., Kas. Breeder of high-class pedigree Poland-China swine. Herd headed by Tecumseh Grand 9178 S., assisted by Guy Wilkes 3d 12131 C. Tecumseh Grand 9178 S. is now for sale, also fifty choice April pigs. Write. E. A. BRICKER.



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Seven fall boars, large and growthy, sired by Sel-dom 14251 S.—dams are our top brood sows—from \$15 to \$25. Don't miss this chance to get a top boar pig. We have the best finished lot of spring pigs we have produced. We breed as fine pigs at \$25 as you can buy of the "high rollers" at \$100. If you will kindly visit our herd and this is not a fact we will pay your expenses.

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W. CHARLES CORWIN 33095 O.

(Breeders' Directory continued on page 16.)

POULTRY.

R. C. B. LEGHORN AND B. LANGSHAN EGGS One dollar per thirteen. Hill's Poultry Yards Westmoreland, Kas.

VALLEY FALLS POULTRY YARDS—The most extensive and best equipped yards in the State. Thirty-five varieties of chickens. Breeding pens scoring from 90 to 96. Eggs \$1.50 from pen No. 1 and \$1 from pens No. 2. All kinds of Cochins, Brahmas, Langshans, P. Rocks, Leghorns, Minorcas, Wyandottes, Hamburgs, Javas, Games, Sherwoods, Red-caps and Bantams. W. B. MCCOY, Proprietor, the Kansas Poultryman.

A CHANCE TO GET THE BEST.—Eggs after May 1 at one-half price. Eggs from Peers' prize-winners. Eggs that will produce prize-winners Barred Plymouth Rock and Light Brahma eggs that were selling at \$3 per dozen now \$1.50 per dozen. At Topeka, the great State show, my Rocks and my strain took more premiums than all the other exhibitors combined. With three Light Brahma hens exhibited I took first, second and fourth. Orders filled in rotation as received. HENRY E. PEERS, Marion, Kas.

HERE WE ARE AGAIN!—With eggs from thoroughbred stock at hard-times prices. Buff Plymouth Rock, Buff Leghorn and Silver Wyandotte \$1 per sitting. F. H. Larabee, Hutchinson, Kas.

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Barred Plymouth Rocks.

All the leading strains. Thirty young cockerels and twenty-five pullets for sale. A 93-point bird at head of the harem. Eggs \$2 per setting of thirteen. S. McCullough, Ottawa, Franklin Co., Kas.

EGGS, EXPRESS PAID. Leading varieties of land and water fowls. Bargains in Poultry, Pigs, Dogs and pet stock. Send stamp for catalogue. R. G. Mason & Co., Kirksville, Mo.

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BERKSHIRES. H. B. COWLES Topeka, Kas.

Spring Pigs. A few bargains in Bred Gilts. No Boars.

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POLAND-CHINAS and LARGE ENGLISH

BERKSHIRES. Two hundred head. All ages.

25 boars and 45 sows ready for buyers.

Agricultural Matters.

SELECTING SEED.

By Prof. G. H. Fallyer, in the *Industrialist*.

The importance of using seed that has been selected with reference to some special quality or character of the crop to be produced seems to be realized only in a dim and hazy way; much stress is laid on the germinating quality of the seed, and in a general way seeds of sorts that have a good reputation are selected. But few persons seem to fully realize the extent of individual variation in plants, and that these variations may be perpetuated and intensified. Of course, those who give their attention to producing new varieties and sorts of plants do fully understand their power in these directions, but those who use the work of these pioneers do not have a working knowledge or faith in it.

It is not the rule for the gardener or the farmer to grow his own seed except in the case of such bulky seeds as the grains. One cannot rest secure thinking that the growers of seeds which are sold in such large quantities in packages all over the country take special pains to produce or rather to select seeds that will bring the best of crops. No doubt the growers of these seeds wish this result, and in so far as general treatment on a large scale will bring it about, strive to produce good seed. But often the seed is grown by contract, a whole field being devoted to one plant, and the whole harvested with little chance to select. Thus the average of the whole crop is represented in the seed. Those who have given attention to the quality of individual plants in a field know that there are great differences in the several individuals, and that the seeds of such plants tend to reproduce these special qualities. In the practice of harvesting the whole crop for seed, any general improvement, by culture or otherwise, is maintained, but of course no special qualities of individual plants will be intensified, for seed of plants possessing these qualities in all degrees, from the lowest to the highest, will be mixed together. It is only by selecting from the whole crop the comparatively few plants possessing the desired quality in the greatest degree that the best effect in this line can be produced. And this applies to general field crops as well as to garden and truck crops. It has been a practice with farmers in selecting seed corn to save or to reject ears with flinty grains, according as this quality is desired in the crop. Could they know differences in the composition of the grain, it seems probable that corn could be made a better grain; for it is well-known that it is too highly heat and fat-producing for best feeding effects. The chemist may be able to do this work for the farmer, and it is within the possibilities that the corn of the future will be more nearly like oats as a feed.

While the farmer may not be able to make selection involving these hidden properties, there are many characters that come within his observation by which selections may be made. In a field of ripening corn, the early-ripening ears may be distinguished from those that ripen late. In a field of Kaffir corn or sorghum, stalks with hard and flinty hulls or rinds may be compared with those that are softer; and differences in the flinty character of the seed itself may be observed. And so with other characters. Now, while it may not be known that all differences observed will be propagated (for they may be connected with some accident of the plant rather than inherent character), yet it is known that many of these observed differences can be perpetuated. Neither does it seem probable that most farmers and gardeners possess the peculiar skill and inclination to make much success with these selections, for they must be carried on in the same line for several years in order to fix any acquired trait. But in the whole body of the gardeners and farmers of the State are many having the necessary habit of observation and the skill and patience in execution to enable them to improve the

plants they grow, and to furnish improved seed to their neighbors, thus raising the general average of the whole.

Present Status of Cereal Culture.

[Abstract.]

By M. A. Carleton, of Division of Vegetable Pathology, United States Department of Agriculture.

The three future wheat regions of the world which will have most to do with regulating supply, are the great plains of the United States, the Russian "chernozem" or black earth, and the pampas of Argentina. It is also true that the best quality of grain is grown in these regions, but particularly in the eastern portion of the "chernozem," near the Ural mountains.

The very low prices of wheat, together with the continued rapid increase of production, necessitated some great changes if wheat-growing is to remain profitable. In this country the tendency toward mixed farming is helping to solve the problem, as well as the replacement of corn by wheat for stock feed. The quality of our wheat can be much more improved by rigid selections and cross-breeding, and by the introduction of many fine varieties from the Uralo-Caspian region that have never yet been grown in this country. The hard wheat region should be more widely extended by planting northern varieties further southward. This has already been accomplished to some extent. The macaroni industry could be greatly developed, thus giving a greater home demand for wheat. To this end, more of the Mediterranean varieties should be imported for seed, since only these wheats make the best macaroni.

The hot water treatment for cereal smuts, so repeatedly and widely published, seems to have attracted very little attention from farmers. There is no doubt that this very simple treatment once generally used, would greatly increase the value of northern wheats so notoriously smutted at present, besides increasing the yield at least 10 per cent. The millers need especially to unite in absolutely refusing to receive smutted wheat.

The wheat rust question is so little understood that it is about impossible to obtain statistics concerning its ravages. We only know that the damage is enormous in some years.

Experiments carried on by the United States Department of Agriculture at Garrett Park, Md., in which 865 varieties of wheat and 110 of oats were tested for rust resistance, show by this season's results that many varieties are able to resist rust to a great degree, but seem to show also that the orange leaf rust, which was alone present here, even in greatest abundance, does very little damage. The evidence so far seems to show conclusively that even in this country we shall have to return, after all, to the old idea that the black stem rust does all the really serious damage to both wheat and oats. But as the life-history of this rust is yet wholly unknown in this country, there is evidently much investigation needed.

Subsoiling and Surface Culture as Helps to Moisture Saving.

By G. E. Morrow, Director Oklahoma Experiment Station, in Bulletin No. 18.

Most soils have a remarkable power of absorbing and holding water. As water penetrates a dry soil, each particle of the soil holds a thin film of water about it and seems reluctant to let it go. Even in what seems to the eye to be dry soil, there is often 8 or 10 per cent. of water. Much of the soil of Oklahoma will hold from one-fourth to one-third of its bulk of water. That is, if these soils were thoroughly dry and a gentle rain should fall on a level surface, the soil to a depth of one foot would hold a rainfall of three to four inches in depth. If there is a hard-pan subsoil, impervious to water, a sufficient rainfall would fill all the space between the soil particles. In such case a soil with coarse particles would hold more water than one more finely divided, but the latter would hold more by the power of attraction than would the coarse-textured soil—except where the soil particles were so excessively fine that the water could not penetrate the soil.

It happens, unfortunately, that a

good deal of the soil in Oklahoma, notably the red-colored prairie soil, while having large powers of holding moisture, is so finely divided that water penetrates it slowly. Especially on side-hills much of the water, even in gentle rains, passes off over the surface. Two modes of making this soil more open can be made use of. Adding decayed vegetable matter to such soil will be a great help. Saving and applying stable manure is to be advised for such soils, not only because this adds plant food, but because it helps the soil to readily take in and better hold water. The growth of deep-rooted plants, like alfalfa, has much the same effect. Except for the purpose of destroying insects, the practice of burning stubble or cornstalks is not to be advised.

Subsoiling is also a great help in making the soil a better storage place for the water which falls in rains. It needs no argument to prove that a soil that has been made fairly loose to a depth of fifteen or twenty inches will take and hold more of the water which falls in a hard rain storm than will one which has a compact subsoil at a depth of eight or ten inches. In regions which have porous subsoils, subsoiling or even deep plowing, often is not profitable. The evidence is conclusive that subsoiling has been profitable in a good many cases in Oklahoma and a larger number in Kansas and Nebraska.

In most cases subsoiling in the fall is much better than spring subsoiling. If a dry season follows the latter, the effects may be bad. Deep stirring in the fall fits the ground to receive the rains of fall, winter and early spring.

In like manner the application of a large quantity of unrotted manure may greatly lessen the crop in a dry year; while applying well-rotted vegetable matter will almost always be helpful.

A chief source of loss of moisture from the soil is evaporation into the air. Frequent, shallow cultivation during the growing season is an effective means of reducing this evaporation. The good results from applying a mulch to the surface about newly-planted trees is well known. Dry earth is an excellent mulch. It is not practicable to draw dry earth with which to cover our fields, but it is possible, in case of crops which we cultivate, to secure much the same result by pulverizing the surface, thus leaving a "dust mulch." It is not necessary to stir the soil to any considerable depth. Some loss of moisture is caused by the stirring. The prevalence of strong winds makes this method of preventing or reducing evaporation less practicable here than in some regions. Obviously, another method of preventing the waste of moisture from the soil is to keep weeds from growing. These need moisture as well as do the useful plants. In many cases weeds do more harm by taking moisture from the crop than they do by taking plant food.

European Thrift.

By Pres. Geo. T. Fairchild, in the *Industrialist*.

In a short tour of eight weeks in Europe, opportunities were given me for learning a little of English and continental methods in agriculture. Most suggestive, perhaps, were the thrifty ways in which the farmers make ends meet, in spite of numerous disadvantages. It may be that some of these ways may suggest directions for increasing the thrift of American farming.

In maintaining and increasing fertility of soils, nothing is left undone. All ingenuity is exercised to secure the most, and most effective, manures possible for all field crops. Not a particle of fertilizing material is left to waste its richness on the desert air, but is carefully composted and as carefully distributed where it will do most good. Even the pastures are carefully gone over to distribute the droppings of animals evenly. In Switzerland, the lowliest cot as well as the largest mansion displays its wealth in the size of its compost heap in close relations to the house.

Equal care for such tilth as favors the highest fertility is also evident. Not a clod is wasted, not a barren spot

SPECIFIC FOR SCROFULA.

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



AYER'S

Sarsaparilla, and very soon grew better. After using half a dozen bottles

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

AYER'S THE ONLY WORLD'S FAIR Sarsaparilla

Ayer's Cherry Pectoral cures Coughs and Colds

is neglected; but all are thoroughly turned and returned to air, sunshine, frost, and shower for fertility. But the most constant force in this direction is the universal practice of rotation, favoring best culture, and fullest occupation of the ground, while economizing the elements of plant food in the soil.

In raising crops, there is notable attention to variety of crops; constancy in such variety, without rushing into and out of some fad; fit succession of crops through the season; a most careful seeding, and a diligent filling of vacancies in the stands of beets, or turnips, with something else, like cabbages, cauliflower, etc.; most rigid extermination of weeds by cultivation; the utmost care in securing the crop, both in the shock and in the stack, the latter being always thatched, or sheltered with movable roof, and finally, most scrupulous nicety in the marketing of produce, to present everything at its best.

In stock-raising, there is evident thrift in the universality of live stock of some kind, and the uniformity in quality throughout whole regions. The variety of stock is noticeable also, sheep or goats being an almost universal part of farm machinery, while the quantity kept upon small farms by forage crops and soiling would astonish a Western grazier.

In the average labor force of these countries, there is thrift from its abundance, its regularity of supply, its permanence of location, its housing upon the farm, and its consequent skill. A farm laborer, though gaining but a meager annual income, is fairly housed in even his rudely-constructed cottage, with its potato patch and flower garden. His special gifts are developed in lines of skill in farm practice by successive generations upon the same land, and under the same conditions.

Everything is planned to meet the needs of home consumption as fully as possible. Vegetables, fruits, meats and dairy products are provided on the farm, however small, or left out of account. Nothing is purchased which can be raised by expenditure of care and labor.

Finally, there is thrift in the surroundings of even the humblest homes. Trees shelter, flowers adorn, yards are secured; tools, however rude, are housed, and stacks are clustered in most mutually protective relations.

As a genuine thrift always looks forward to permanence of life in the business followed, it behoves Western farmers to study the method of making most of their farm homes for themselves and their children. Perpetual comfort is far greater thrift than hasty accumulation at the expense of the

future. While we need not adopt the painstaking ways of our European neighbors, we can study profitably their thrift in making most of their circumstances.

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

SEPTEMBER 17—W. H. Wren, Poland-Chinas, St. Joseph, Mo.
OCTOBER 1—E. E. Axline, Poland-Chinas, Oak Grove, Jackson Co., Mo.
OCTOBER 30—J. R. Killough & Sons, Poland-Chinas, Richmond, Kas.

WHY I BREED CHESTER WHITES.

A paper by John Kemp, of North Topeka, Kas., read before Kansas Improved Stock Breeders' Association, January 9, 1896.

Of course, there are many things to be considered, why a person engages in any line of business. He has, of course, an object in view. Either it improves his health, or, being naturally adapted to that chosen line, he takes more pleasure in that than anything else. But while I have been a breeder of Chester Whites for a number of years, I want it distinctly understood that I have not been doing it altogether for my health. There are other reasons why I breed the Chesters. In the first place, I have great faith in them. I believe them to be one of the best breeds of swine in the country, as an all-purpose hog for the farmer. Of course, the Chester Whites, like any other good breed of swine, either black or white, are not a success in every man's hands. Many do not know how to properly take care of a good pig. Although the Chesters will stand lots of hard usage, yet they, like any other good stock, will amply pay their owner for any extra care given them.

My first experience in caring for hogs was when I was a boy, about 12 years of age. It was in feeding and caring for a herd of Berkshires, in their native home, in the fall of the year. One of them was selected from the bunch to be given extra care and feed, that he might be slaughtered for a Christmas show pig. He was separated from the others, and I took charge of him, feeding him regularly three times a day with pea meal mixed with water, for a while, then pea and barley meal mixed. He grew and fattened very fast with the care given him, until at last he could not stay on his feet. I was then told to feed him barley meal mixed with water and made into balls, and I fed him as much as he would eat each meal. He had a good house by himself, with plenty of clean straw for a bed, and when slaughtered weighed, dressed, 500 pounds. I felt proud at the result. It also taught me a lesson—what a little extra care would do even to a hog.

But in coming to my subject again, will say there are other reasons why I breed the Chesters. They are very easy to handle, being of good dispositions. They are good feeders and mature at an early age, and can be put on the market at any time, from five months up. I think a breed of hogs that can be put on the market at seven or eight months old, weighing from 250 to 300 pounds with ordinary care, is worthy a little extra care and attention. I do not doubt that other improved breeds of swine can be made to do the same under favorable circumstances, neither do I wish to speak lightly of other recognized breeds, but I think the Chester Whites stand in the front ranks, and unrivaled as a pig of early maturity, great fattening qualities, and power of assimilating food into pork of most excellent flavor. And I think if President Cleveland really means business with the "British," he can't do better than to instruct those in charge of our army to lay in a good supply of Chester White side meat. It will keep the boys healthy and strong, and that will go a good way towards victory.

The breeding qualities of the Chesters cannot be excelled, the dams being quiet, very easy to manage, good mothers and great sucklers, and their fruitfulness is acknowledged by all who are acquainted with their characteristics as breeders. It is not uncom-

mon for a Chester White sow to farrow a dozen pigs at a litter. I had four sows that farrowed an average of fourteen pigs to the litter, so that a man breeding this strain of hogs does not need to keep a large number of brood sows in order to raise a hundred pigs, and that is another reason why I raise the Chester Whites. Then, again, their color makes them very popular with a great many people, and being of a uniform development they are eagerly sought after by the packers in large cities, oftentimes commanding the top market price and a premium.

The Chester Whites, like the Poland-Chinas, are a distinct American breed, but the Chester Whites are much the oldest breed, but not being in any way related to the Berkshire, do not claim any royal blood, neither are they under any obligations to him for solid color, white points, etc.

When the Chester White male is crossed on any other breed of swine, no matter how black, the color of the sire will in most every case be transmitted to the progeny of said cross, it being sufficient evidence of the Chester White being a pure and distinct breed.

Another reason why I breed the Chester Whites: They are in good demand among the farmers. I have the satisfaction of knowing that my efforts as a breeder have been a success, from the increased business I have enjoyed in filling orders in this and adjoining States, and from many of my old customers who have repeated their orders for young stock, showing their appreciation of the breed and its growing popularity in the West, and that part of the business of disposing of the young stock is quite easy as regards the Chester Whites. It does not require a showy or expensive "ad." to get the attention of the public; just a plain advertisement in a few good agricultural papers like the KANSAS FARMER and the farmers of the country do the rest.

And while I receive a certain cash return for my labor, yet I take a great deal of pleasure in the business. It is a source of great satisfaction to me to watch a lot of little healthy fellows feeding, growing, and developing into fine, plump individuals, and such an attachment has grown for them that I sometimes regret parting with them, but each one of the little fellows, if he lives, has to fill a place, either in the herd or the pork barrel, and, if the latter place, I believe the Chester will meet that part of the contract in less time on the same amount of feed than any other breed of swine. And while the Chester Whites have held the balance of power in the East for many years, they have had to fight their way in the West, and they are steadily gaining popular favor here, overcoming many erroneous ideas and prejudices that have confronted them, and without any loud display are marching on in the even tenor of their way, gaining friends and paying off debts for the farmers.

Eight Months of Pig Life.

During the session of the last annual meeting of the Kansas Swine Breeders' Association, Mr. J. R. Killough, of Richmond, Franklin county, presented a paper on "Poland-Chinas—Eight Months of Pig Life." He intended to show what can be made out of a Poland-China pig at the age of eight months. In order to produce the best results you must have a good pig. A good pig can only be produced by mating the sow to a good boar. The dam should be well-matured, healthy, and free from any defects in general make-up—broad-backed and deep, good, strong bone. The sire should be vigorous and able to stamp his individual qualities on his produce. After these preliminaries have been attended to, the next thing is the care of the sow. It is just as essential that she should have proper care before as after farrowing. She must have a liberal supply of food, such as bran slop, oats and some corn, more slop than corn. As the time approaches for farrowing, she should be placed in comfortable quarters, away from any other hogs. After the pigs are farrowed, she should have a little warm drink but not any food for a few days, then give feed made of

scalded bran. Feed lightly at first, increasing the amount as needed. Great care must be taken not to scour the pigs. This is the most critical time in the life of the pigs, as they are fed through the dam, and improper food and careless feeding will cause disaster, and our hopes of fine pigs will not be realized. If they have had proper care up to the time they are four weeks old, they should have some milk in a separate trough from the sow, only a little at a time until they have become accustomed to it and are able to digest it. Then give some shorts in the milk, increasing the amount as they grow and need it, always being careful not to overfeed. When about ten weeks old they may be weaned, and oats and soaked corn added to their ration. Give them all they will eat up clean, and they should have access to pasture—clover, timothy and blue grass—with range enough to give them exercise, and don't neglect to pet and brush them. A good brushing is almost as good as a feed. Also plenty of pure water to drink, but none to wallow in. Under these conditions we have no trouble to make a Poland-China pig weigh 250 pounds at eight months.

Feed-Yard Reflections.

Among the interesting reports of methods of making prime beef appearing in *The Gazette* from time to time, that of our esteemed friend and veteran stockman, William Miller, of Lakeside farm, gives rise to some reflections that are of general interest. These cattle were Western branded steers, and, notwithstanding their heavy weight, sold for \$4.20 on a market that was topped at about \$4.50. This is an indication of their quality. I spent a day on Lakeside farm the week before these cattle were shipped and saw them at home in the feed-lot. That they were a prime lot of cattle is fully demonstrated by the fact that they sold for export at the above figure on one of the dullest market days at the yards the past winter. I speak of this not to commend Mr. Miller's work, for it is well known that he is a master at anything in the live stock line, but to call attention to the kind of competition the farmer is meeting from the range.

It is true, this was a selected lot and ranked far above the average of Western cattle, but it also ranked above nine-tenths of the native-bred cattle of this and surrounding States. The superior advantages of the ranchman in producing beef economically are well known, and when in addition to these advantages he competes successfully with the corn-fed steer in quality the farmer may well fear his competition. I recently had the pleasure of looking over the feeding station of the Standard Cattle Co., of Ames, Neb., where 4,000 head of range cattle are being fattened, among which were range-bred cattle from Montana, Wyoming, New Mexico and Texas and native-bred cattle from Iowa and Nebraska. The range cattle compared very favorably with those bred on the farms of Iowa and Nebraska. Manager R. M. Allen informed me that the cattle bred on their own ranch were fully as good if not better than those bred on the farms of Nebraska. The bulls used by the ranchmen generally average better than those kept for service by the ordinary farmer. They are almost uniformly pure-breds of one of the leading beef breeds. The ranchman puts a high estimate on the value of good blood and is industriously striving to advance the quality of his stock. The range business is in the hand of comparatively few men, who are almost without exception more progressive than the average feeder, and the corn-fed steer is no longer as safe from the competition of the ranger as formerly, unless he has good blood in his veins.

Another feature of interest is that the ninety head of the Lakeside steers made an average gain of three pounds per head daily for about 100 days—a record that is rarely equaled. Two principal factors contributed to this result, viz.: An abundance of good pasture and very favorable conditions for feeding in October and a well-protected yard that was never without a liberal supply of good bedding. The latter

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feature is one that is too frequently lost sight of in feeding. They had a good fattening ration—shelled corn and oil meal—but without the generous use of rye straw for bedding, the gain reported would not have been made. When I saw these cattle they stood nearly knee-deep in bright, clean rye straw, outside the sheds as well as inside, and Mr. Miller was manifesting considerable anxiety lest the prevailing strong wind continue long enough to interfere with a fresh supply.

The oldest shippers at the yards cannot recall a time when good cattle were as little appreciated on the market as now. "Too many good cattle" expresses a condition that does not often exist. Feeders who marketed prime stock in April at \$3.50 to \$3.75 and saw common cattle and butcher stuff selling at only about 50 cents per hundred less were confronted with a condition tending to shake the faith of the breeder of improved stock. The present condition, however, is entirely abnormal so far as the cattle market is concerned and no one need abandon good stock in the hope of finding more profit in common grades.—C. F. Curtiss, of the Iowa Experiment Station, in *Breeder's Gazette*.

Important to Breeders.

Every one interested in improved stock should have the *Breeder's Gazette*, of Chicago, as well as the KANSAS FARMER, which we furnish for the price of one—both papers one year for only (\$2) two dollars; or we will supply the *National Stockman and Farmer*, of Pittsburgh, Pa. (the best general farm and stock journal in this country, price \$1.50), and the FARMER, for \$1.50. Send for sample copies to the papers direct, and save money and get a big benefit by sending your subscription to KANSAS FARMER, Topeka, Kas. No progressive farmer or breeder can afford at this low price to be without this great trio of farm magazines.

"I have been troubled with rheumatism for the last twelve years. Hood's Sarsaparilla and Hood's Pills have restored me to health and I recommend them to any one suffering with rheumatism and eczema." Mrs. A. J. Hutcheson, 414 Van Buren St., Topeka, Kas.

Hood's Pill's cure all liver ills.

Kansas Lump Rock Salt for Stock!

Healthiest and most convenient way of salting. It is not generally known that the use of common loose salt for cattle, sheep and hogs is injurious to them, but such, however, is the fact. Their nature requires only so much salt as will be absorbed by the saliva. By the ordinary method of salting more or less of the loose salt is carried undissolved into the stomach, causing irritation to the membranes and coating, while in using lump salt your cattle have free access to salt all the time and only get what they need. One hundred pounds is guaranteed to go as far as a barrel of common fine salt. Try it. Best and cheapest way to salt cattle. Lump rock salt in lumps from twenty-five to 200 pounds, lasts four times as long as fine salt. Nature's own way of salting stock. Healthiest and most convenient way of salting. Dairy cattle should have access to salt every day. Feeding rock salt to dairy cattle will increase your milk yield 20 per cent. Try it in place of common fine salt, and note the result. Used and recommended by the largest dairymen and cattle-raisers in the West. Ask your dealer for it, or write to Western Rock Salt Co., St. Louis, Mo.

Irrigation.

HOW TO PREVENT INJURY FROM FROST.

In studying methods of preventing injury from frost it is necessary to have a clear knowledge of how and why the temperature falls and frost is produced.

The surface of the earth is continually losing heat by radiation into space, but during the day it usually receives heat from the sun more rapidly than it loses it by radiation, and therefore it grows warmer. Radiation, and consequent loss of heat, takes place most rapidly when there is nothing to obscure the sky. Clouds or any other obstruction act as a screen in retarding it. The escaping rays of heat strike the obstruction and are driven back to the earth. This is why frost is more likely to occur on a clear night than when the sky is cloudy. It also explains why smudge fires, by forming a screen of smoke over the orchards, are a protection against frosts.

Cold air is heavier than warm air, and this principle causes the air on slopes, as it becomes chilled by radiation, to flow down into the valleys, where it accumulates and becomes injurious. We thus understand why trees on the foothills often escape injury from frost, while those in the adjoining valleys are damaged. Smudge fires are only effective on broad, flat expanses of land. In narrow valleys the cold air comes down from the hillsides and gets underneath the smoke. On windy nights the danger from frost is lessened by the warmer air above getting mixed with the colder air below.

The above theories of the radiation of heat and the falling of the colder air are tolerably well recognized by all orchardists, but there is another and perhaps more important law of nature which is but little understood, and this is the "dew point" theory.

Every one knows that the atmosphere holds a very considerable amount of water in the form of vapor, and that this invisible vapor, which is invariably present in greater or less quantities, can always be condensed into water if the temperature of the atmosphere be sufficiently lowered. If the condensation takes place at temperatures above the freezing point of water, the moisture is deposited as dew; if below the freezing point, the condensation is in the form of frost. To fully comprehend what follows, it must be understood that the temperature at which condensation begins is called the dew point, and this varies with the amount of moisture or vapor in the air. The greater the proportion of moisture the less the fall of temperature required to condense it into dew or frost. When the air is saturated with moisture the dew point will be reached at a higher temperature than when the air is dry. For instance, in a dry atmosphere the dew point may not be reached until the thermometer falls to 28° Fahrenheit, when frost forms. At this point peach buds are seriously injured.

If, however, you can artificially add to the amount of vapor in the air by keeping the land moist by means of recent irrigation, then you raise the dew point and frost may be formed at a higher degree of temperature, or say at over 30° Fahrenheit, which is the amount of cold necessary to injure peach blossoms. If, therefore, you can prevent the temperature of the atmosphere from falling to 30° you are safe. At first sight it may appear that if the vapor in the air freezes at 30°, and the indication of heat continues, the temperature will continue to fall until injury results. But here a very wonderful natural law comes into play.

Of course it is well understood that an enormous amount of heat has been required to convert water into atmospheric vapor. This heat is latent in the vapor, and when the latter is condensed into frost or dew this great amount of latent heat is given off into the atmosphere and tends to keep it at an even temperature. You have two forces at work. Firstly, the radiation or loss of heat is reducing the temperature to the dew point, while the heat

given off by the condensation of the vapor is keeping up the temperature just as fast as it falls to the dew point.

The result is that unless the radiation is very great the temperature does not fall. Of course this theory does not work except in cases where slight frosts would otherwise occur. For instance, where in a dry atmosphere the dew point would not be reached before the temperature had fallen to 29, the dew point may be reached at 31 in a moist atmosphere. In the former case the peach buds would be destroyed, while in the latter case they would escape injury. Hence the object of keeping the surrounding atmosphere moist, and this can be attained by frequent irrigations or even spraying of the orchards at the critical period of blossoming. That this is not a fallacious theory has been proven over and over again by orchardists who have kept their land well saturated with water during the blossoming season, and who have escaped injury from frost, while their neighbors who have failed to follow this practice have suffered. The heat given off by the condensation of vapor into dew or frost is exactly equal to the amount of heat that was expended in forming the vapor, and how enormous this is may be judged by the fact that the condensation of a pint of water from its vapor state will result in enough heat being given off to raise more than five pints of water from the freezing to the boiling point. We thus arrive at the seeming paradox that the formation of frost from vapor produces heat in the atmosphere.

In using smudge fires it should be understood that the heat of the fire has but little effect in diminishing the intensity of the frost, almost the entire protection being gained by the screen of smoke produced. The efficiency of smudge fires may be greatly increased by spraying them with water, thus adding vapor to the atmosphere and raising the dew point, for as has already been explained the dew point is reached at a higher temperature when the vapor in the air is increased. Moreover, by spraying the fires, the heat, which would otherwise establish an upward current of warm air that conducts the heat upward and beyond the space needing protection, is utilized in forming vapor and distributed through the lower stratum of air where it is most needed. As soon as this vapor is condensed at the dew point, this latent heat is set free and tends to raise the temperature. Every quart of water thus evaporated and again condensed in the surrounding air is sufficient to raise the temperature 10° throughout a space eighty feet square and deep.—F. C. Barker, in *Irrigation Age*.

How and When to Irrigate.

How and when to irrigate will depend so entirely upon soil, climate, weather, crops and many other varying circumstances, that no hard and fast lines can be laid down.

Take, for instance, the first question of whether we shall irrigate by small furrows, as in California, or on the moat by the flooding system. I maintain that it all depends upon whether the soil is porous and soaks laterally or whether the soil is the reverse, as it is where I live. Furthermore, the furrow system will suit certain crops while it will not do for others. The best system can only be found out by experience in each locality. Then, as regards the frequency with which crops should be irrigated. I venture to say that no one can fix this by any given number of days. Different crops require different treatment, and even the same crop will need more or less water, according to the conditions of soil, weather and climate. The only rule one can lay down is that no crop needs water so long as the soil about the small roots nearest the surface is wet enough to roll up into a ball; but the moment any of these small roots are in dry earth the plant or tree is sure to suffer.

Serious harm has been done to many orchards whose owners read in books or papers that in California they did not irrigate in winter, and accordingly applied the rule to land which received little or no rainfall in the winter, quite

forgetting that the reason why they do not irrigate during winter in California is that that is their rainy season.

I have sometimes been amused by reading calculations of how many inches of water are needed for irrigation. Some writers have made a regular formula, as though it were an engineering problem, and, having arrived at the exact number of inches required by a crop, deduct the natural rainfall and think they have the whole question settled. Now, in the first place, the rain may come when it is not needed, and again, it often falls in such small quantities at a time that it rapidly evaporates and thus does very little toward assisting irrigation.

No one can farm successfully with irrigation any more than without it who does not understand plant life sufficiently well to know when water is needed by a tree or plant. It requires experience, like every other branch of farming. The inexperienced man may make a failure by not giving enough water to keep the roots moist right down to the bottom, or he may, and frequently does fail through giving so much water that the soil becomes water-logged and deprived of air; but a still more frequent cause of failure is the omission to cultivate the surface of the soil after each irrigation. It is only by actual experience gained in each locality that the farmer can learn how and when to irrigate.—F. C. Barker, in *Irrigation Age*.

Irrigation Will Not Result in Overproduction.

EDITOR KANSAS FARMER:—In reading the excellent article headed, "Low Prices," in the KANSAS FARMER of May 7, I notice with extraordinary pleasure your recognition of the fact that "overproduction" is a myth, and that, as you quote from April New York Notes, we can have no overproduction whilst men, women and children are suffering for the necessities of life.

In the irrigation movement, as I see it, we have been trying to preach this

gospel and striving to bring together this overproduction and the unhappy would-be consumers thereof. I much regret that the Albuquerque proceedings have never yet seen the light of day, since in my own paper read there I strove to show this as forcibly as possible. I sincerely believe that could the FARMER insist upon this point we could stir up some earnest thought among its readers which would result in much good. THOMAS KNIGHT, Member for Missouri Executive Committee National Irrigation Association.

Every man, woman and child who has once tried that specific, Dr. Bull's Cough Syrup, cannot say enough in its praise.

Money Made in a Minute.

I have not made less than \$16 any day, while selling Centrifugal Ice Cream Freezers. Any one should make from \$5 to \$8 a day selling cream and from \$7 to \$10 selling freezers, as it is such a wonder, there is always a crowd wanting cream. You can freeze cream elegantly in one minute and that astonishes people so that they all want to taste it, and then many of them buy freezers as the cream is smooth and perfectly frozen. Every freezer is guaranteed to freeze cream perfectly in one minute. Any one can sell ice cream and the freezer sells itself. My sister makes from \$10 to \$15 a day. W. H. Baird & Co., 140 S. Highland Ave., Station A., Pittsburg, Pa., will mail you full particulars free, so you can go to work and make lots of money anywhere, as with one freezer you can make a hundred gallons of cream a day, or if you wish, they will hire you on a salary.

Reduced Rates to Pittsburg.

The Prohibition National Convention will meet in Pittsburg, May 27 to 29.

For this occasion the B. & O. R. R. Co. will sell excursion tickets from all points on its lines east and west of the Ohio river, for all trains of May 24 to 26, inclusive, valid for return passage until May 30, at one single fare for the round trip.

Tickets will also be sold at all coupon stations throughout the West and Northwest.

The B. & O. maintains a double daily service of fast express trains, with through Pullman cars attached, between Chicago and Pittsburg. Be sure your ticket reads via "Picturesque B. & O."

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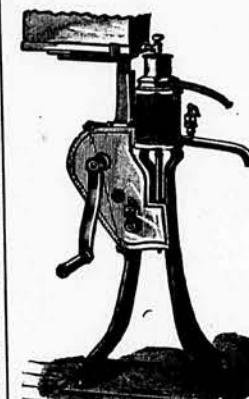
Readville Trotting Park, Mass., March 23, 1893.
Dr. S. A. Tuttle, V. S.—Dear Sir: I have used your Elixir for the past ten years, in the diluted form, for a leg and body wash. I consider it the best wash for keeping horses from soring up. Horses done up with this wash are much less liable to take cold than when done up with witch hazel or any other wash I ever used.

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Tuttle's Family Elixir cures Rheumatism, Sprains, and all joint affections. Sample of either Elixir sent free for three 2-cent stamps to pay postage. 50 cents buys either Elixir of any druggist, or sent direct on receipt of price.

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Transferring Bees.

Transferring bees from box-hives to movable-frame hives is almost a thing of the past, as the box-hive is but little used at present. However, a great many bees are hived in frame hives by the inexperienced and left to do as they please, and in many instances not even straightening the frames or spacing them as they should be. In this case the frame hive is of no benefit whatever, and is even worse than the box-hive. Transferring is the only remedy in cases of this kind, if we expect to derive any benefit from the movable frame. The best time to transfer bees is in early spring, about the time they are gathering their first honey; this is ordinarily at the time fruit trees are in bloom. The work can be done with much more ease and with better results at this season of year, as this is a time the occupants of the hive are fewest in number and the combs are lightest. It should be done at a time when the bees are gathering honey, as this enables them to do the work of patching up and repairing the combs more rapidly. Transferring is looked upon by the novice as a very severe task, and this is the reason so many bees are left to remain in the condition they are. This is a mistake, which any one will find if they once do this job. All that is necessary is to give the bees a thorough smoking until they have filled themselves with honey, which they will always do, and in this condition they will never venture an attack on you. You can thus take the hive apart and cut out the combs, fasten them in the frames by tacking strips of wood on each side or wrapping the frame with hard twine, thus holding the comb to its place until the bees fasten it, which they will do in twenty-four or forty-eight hours, when the fastenings may be taken off. When transferring a colony never change its location, but place it back in the place it formerly occupied.

Handling Swarms.

Swarming is one of the principal features of the apiary. Excitement is always at its highest enjoyment when the bees are swarming. Swarming is always a sure sign of prosperity in the apiary, and is always attended with profit if a little attention is given at the right time. I would not advise the prevention of swarming exclusively, in the course of management, whether for honey or increase. I can obtain more honey as a general thing by allowing very strong stocks to cast a swarm, and for successful increase enough swarming is necessary to obtain the required number of natural queen cells to supply colonies.

During the swarming season there is always danger of losses unless the bees are constantly watched, and we can be on the ground just when they began to issue from the hive, so that we can discover the queen, and see if she takes wing properly. If the queen cannot fly, she is liable to become lost, as she will travel quite a distance from the hive. Unless the queen is able to take wing with the swarm, the bees will invariably return to the hive again; but if she is discovered and secured, the swarm can be hived by removing the hive they issued from and placing the new hive on the old stand, and as they return liberate the queen with them.

The old idea of blowing horns, ringing bells and beating tin pans for the purpose of arresting swarms, has long since exploded. Nodoubt many swarms have been driven entirely off by such interference. The best thing you can have is a little force-pump and a pail of water. If this is not at hand, have a pail of dry earth, or a bucket of water and a tin cup; but never use anything unless you are satisfied the swarm is determined to leave you. When the swarm issues, quietly keep out of the way and await results. I am almost tempted to say, that in nine times out of a hundred the swarm will settle themselves. In this I mean

swarms when first issuing. Sometimes swarms, after being hived, become dissatisfied and re-issue and go straight off, but most cases of this kind are the result of mismanagement. But if you have made up your mind that the swarm is going to leave, take your pail of water and pump and spray them completely; or your dry earth and shower them with that; this will confuse them and bring them down, if you give them enough of it, and at this stage of proceedings it is well to have an assistant.

Every apiary should be well provided with alighting places for the bees. Where there is plenty of trees, vines and shrubbery, there is ample accommodations, but in the absence of these there may be provided posts set in the ground with cross sticks nailed on top, to which may be hung several wire cages, pyramidal shape, with the small end down, and hinged lids on the same; these must be made bee-tight. When the swarm is issuing, hold the cage open at the entrance, and catch as many bees as possible, and the queen, if you find her, and hang the cage on the post. The imprisoned bees will attract the swarm, and they will cluster on the cage.

Convenient Form of Feeding Candy.

As candy made from pure granulated sugar is the only feed we can use in safety for bees during winter, a very convenient form of using it is to mold it right into the frames, making a solid slab the size of the frame, and hang it into the hive the same as a frame of honey. Or divisions may be made in the frames, by making it into two or four compartments, if we do not wish to use as much as the full-sized frame. It may be molded in the ordinary section-box placed in the wide frames, and hung in the hives in the usual manner. After cold weather is over, it matters not as to the quality of feed we use. Any grade of sugar or sirup that bees will partake of readily will answer when bees are flying daily.

It is always a mistake to have any feeding of bees to do during winter. They should be fed in autumn, if they require any feeding at all. A colony should have twenty-five or thirty pounds of honey to safely go into winter quarters. If they have not this amount they should be fed before cold weather comes on. An ordinary colony of bees will store a gallon of sirup in twenty-four hours time, and often this amount in twelve hours; hence it is but a short job to feed them the required amount at the proper time.

A Horticultural Law Suit.

Possibilities, methods and limitations of plant improvement are suggested in the following account of a law suit recently commenced at New Ulm, Minn. Mr. H. Knudson, of Springfield, by experimenting with the blossom of a sand cherry and a Miner plum succeeded in producing a new fruit resembling both the parents, and likely to be very valuable, on account of its hardness and excellent quality.

Mr. Knudson had a friend at New Ulm, Mr. C. W. H. Heideman, an experienced horticulturist, who became much interested in the new hybrid, and secured grafts from the original tree for the purpose of experimenting, under the express agreement that he would not allow any grafts to pass out of his possession. But instead of this it is claimed that he commenced to propagate trees for sale, and now has several thousand young trees ready to put on the market this spring. In the meantime Mr. Knudson had sold the exclusive right to propagate this new variety of tree to Mr. C. W. Sampson, at Lake Minnetonka. The suit is commenced by Mr. Sampson and Mr. Knudson jointly to enjoin Mr. Heideman from selling any of the trees.

The defendant claims that the twigs which he cut from the original seedling died, and that the trees that he is about to put on the market are from a seedling originated by himself by the same process used by Mr. Knudson. He further claims that while his hybrid was obtained in the same way the fruit is quite different. Upon motion for temporary injunction the plaintiff pro-

duced the affidavit of Prof. S. B. Green, in which he gives the professional opinion that it is highly improbable that two separate fruit plants, differing as widely from the original species as the hybrid cherry in question does from the sand cherry, should have been originated by two different persons, working independently, and still be of the same variety, for if they differ as much from the original type as the cherry in question does, and are of the same variety as the cherry in question, "they must have originally come from the same cherry stone."

Mr. Clarence Wedge, one of the leading horticulturists of the State, who has examined the fruit and trees of both plaintiff and defendant, makes affidavit that in his opinion they are of the same variety.

Much interest is being taken in the case, not only on account of the bad faith charged against one of the leading horticulturists of the State, but on account of the interesting question as to the rights of originators of new kinds of fruit.

ONE HONEST MAN.

DEAR EDITOR:—Please inform your readers that if written to confidentially, I will mail in a sealed letter the plan pursued by which I was permanently restored to health and manly vigor, after years of suffering from Nervous Weakness, Loss of Manhood, Lack of Confidence, etc. I have no scheme to extort money from any one whomsoever. I was robbed and swindled by quacks until I nearly lost faith in mankind, but thank heaven, I am now well, vigorous and strong, and anxious to make this certain means of cure known to all. Having nothing to sell or send C. O. D., I want no money. Address JAS. A. HARRIS, Box 807, Delray, Mich.

THE STRAY LIST.

FOR WEEK ENDING APRIL 30, 1896.

Wallace county—W. E. Ward, clerk.

MARE—Taken up by F. F. Cuttler, one brown mare, age unknown, white spot on face and on nose, left hind foot white; valued at \$10.

FOR WEEK ENDING MAY 7, 1896.

Cowley county—S. J. Neer, clerk.

THREE MARES—Taken up by A. A. Knox, in Bottom tp. (P. O. Geuda), April 11, 1896, three bay mares, two blaze face.

HORSE—By same, one cream-colored horse, no marks or brands; four animals valued at \$60.

Thomas county—Ike W. Crumly, clerk.

MARE—Taken up by H. J. Davis, (P. O. Mingo), April 15, 1896, one black mare, fifteen hands high, weight 950 pounds, scar on left front foot made by wire; valued at \$20.

Neosho county—W. P. Wright, clerk.

PONY—Taken up by J. F. Heinewright, Jr., in Erie tp. (P. O. Erie), April 12, 1896, one gray pony mare, 12 years old, branded P. F. on left hip and unknown brand on left shoulder; valued at \$10.

PONY—By same, one brown pony mare, 8 years old, unknown brand on left shoulder; valued at \$10.

FOR WEEK ENDING MAY 14, 1896.

Cherokee county—T. W. Thomason, clerk.

HORSE—Taken up by S. C. Wells, in Shawnee tp. (P. O. Crestline), April 30, 1896, one roan horse, 2 years old, five feet high.

MARE—Taken up by R. J. Hiner, of Baxter Springs, May 4, 1896, one iron-gray mare, black mane and tail, fifteen hands high, 5 or 6 years old, shod all around.

FOR WEEK ENDING MAY 21, 1896.

Franklin county—J. K. Bailey, clerk.

PONY—Taken up by M. A. Smith, in Peoria tp., one chestnut sorrel mare pony, 10 years old, white face and both hind feet white, brand similar to D with bar underneath in right flank; valued at \$15.

MARE—By same, one black two-year-old mare, small star in forehead, both hind feet white; valued at \$9.

Chase county—M. C. Newton, clerk.

MARE—Taken up by W. C. Hagans, in Strong City tp. (P. O. Strong City), April 29, 1896, one mare, 8 years old, brand supposed to be T on right shoulder, white stockings on hind legs about to knees, left front foot white, collar mark on neck, foretop clipped off.

KANSAS HOME NURSERY now offers choice Berries and orchard fruits of all kinds in their season. Fresh shipments daily by express. Prices to applicants. A. H. Griesa, Box J, Lawrence, Kas.

Stack Covers Cheap!

Also Awnings, Tents and everything made of cotton duck. Every farmer should have a stack cover. Address best house in the country for these goods.

C. J. Baker, 104 W. Third St., Kansas City, Mo.

Windmill Owners

Can get a double-acting spring that stops all jerking, breaking, wearing of mill and expense bills. Sent on trial. So good, so cheap, they always stay. Agents wanted. Egis Mfg. Co., Marshalltown, Iowa.

RUSSELL'S STAPLE PULLER AND WIRE SPlicer

Drives and pulls staples, cuts and splices wire. Its special use is in building and repairing wire fences, but may be used for many different purposes about a farm. Saves its cost in one day's work. You can't afford to be without it.

Price \$1.25. Ask your hardware merchant for it.

Russell Hardware & Implement Manuf'g Co., Kansas City, Mo.

When you write mention Kansas Farmer.

FARMERS

DO YOU WANT TO BETTER YOUR CONDITION? If you do, call on or address: The Pacific Northwest Immigration Board, Portland, Oregon.

O.K. HAY PRESS

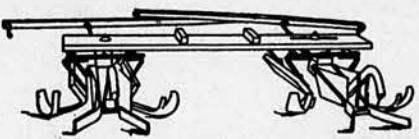
E-Z TERMS

Write for prices and our book, Story of a Hay Press. Scott Hay Press Co. 726 W. B St. Kansas City, Mo.

WOVEN WIRE FENCE

Over 50 Styles! The best on Earth. Horse high, Bull strong, Pig and Chicken tight. You can make from 40 to 60 rods per day for \$14 to 22c. a Rod. KITSELMAN BROS., Ridgeville, Indiana.

WARNER LISTER CULTIVATOR



Made to cultivate two and three rows at once and is self-adjusting to unevenness of rows. The knives cut all trash and clean furrow perfectly.

It is Easily Operated, Substantially Built and Warranted to do the Work.

No castings, all wrought-iron and steel. Ask your dealer for one.

WESTERN MANUFACTURING CO., Seventh and Wyandotte Sts., Kansas City, Mo.

BUY THE BLUE VALLEY FEED MILL



If you want a mill that will grind corn and cob and all small grains. The largest mill made, hence the greatest capacity. FULLY WARRANTED! Made in sweep and power styles and five different sizes. Write for illustrated circulars.

THE BLUE VALLEY MANUFACTURING CO., (Successors to Blue Valley Foundry Co.)

MANHATTAN, KANSAS.

SUMMER IN THE EAST The Ocean Resorts

Atlantic City, Cape May, Asbury Park, Ocean Grove, Long Branch, and resorts along the New Jersey Coast are on the Vandalia-Pennsylvania Lines, which lead from St. Louis to Newport, Narragansett Pier, Martha's Vineyard, Nantucket and popular watering places along the Atlantic from Chesapeake Bay to Maine.

In the Mountains

Cresson, Bedford Springs, Ebensburg, Altoona, and other resorts in the Alleghenies are also on the Vandalia-Pennsylvania Route, over which the White Mountains, the Adirondacks, Watkins Glen, Mt. Desert Island, and places of Summer sojourn in Eastern New York, Vermont, New Hampshire and Maine may be conveniently and comfortably reached from St. Louis.

For information concerning rates, time of trains and the first-class through service please apply to W. F. BRUNNER Assistant General Passenger Agent, St. Louis, Mo.

The Home Circle.

SHE DID AND SHE DIDN'T.

She sought her "rights,"
Robbed by some cruel chance of life's delights,
With a dissatisfied and restless soul,
With a half logic which she counted whole;
Earnest, no doubt, and honest, not unsexed,
But hungering and querulous and vexed,
With starving instincts in a fruitless frame,
And with an itching for the sort of fame
Which comes from the mere printing of a name,
She clamored for her "rights," showed solemn craft,

And men,
Brute men,
They only laughed.

She did not seek her "rights."
She dreamed not of some path to manly heights,
But followed nature's way, and deemed it good;
And bloomed from flower to fruit of womanhood;
She loved the "tyrant;" bore her noble part
In life with him, and thought with all her heart

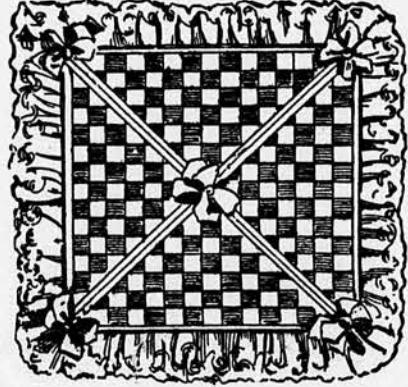
She had her rights.
She held that something men and women meant
To be unlike, but each a supplement
Unto the other; 'twas her gentle whim,
He was not more to her than she to him,
And little children gathered at her knee,
And men,
Brute men,
Would die for such as she.

Christian Intelligencer.

PRETTY RIBBON WORK.

Much Easier Than Embroidery But Quite as Pleasing in Effect.

Ribbons woven in and out in basket-work fashion furnish a resource for those who are tired of embroidery and want quicker and easier employment for idle fingers. They are thus used for pincushions, handkerchiefs and night-robe sachets, and for sofa-cushions. In



In the latter case the ribbons must be securely tacked down or they will be quickly rumpled and drawn out of place.

"After cutting a lining of silk," says an adept, "the shape and size you desire, you must tack alternate rows of different colored satin ribbons as close together as possible, beginning at the top of the lining, and cutting the ribbon off into lengths as you finish each row. Then begin to weave the two colored ribbons in and out, over the dark and under the light one way, reversing the order in the next row, so that squares are formed." The handkerchief sachet illustrated here is made of pale blue satin ribbon and silver braid of the same width. The corners must be bound with ribbon, and a frill of lace and some bows complete the pretty trifle.—N. Y. Tribune.

For the Favorite Corner.

Trophies of conquest in the shape of German favors, dinner cards, menus and souvenirs occupy an appropriate corner in the dainty boudoir of the debutante. Then there are ribbons rifled from the floral offerings on her first appearance in society; ribbons from bouquets she carried as bridesmaid; college and class badges, and a collection of unique objects, which recall certain events.—Form.

Orange Tartlets Are Tempting.

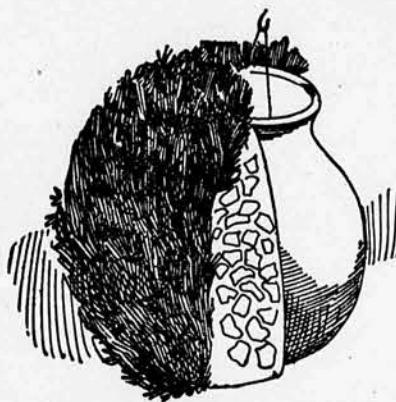
Orange tartlets make a dessert which the young people are sure to appreciate. Take the juice of two Havana oranges and the grated peel of one; three-fourths of a cup of sugar or one-half cup if the oranges are very sweet; one tablespoonful of butter, the juice of one-half a lemon to wet one teaspoonful of corn starch. Beat all well together and bake in tartlet shells without cover.

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

HANGING FERNERY.

A Beautiful Thing for Decorating a Window or a House.

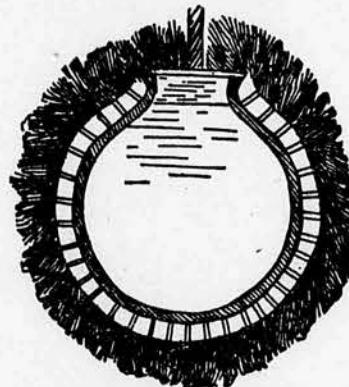
The hanging fernery is a very pretty and rather curious horticultural novelty. The idea was conceived by a California woman, and her idea proved such a happy one that she has reaped quite a financial harvest selling them. Only a few have found their way to the east, however, brought back by tourists. The foundation of the hanging fernery is a terra-cotta pot as nearly round as can be secured. Over this is



SHOWING THE MOSS AND NET.

placed a mat of moss, ferns and roots. This is held around the pot with a wire net, to which is also fastened a wire by which to hang the moss.

The hanging ferneries can be made any size or shape required, and of all the smaller varieties of ferns, such as maidenhair. Once started they are permanent if never allowed to become dry. These ferneries have remained green through summer and winter, putting out young fronds all the time, it being only necessary to remove the old ones



HOW THE WATER IS SUPPLIED.

as they fade. For table decorations they are lovely and can be suspended from chandeliers or from stands made to support them, only, if gas is used, they should be removed immediately after meals to a more congenial atmosphere. The water seeping through the porous vessel drops slowly from time to time; hence it is necessary to keep growing plants or some vessel underneath to receive the water, or the fern ball can be emptied before placing over the table and filled again as soon as the meal is over, and placed where the dropping will do no damage. In greenhouses, windows and for almost any house or veranda decoration they are very beautiful, and the small amount of care and attention they require is a great advantage.

CARING FOR GLOVES.

To Keep Them in Good Condition Follow the Directions Here Given.

Always stretch gloves out smooth and put in a box without doubling when removed from the hands. A nice addition to the glove box is a scented sachet, giving the gloves a delicate odor when worn.

An error that is commonly made is that of mending kid gloves with sewing silk, as the silk cuts the kid and shows the mend more plainly, while fine cotton thread gives a much more satisfactory result. If the gloves are torn, put a piece of silk of corresponding shade under the torn part, baste carefully so as not to reveal the stitches on the right side and then draw up the rent with cotton thread.

A few good glove cleaners are recommended, but it is generally better to send gloves to one who makes this his business than to experiment on them, for, like the mending, it is a trade in itself. But, whenever you do, take warning by the fate of a nice pair of

MILK IS AN EMULSION of butter. You don't need

to be told that milk is an easier food than butter. Scott's Emulsion is an easier food than cod-liver oil. It is half digested; almost ready to enter the blood and help make tissue, nerve and bone. It is rest for digestion; it stimulates, helps, restores digestion; and, at the same time, supplies the body with a kind of nourishment it can get in no other way.

Orange Cream Sponge Cake.

Mix by sifting three teaspoonsful of baking powder with 1½ cups of flour. In a separate dish beat three eggs until light; add 1½ cups of white sugar, one-half cup of water, and grated rind of half an orange. For the cream use one-half pint of milk, one egg, one teaspoonful of corn starch, one tablespoonful of flour, and beat other ingredients together. Add the milk and boil till thick. Flavor with grated rind of remaining half of orange; spread between layers.

How to Clean White Veils.

To clean white veils make a solution of white castile soap and let the veil soak in it 15 minutes. Then press it between the hands in warm water and soap until clean. Rinse in clear water, then pour boiling water on a teaspoonful of starch, soak the veil in it for a few minutes and then clap it between the hands until nearly dry. Spread a towel over a pillow and pin the lace in each smoothly over it and let it remain until perfectly dry.

Potatoes à la Maître d'Hotel.

Boil the usual quantity of potatoes for a dish; peel and cut them into slices rather thicker than for frying; put them in a stewpan with two ounces of butter, and when that is dissolved add two tablespoonsfuls of bouillon, a teaspoonful of salt, half as much pepper, a teaspoonful of minced parsley and chives and half a teaspoonful of vinegar. Shake the pan round, and when quite hot serve the slices in the sauce.

NERVOUS DEBILITY.

Very Common During Hot Weather of Early Summer.

The symptoms are twitching of the eyelids, moving, brown specks before the eyes, and metallic ringing in the ears, sour stomach after eating, with belching of gas, a feeling of great weight in the stomach, morbid fear of leaving home, a constant desire to talk of their symptoms, chills and hot flashes, hands and feet usually cold and clammy, general tendency to dryness and coldness of the skin of the whole body, neuralgic headache, nervous chills, hysteria, sinking and faint spells, distressing palpitation of the heart, inability to read, write or do any business, urine abundant, without color, loss of flesh, sleeplessness, and sexual excitability. Some of these symptoms are present in every case.

Mrs. Hannah Lind, of 1182 East Long St., Columbus, Ohio, writes: "I was for many years a victim of nervous prostration and neuralgia. I would have spells, during which my suffering was great. All sorts of treatment was tried from which I received little or no benefit. At last I was induced to try a bottle of Pe-ru-na, and after using two bottles of this medicine I found myself more improved than from all the other treatment I ever received. I believe it to be the best medicine for the nervous system that I have ever known. I would heartily recommend it to all people who are suffering from any form of nervousness. I can hardly estimate the value Pe-ru-na has been to me."

For free book on diseases peculiar to hot weather send to The Pe-ru-na Drug Manufacturing Company, Columbus, Ohio.

DIRECTIONS.

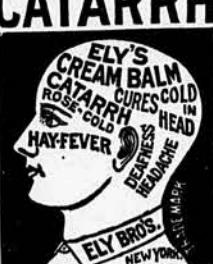
Apply a particle of the Balm directly into the nostrils. Draw strong breaths through the nose. Use three times a day, after meals preferred, and before retiring.

CATARRH

ELY'S CREAM BALM

Opens and cleanses the Nasal Passages, Alleviates Pain and Inflammation, Heals the Sores, Protects the Membrane from Colds, Restores the Senses of Taste and Smell. The Balm is quickly absorbed and gives relief at once. Price 50 cents at Druggists or by mail.

ELY BROTHERS, 56 Warren Street, New York.



COLD IN HEAD

The Young Folks.

WHISTLERS VS. WHINERS.

The whistlers and the whiners
Chose sides one sunny day.
"We'll show 'em," said the whistlers,
"Who beats at work or play?"
They hied them to the contest—
Hoeing a field near by;
'Twixt whistlers and the whiners
Divided equally.

The bonny whistlers whistled
"The Merry Farmer Boy;"
The chronic grumblers grumbled
E'en at the whistlers' joy.

Ere three o'clock had sounded,
The whistlers' task was done;
The whiners, worn and weary,
Toiled on till set of sun.

The merry whistlers shouted
In rousing chorus all;
"Whoop, whoop, hurrah! my hearties,
Now for a game of ball!"
—Mildred Merle, Belmond, Iowa.

WATER UPSIDE DOWN.

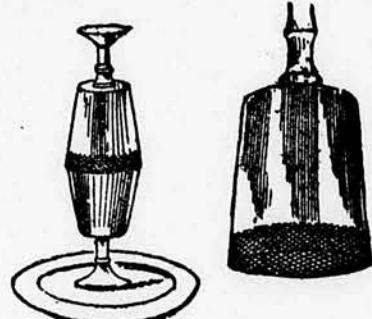
A Very Pretty Scientific Experiment for Young People.

A pretty bit of scientific recreation which comes in handy after dinner is sometimes dignified with the classical title of "The Revenge of the Danaides" in allusion to the daughters of Danaus, who, as punishment to their crimes, were condemned to forever draw water with leaky vessels.

Fill completely two glasses of exactly the same size and shape, one with water, the other with wine. Stretch over the mouth of the glass containing the water a circular covering of tulle, somewhat larger than the glass and previously moistened.

Now smooth the lapping over the tulle as closely to the glass as possible, and, applying the palm of the right hand squarely to the mouth of this glass, seize the stem with the left and turn it quickly upside down, avoiding the entrance of the air.

Next, slide the right hand softly away from underneath, and, much to your astonishment, the tulle will remain adherent to the glass, while not a drop of water will fall out through that



A PRETTY EXPERIMENT.

exceedingly leaky tissue. You will very soon succeed in this experiment.

Hereon follows the second part: Place your full, but not dripping, glass of water, thus turned upside down, but not inside out, over the full glass of wine, and you will soon see little jets of ruby penetrating the tulle in every direction. It is the wine, progressively mounting the superior glass, which in the same proportion yields water to the lower glass in the opposite direction.

At the end of about a quarter of an hour the exchange will be complete, and you will see the lower glass filled with pure transparent water, while the upper one will be chock full of good, red wine.

A Kentucky Tramp's Ruse.

A tramp visited all the houses of a small town near Louisville, Ky., and begged from every kind lady he met a postage stamp, with which to write a letter to his sick mother. He got the stamp, or its equivalent, every time, and went out of town with nearly five dollars in his pockets as the result of his successful ruse.

Clever Boys Can Do This.

John Whalen, who is serving a year's sentence in the Cook county jail, Illinois, has made a handsome and unique picture frame from cigar boxes. The frame is 20x24 inches in size, and contains nearly 2,000 pieces of wood, beautifully carved. A common pocket-knife and a small hammer were Whalen's only tools.

If you desire a luxuriant growth of healthy hair of a natural color, nature's crowning ornament of both sexes, use only Hall's Vegetable Sicilian Hair Renewer.

THE GENTLEMAN APE.

Consul Was One of the Brightest Monkeys Ever Exhibited.

Consul, the gentleman ape, one of the brightest monkeys in the world, recently died in Manchester, England. The New York Journal says there was never an ape more polished in his manners or more punctilious in his dress or more considerate of the feelings of others.

Consul was born in Central Africa, and, like many others of his kind, led a wild, roving life for a number of years. Nothing is known of his parents, except that, owing no doubt to the constant sultriness of the weather in that region and to a custom that had long prevailed among its inhabitants, they wore no clothes. But one day Consul unexpectedly encountered a very beau-



CONSUL, THE GENTLEMAN APE.

tiful chimpanzee, whose name was Miranda.

Consul had never seen such a beautiful chimpanzee before, and he fell deeply in love at first sight. Miranda returned his regard, but she had become attached to the household of a British trader, and she insisted that she would not live elsewhere.

Miranda took great pleasure in instructing Consul, and it was not long before he could eat raw eggs, drink from a teacup and smoke a pipe—accomplishments which were shared in a higher degree by his wife, Miranda.

Some years after this, in 1893, Consul accept an engagement with the Zoological gardens at Manchester, it having been agreed that, in return for board and lodging and care in sickness, he was to exhibit his performances in public. The managers of the gardens, not being aware of Consul's high moral character, and fearing that he might leave the premises at the first opportunity, locked the door of his apartments on the first night of his arrival. This was an indignity which the newcomer took immediate measures to resent and to correct. Having read some of the marvelous tales about how certain prisoners had escaped from their cells by oddly improvised tools, he set to work on a teaspoon and in a short time had devised a very serviceable chisel.

With the aid of this instrument he soon regained his freedom, and since that date never knew confinement. Until the time of his death Consul might have been seen any fine day, gravely parading the walks of the gardens in a gorgeously decorated coat, stockings and shoes, wearing a comfortable soft hat and leaning on a cane. Occasionally he smoked a pipe, and he always had a pleasant word for those whom he met, whether they were within or outside of cages. And it was with the greatest sorrow that the people of Manchester heard the news of Consul's death.

NEW OUTDOOR GAME.

English Children Like to Play It in the Days of Early Spring.

Tip and run is a game our English cousins are just learning—both boys and girls. It resembles cricket, so some one says, as a caricature resembles its original.

It is a game to play early in the spring, before cricket or tennis can be thought of, and it has this advantage over golf, that it can be played on lawns or garden plots without damage to the turf.

Tip and run involves much exercise of a rather severe kind.

This is the manner of it: The fair guardian of the wicket, armed with a bat or even a racket, takes her stand,

and as soon as she has hit the bowler's ball, is bound to run as fast as she can between the wickets, as failure to hit or to run involves discomfiture and an immediate successor at the bat.

The score mounts up rapidly, as an expert batswoman hits each time and flies to and fro like a ball herself, until she can be dislodged by three successive failures to hit her ball. The other players field out, with a success generally less than more. Bowling usually taxes the skill of fair players more than batting. They do not, as a rule, bowl with the mechanical skill which marks the masculine player.

Eleven is the proper number for each team to tip and run; when men are permitted to reinforce the eleven, they play left-handed or bat with broomsticks. But, even thus handicapped, they often seem to be more than a match for their fair antagonists, though there be elevens, and there are those, who can well hold their own upon the level green, and are afraid of no man's prowess and understand all the intricacies of the game.

The maiden possessed of Atalanta's speed and grace will doubtless prove the prize player at tip and run, but every girl who indulges in the game will find herself the better and the rosier for the fresh air, sunshine and exercise it gives her.—Chicago Inter Ocean.

SEVEN INCHES LONG.

Abnormal Nasal Appendage of Thomas Wedders, a Yorkshireman.

Abnormal noses frequently set all canons at defiance by being hugely significant of just nothing at all.

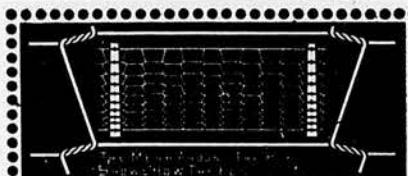
Early in the last century a man, Thomas Wedders (or, rather Wad-



THOMAS WEDDERS.

house), with a nose 7½ inches long, was exhibited throughout Yorkshire, says the Strand Magazine.

Thus if noses were uniformly exact in representing the importance of the individual, this worthy ought to have amassed all the money in Threadneedle street and conquered all Europe, for this prodigious nose of his was a compound of the acquisitive with the martial. But his chin was too weak or his brow too low, or nature had so exhausted herself in the task of giving this prodigy a nose as to altogether forget to endow him with brains; or, perhaps, the nose crowded out this latter commodity. At all events, we are told the Yorkshireman expired, nose and all, as he had lived, in a condition of mind best described as idiocy most abject.



Keystone Woven Wire Fence

Will turn your stock. Perfectly safe. 25 to 58 inches high.

If interested drop us a card and we will mail illustrated catalogue.

KEYSTONE WOVEN WIRE FENCE CO.,
12 Rush St., PEORIA, ILL.

KENDALL'S SPAVIN CURE. Certain in its effects and never blisters. Sold everywhere.



Avoid Complications

As you would avoid a plague. A complicated grain harvester is a plague. True words were never written than those of the late Dr. Holmes, when he said "The more wheels there are in a watch or in a brain, the more trouble they are to take care of." The simplicity of McCormick Harvesting Machines has won for them thousands of friends. The new Open Elevator is the simplest of harvesters and is not subject to the disorders and disarrangements resulting from the complicated construction of so many so-called grain cutting machines. There's nothing complicated about McCormick Mowers, either. They need oiling occasionally, but they don't bind, clog-up and "go to smash," after the manner of the ordinary mower. Same is true of the McCormick Corn Harvester. Its construction embodies the only correct principle—the only principle that will work in a Corn Harvester.

The new McCormick Light-Running Open Elevator Harvester and Binder, the McCormick No. 4 Steel Mower, and the McCormick Corn Harvester are unequalled for capacity, light-draft, efficiency of service and long life. Built, sold and guaranteed by the McCormick Harvesting Machine Co., Chicago.

Agents everywhere.

Washburn College, Topeka, Kansas.

For catalogue, address the Registrar, Washburn Academy. For information, address the Principal.



Wanted, an Idea. Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write John Wedderburn & Co. Patent Attorneys, Washington, D. C., for their \$1,000 prize offer and list of 200 inventions wanted.

A quarter spent in Hires Rootbeer does you dollars' worth of good.

Made only by The Charles E. Hires Co., Philadelphia. A 25c. package makes 5 gallons. Sold everywhere.



"JONES HE PAYS THE FREIGHT." Farm and Wagon SCALES. United States Standard. All Sizes and All Kinds. Not made by a trust or controlled by a combination. For Free Book and Price List, address JONES OF BINGHAMTON, Binghamton, N. Y., U. S. A.



OUR GRAND OFFER. FREE One of these \$7.50 watches and a chain, if you buy or sell SIX WATCHES TO-DAY, as this price holds good for 60 days only. ROYAL MFG. CO., 507 Unity Bldg., Chicago, Ill.

Topeka Business College
TOPEKA, KAN. EST. 1887 BUSINESS, SHORTHAND, PENMANSHIP COURSES.

KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Thursday by the

KANSAS FARMER COMPANY.

OFFICE:

No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

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

Address KANSAS FARMER CO., Topeka, Kansas.

ADVERTISING RATES.

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

Special reading notices, 25 cents per line.

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

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

Electros must have metal base.

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

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

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

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

Address all orders—KANSAS FARMER CO., Topeka, Kas.

The semi-annual meeting of Kansas State Horticultural Society will be held at Iola, Allen county, on June 11 and 12, 1896.

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

A tornado in Marshall county, Kentucky, last Sunday, killed five persons, injured many more, and destroyed a vast amount of property.

A violent tornado visited Sherman, Texas, and vicinity last Friday. Over 200 persons were killed and many more injured and much property was destroyed.

A tornado visited northeastern Kansas and southeastern Nebraska last Sunday evening, sweeping through a large extent of country and taking ten towns in its path. Nineteen persons are now dead from the storm and hundreds of families are homeless. It passed through Miltonvale and swept on in a northeasterly direction, through Bigelow, Frankfort, Baileyville, Seneca, Oneida, Sabetha and Reserve, in Kansas, and Falls City and Preston, in Nebraska.

Those of our friends who are about to renew their subscriptions will do well to note the following clubbing list—KANSAS FARMER one year and any of the following at prices named: The Weekly Inter Ocean, \$1.35; New York Tribune, \$1.25; Topeka Capital, \$1.50; Topeka State Journal, \$1.50; Topeka Advocate, \$1.50; Kansas City Journal, \$1.30; Kansas City Star, \$1.25. Our columns have been so crowded for the last few weeks that it has not been possible to run advertisements of our premium offers. But by referring back a few weeks you will find them. Our subscription list is doing remarkably well, but we can always stand a little more of this kind of prosperity.

It was currently estimated, about the time of the latest issue of bonds, that there was in the United States about \$600,000,000 of gold. The Treasury figures of May 1 place the amount at \$589,820,994 in coin and \$29,054,663 in bullion, or a total of \$618,875,657. The Treasury Department's monthly summary for March, 1896, gives, on page 1100, the following as the excess of exports over imports of gold for the years as follows:

Twelve months ending December 31, 1892.....	\$59,081,110
Twelve months ending December 31, 1893.....	7,013,431
Twelve months ending December 31, 1894.....	81,212,383
Twelve months ending December 31, 1895.....	72,066,287

The production of gold in the United States made a phenomenal advance last year and reached about \$50,000,000. Some of this was used in the manufacture of jewelry, etc., and some went to increase the stock available for money and for export. But if it had all been made into money it would not have been sufficient to meet the demand for export.

THE MORTGAGE REDEMPTION CASE AGAIN REVERSED.

In 1893 the Kansas Legislature enacted a law which provided that in case of sale of mortgaged real property under foreclosure the mortgagor should have eighteen months instead of six months in which to redeem the property, by paying the amount for which it was sold under mortgage, with interest and costs, and that during these eighteen months the mortgagor should remain in possession of the property.

A case known as the Barnitz and Beverly case was tried in the Shawnee county District court. The court held that in so far as it applied to mortgages entered into prior to the enactment of the law it was in violation of the constitution of the United States, wherein it provides that no State shall pass any bill or law impairing the obligation of contracts. [United States constitution, article 1, section 10.]

The case was taken to the Kansas Supreme court and a majority of the court held the new redemption law unconstitutional in so far as it applied to mortgages in existence at the time the law was enacted. The opinion of the court was written by Chief Justice Horton, Justice Johnston concurring and Justice Allen dissenting.

Subsequently a rehearing of the case in the Supreme court was had, and in the interim Chief Justice Horton had resigned and the present Chief Justice, David Martin, had been appointed. In an elaborate and scholarly opinion written by Chief Justice Martin, it was held that the law was not unconstitutional, that it did not impair the obligation of the contract, but simply made changes in the remedy. Justice Allen concurred in this opinion and Justice Johnston dissented.

The case was then taken to the Supreme court of the United States, and an opinion has just been rendered by Judge Shiras of that court, which reverses the later decision of the Kansas Supreme court and holds the law unconstitutional as applied to mortgages in existence at the time of its passage.

Other States have recently enacted laws similar to the Kansas law, and the Supreme courts of those States have held with the Kansas Supreme court that these laws were constitutional. This latest decision of the United States Supreme court reverses all of these decisions.

GOVERNMENT SEED DISTRIBUTION.

Secretary of Agriculture Morton has no end of trouble about the distribution of seeds. With much reason the present Secretary is opposed to government distribution of seeds of common plants, such as can be secured easily and cheaply in all parts of the country through the ordinary channels of trade. But being, or at least appearing to be, somewhat puffed up with the idea of his own greatness and wisdom, the Secretary undertook the unwise policy of nullifying, or at least disregarding, the law which made it his duty to distribute these seeds. Congressmen who had considered free seeds with which to recognize the friendship of farmer and some city supporters by sending, at government cost and postage free, a neat package to an active friend here and there, were not to be thus summarily cut off from this means of electioneering, and Secretary Morton soon found himself in a Congressional war kettle. The little Secretary found himself obliged to yield to the storm and to purchase and distribute seeds according to law, very much as his predecessors had done.

Next he was charged with favoritism in the purchase of seeds, and some of the big seed concerns which failed to get contracts made the little man from Nebraska feel as if the whole earth were falling upon him. He has been deluging the agricultural press with circulars explaining all about it to such an extent that the editors' wastebaskets have been burdened.

Finally the Senate got after him for being too slow in the execution of the law. That august body passed a resolution directing the Secretary of Agriculture "to immediately communicate to the Senate the reasons for the delay in supplying seeds for distribution."

After a delay of a month and a day the high and lofty Secretary, by his assistant, sent a very humble explanation, which reads much like that of a truant school boy who has been whipped and don't want to be whipped again. True to his instinct of appealing to the press, this explanation is embodied in a circular and, with some reproductions of photographs of seed envelopes which have been sent out, franked to the agricultural papers.

The part of the circular which is really interesting and valuable to the general reader is the last paragraph, which will doubtless be seized upon by those who want the government to go into business generally as an illustration of the economy of the commercial plan. The paragraph is as follows:

"To satisfy inquiries as to the relative cost of seed and packing, it may be stated that last year, with the less perfect facilities enjoyed by the department, it cost to pack and prepare for distribution 9,528,653 papers of seed, \$48,446.32. The cost of the work this year will doubtless, owing to the facilities and trained workers of the present contractors, be considerably less, but can hardly be less than a third of the total cost, \$80,000, leaving as the cost of the seed actually received by the persons favored about \$53,000, or about one-half a cent per paper, or 2½ cents in all for each person."

HOW POLITICAL SENTIMENT IS MANUFACTURED.

The reader of papers is often unaware of the methods by which people interested in the propagation of certain ideas bring their views before the public. Public sentiment is greatly modified by what is printed and read. Therefore, those who are interested in schemes the profit of which depends upon the spread of certain ideas, are ever ready to pay for the insertion of their literature in widely-circulated papers, especially if it can go in under the guise of disinterestedness.

Just now there is a strong monetary interest which is opposed to the free coinage of silver. The schemers who profit by the low prices of products of labor, or what is the same thing, the high prices of money, resulting from the single gold standard, are very much exercised lest the people will at the next election sweep the entire single standard iniquity from the country. These interested parties are willing to be at considerable expense, and under the name of "sound currency" are proposing to reach the people through the press. The KANSAS FARMER has just received a proposal from the "Sound Currency" committee, in which it offers to furnish ready-set matter—a page every two weeks—free of all expense except the express charges. It is also proposed to furnish us ready-set speeches of Carlisle and others. The assurance is given that all of this matter is strictly non-partisan.

But the editor of the KANSAS FARMER proposes to write the editorials for this paper and presumes that he is at least as non-partisan in declining the "Sound Currency" committee's propositions as that committee is in making them.

CHEAPER SUGAR.

A bill has recently passed the German Reichstag (Congress) increasing the export bounty on sugar which that country pays. This export bounty has enabled the German producer to place his sugar on the American market at prices with which our producers can scarcely compete. The additional bounty is practically equivalent to taking still more from the price at which the sugar is sold here.

If the German government desires to pay its sugar-producers for producing the sugar we need and enabling them to present it to our people, it may be just as well that we be magnanimous and eat it to please the Teuton. In the meantime, however, the American sugar industry must languish unless bolstered up by still further "protection."

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

FALL FESTIVITIES.

Topeka is getting ready for a gala time next fall, and expects to invite everybody and all his friends to come to the capital city to help celebrate. The State Horticultural Society has determined to assist to the extent of making a grand exhibit of the horticultural products of Kansas. The exhibition will be free and will be held in the large rooms lately finished for the Secretary of State, on east side of ground floor, in north wing of the State house, from 9:30 a. m. to 10 p. m., September 28, 29, 30 and October 1, 2 and 3.

Shawnee County Horticultural Society has signified its intention to help by appointing the following prominent horticulturists to assist the State society in making this exhibit: A. H. Buckman, Mr. Armstrong, Philip Lux, A. B. Smith, Topeka; Mr. J. F. Cecil, Mrs. J. F. Cecil, North Topeka; A. L. Entsminger, B. F. Van Osdal, Silver Lake; J. L. Jordan, Wakarusa; A. E. Dickinson, Meriden; W. H. Coulter, James Priddy, Liberty Stock.

The following officers of the State Horticultural Society will render every assistance possible: Fred Wellhouse, President; Edwin Taylor, Secretary; William H. Barnes, Acting Secretary. Address all communications to the State house.

SPRAYING.

There is now ready for distribution by the United States Department of Agriculture to all applicants a bulletin on "Spraying for Fungous Diseases"—No. 38 of the Farmers' Bulletin series. It is four years since there was published in a former bulletin "a summary of the more important methods of combating some of the destructive diseases of fruits." During this time many improvements have been made in the work, and for this and other reasons it seems desirable to now bring together, in brief, practical form, our present knowledge on the subject. The question as to whether it will pay to spray has long since been answered in the affirmative, so it is not necessary at this time to enter upon any argument in regard to this phase of the subject.

"During the past four years numerous solutions, powders, etc., have been tested, with a view of determining their value as economical, effective and practical preventives of fungous parasites. While a number of these preparations have given promise of value, none have been found which fill so many requirements as Bordeaux mixture and the ammoniacal solution of copper carbonate. Of the two preparations, Bordeaux mixture has long been recognized as possessing the most valuable qualities, and it is probably more generally used to-day than all other fungicides combined. The chief points in its favor are (1) its thorough effectiveness as a fungicide, (2) its cheapness, (3) its safety from a hygienic standpoint, (4) its harmlessness to the sprayed plant, and (5) its beneficial effects on plants other than those resulting from the mere prevention of the attacks of parasites.

"So far as we are at present concerned, therefore, it is necessary to consider only the two fungicides in question, setting forth the recent improvements made in preparing and using them."

The contents of the bulletin are as follows: Fungicides or remedies for plant diseases; methods of applying fungicides; treatment of grape diseases—black rot, downy mildew, powdery mildew and anthracnose; treatment of apple diseases—apple scab, bitter rot and powdery mildew; treatment of pear diseases; treatment of quince, cherry and plum diseases.

EDITOR KANSAS FARMER:—When is the proper time to plant late potatoes here in Leavenworth county? A SUBSCRIBER, Ruble, Kas.

Late potatoes may be planted May 20 to June 20.

How Large a Jumbo?

EDITOR KANSAS FARMER:—Can any of the readers of KANSAS FARMER tell me how large to build a "Jumbo" windmill to pump water from forty to fifty foot well, using three and one-half inch cylinder, one and one-fourth pipe, and what speed will it run?

Riverton, Neb. F. M. HOPKINS.

THE FILLED CHEESE BILL.

This important measure, now pending in the United States Senate, has been reported favorably and will come before that body under favorable conditions. The present status of the bill and the necessity for action by its friends are well set forth in the following letter:

HOUSE OF REPRESENTATIVES,
WASHINGTON, D. C., May 14, 1896.

EDITOR KANSAS FARMER:—The Finance committee reported favorably to the Senate the "filled cheese" bill, which passed the House of Representatives with two amendments, as follows: The license fee for manufacturers is placed at \$240, instead of \$400; wholesale dealers \$200 instead of \$250 per annum. This change is a trivial one and does not affect the principal object of the bill, as all protective provisions relative to branding, penalties, etc., remain unchanged.

It is prevalent with many that United States Senators are not governed in their course by the sentiment of the people. I do not believe this to be true, but the men who compose the personnel of this body, the highest branch of our Legislature, which are selected to guard the people's interest, will listen to their appeals when made in the proper spirit and manner, in order to restore a fast declining and almost ruined industry to its former prosperity and to protect the public from being imposed upon by having only imitation product of human food palmed off upon them for the genuine one at or about the same price of the latter.

The vote in committee stood five in favor and four against a favorable report. This small majority means a hard fight yet on our hands and encouragement to the opposition, hence every friend of pure food must assist us by urging the Senators from their State to vote and work for the bill. Granges, dairy associations, trade exchanges and the press, agricultural and all others, should not only wire but urge their readers to do so at once to their Senators, as suggested above.

Delay is dangerous. Prompt, quick, effective and earnest work will insure success. Senator Morrill, of Vermont, chairman of the committee, Senators Allison, Sherman, Aldrich and Platt, who vote to report the bill, have by that action secured the gratitude of every agriculturist and lover of pure, honest legislation in the country, and, in my judgment, there will be plenty of others who will reap the same reward by their hearty support of the measure on the floor of the Senate. Let them know what you expect without delay.

Yours truly,
D. F. WILBER, M. C.

Onion Culture.

"There are few vegetable crops of more importance to the rural population of the United States than the onion crop. The relatively large profits which it is possible for the skillful grower to obtain from a limited area have rendered the cultivation of this bulb especially popular with those possessing small tracts of land, while gardeners residing in localities whose soils and climate are pre-eminently adapted to onion culture have found it profitable to till large areas. Twenty-five to 100 acres in one field is not an unusual thing in such localities. Large yields overstock the market some years, resulting in very low prices; but the prices received during a series of years make onion culture, as a rule, a profitable enterprise where the soil and climatic conditions are favorable.

"Notwithstanding the extensive production of onions in the United States, hundreds of thousands of bushels are annually shipped to our ports from Bermuda, France, Spain and Cuba. This fact demonstrates that the home demand at all seasons of the year is not yet fully supplied by growers of our own country. The bulbs of foreign varieties are superior in quality to those originated in this country—such as the Yellow Danvers, Red Westerfield and Silver Skin. The imported bulbs are also placed on the market before the gardeners in the North can mature their crops, but the long sea-

son of California and certain parts of the South renders it possible for these sections to cultivate successfully the foreign varieties and mature the onions almost, if not quite, as early as the countries named."

The above is the introduction to Farmers' Bulletin No. 39, "Onion Culture," by R. L. Watts, instructor in horticulture at the University of Tennessee and horticulturist of the Tennessee Agricultural Experiment Station. The bulletin has thirty-one pages and three illustrations, and considers such topics as selection and preparation of soil, fertilizing, cultivating the crop, selection of seed and of varieties, growing onions from sets and from seed, transplanting, irrigating, harvesting, production of onion seed, and mentions two important enemies of the onion.

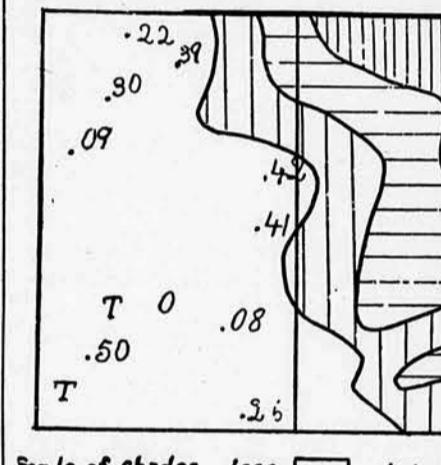
This bulletin is for free distribution, and requests should be addressed to the Secretary of Agriculture, Washington, D. C., or members of Congress.

Weekly Weather-Crop Bulletin.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending May 18, 1896, prepared by T. B. Jennings, Section Director:

GENERAL CONDITIONS.

The mean temperature for the week is slightly below normal in the western division, about normal in the middle, and above normal in the eastern division. Heavy rains have been general in the eastern and middle divisions, with moderate rains in the northeastern counties of the western, and lighter



ACTUAL RAINFALL FOR WEEK ENDING MAY 16, 1896.

showers over the rest of the western division.

RESULTS.**EASTERN DIVISION.**

The rains have generally stopped cultivation and the chinch bug. A fine growing week. Wheat ripening in the south and heading in the north. Oats heading in south. Fruit in very good condition, except apples, which were damaged by worms. Corn is being damaged by cut-worms in Allen. Flax, gardens, pastures and potatoes are in fine condition.

Allen county.—Too wet to cultivate; flax and clover best ever seen here; cherries and mulberries ripening, strawberries plenty; corn much damaged by cut-worms, some fields being replanted.

Bourbon.—Corn mostly planted and is being cultivated, early-planted a good stand.

Brown.—Ground better soaked than for four years; corn generally a good stand and doing well; wheat heading, some injured by chinch bugs.

Chautauqua.—Too wet to cultivate; wheat looks fine; corn making rapid growth; oats injured by chinch bugs; the worm has badly injured the apple crop; other fruit doing well.

Cherokee.—Everything looking fine; wheat being injured by bugs; berry crop large.

Coffey.—Too wet to cultivate; crops doing well, weeds better; grass fine; apples scarce, peaches good, grapes setting full.

Douglas.—Crops all looking well; some of the corn has been cultivated twice.

Johnson.—Too wet for corn; weeds growing rapidly, everything else growing finely.

Lambette.—Too wet to cultivate; wheat rusting; high water has destroyed many crops in the bottoms; pastures good.

Lyon.—Weeds growing fast in corn;

apples suffering from worms; chinch bugs have injured the oats.

Marshall.—Very wet week; all crops doing fine; too wet to cultivate and corn getting weedy; soil wet deeper than in past five years.

Montgomery.—Crops in much better condition than last week; these rains will make the wheat; oats light; fruit injured by high wind.

Osage.—Growing week; some corn being cultivated the third time; some fruit shaken off by high winds; pastures fine; gardens splendid.

Pottawatomie.—A rainy week; all crops doing well; corn partly plowed, with some not yet planted—too wet.

Wilson.—Early corn knee-high; good week for work; wheat and rye soon ready to harvest; oats headed; potatoes in bloom; pastures and gardens fine.

Woodson.—Too wet to work, but corn generally clean; oats and flax doing extra well; outlook for big hay crop.

MIDDLE DIVISION.

Crops have been greatly improved by damp weather and rain, more so in the eastern and northern counties than the western and southern. Cereals, fruits, pastures and gardens have made rapid strides. The severe hail storm of the 15th practically destroyed all crops in its path, which was from two to five miles wide, in Rice, McPherson and Marion. Cut-worms are damaging the corn in Osborne, Ottawa, Pratt and Stafford.

Barber.—Continuous strong winds; corn, cane and other crops doing well except where swept by the winds; rain came too late to save early wheat, but with favorable weather the later sowing may make a good crop.

Barton.—A damp week, ending in a good rain; results will develop in next

Washington.—Too wet to work; early corn ready to cultivate; grass and grain growing rapidly.

high winds is now heading short; cut-worms working in corn and some pieces will be replanted.

Pawnee.—All stone fruits set heavy; pastures fine; we must have rain soon to give us a crop.

Phillips.—Wheat, oats, rye and corn never looked better; fruit, alfalfa and gardens fine.

Pratt.—Corn, fruit, Kaffir corn and gardens in good growing condition; oats not so well; wheat poorly indeed; cut-worms and potato bugs doing damage in localities.

Reno.—Good growing week; wheat badly damaged by last week's drought; fruits light, except peaches.

Rice.—Crops good except in hail district in east part of county, cutting everything in its path to the ground.

Russell.—Growth of grain very rank; rye heading.

Saline.—A wet week; wheat prospects improved greatly.

Sedgwick.—Rains have probably killed the chinch bugs; farmers cultivating corn.

Stafford.—Crop conditions greatly improved; ground now in good condition; cut-worms doing great damage to late corn, taking many fields clean.

Sumner.—Good growing weather; wheat and oats a foot high and heading.

Washington.—Too wet to work; early corn ready to cultivate; grass and grain growing rapidly.

WESTERN DIVISION.

The cool week with much cloudiness has been quite favorable to small grains, but a little cool for corn. Crop conditions are more favorable north of the Arkansas than south of it. Range grass in general is very good, affording abundant pasture for stock.

Decatur.—Crops in fine condition; good week for wheat; corn all planted and most of it up; close to frost 12th and 13th.

Clark.—Dry; all crops and grass need rain badly; small grain ruined.

Finney.—All farm crops looking well; apples not so full as expected but will be all the better.

Ford.—Alfalfa being harvested; all crops look first-class; fruit prospects bright; pastures very good.

Grant.—Soil in good condition; planting still going on rapidly; too cool for rapid growth.

Kearney.—Cool and cloudy; moisture desired but warm weather more.

Morton.—Cloudy, with but little rain, good for planting and growing; pastures fine; gardens fair; will be a few mulberries and peaches.

Ness.—The cool weather of past few days has decidedly improved wheat.

Sheridan.—Crop prospects generally good; corn-planting about done, the corn is coming up and looks well; potato bugs are bad on potatoes; range grass good; garden and fruit prospects good.

Thomas.—Early winter wheat beginning to joint; all spring grains doing well; weather is cool for corn; grass abundant and stock doing well.

Trego.—Past four days favorable for reviving grain crops.

Wallace.—Everything growing fine; barley-sowing and corn-planting about done; corn coming up nicely; wheat, oats and barley that is up are looking fine; alfalfa in bloom, begin cutting next week.

SINGERS AND ARTISTS GENERALLY are users of "Brown's Bronchial Troches" for Coughs, Colds, Hoarseness and Throat Irritations. They afford instant relief. Avoid imitations.

"Dairying for Profit, or the Poor Man's Cow," is practical, was written by a woman who knows what she is talking about, and is cheap—only 10 cents for a 25-cent book, to subscribers for the KANSAS FARMER. Send to this office.

Millions of Gold

In sight at Cripple Creek, Colo. Only twenty-three hours from Topeka by the Santa Fe Route, the only broad-gauge route passing right by the "Anaconda" and all the famous mines. See the nearest Santa Fe agent for all particulars, or write to Geo. T. Nicholson, G. P. A., Chicago, Ill., or W. J. Black, A. G. P. A., Topeka, Kas.

Seekers for Homes,

Who wish to start over again in some locality where good land is plentiful and climate is favorable, should post themselves relative to the irrigated districts of Kansas, New Mexico and Arizona, the dirt-cheap farms of Oklahoma, and the fruit tracts in southern Texas.

To find out the facts address G. T. Nicholson, G. P. A., Monadnock building, Chicago, or J. E. Frost, Land Commissioner, Topeka, Kas.

And the Santa Fe is the best line to almost every part of the Great Southwest.

Horticulture.

THE INVISIBLE FRIENDS AND ENEMIES OF THE FRUIT-GROWER.

Read before the Western New York Horticultural Society, by Prof. J. P. Roberts.

The fruit-grower, as well as all other plant-growers, should carefully consider the soil that must inevitably play a major part in success or failure. Its slope, its texture, its ability to retain or part with moisture, and the amount and kinds of plant food available and unavailable which it carries, are all of prime importance.

The soil must be the permanent home of the plant. It cannot be moved to its food. Its nourishment must be brought into intimate relation with its roots, and in a great measure its food must be prepared. The more perfect the food, or the better it is prepared, and the more comfortable the environment, the more assured the success. All this will appear to be axiomatic, but in many cases it is clear that these self-evident truths have been forgotten or the understanding has been too slow or careless to grasp them.

Before the higher class of organisms can flourish a lower class of invisible ones must precede. Moisture is found most commonly so minutely divided that it is not perceptible to the unassisted vision. Many of our invisible friends, and enemies, too, for that matter, have been badly neglected. The advance in agriculture makes a more intimate acquaintance with our neglected and abused friends imperative.

The soil teems with invisible plants or low organisms of vegetable life, invisible catch crops, pioneers, which prepare the way for more complex organisms, the common cultivated plants, by setting free or making available the tough nitrogen in the soil. These invisible plants, like the visible ones, must have comfortable environment. A certain amount of air, moisture and warmth are necessary for rapid development and growth.

This change from the albuminoid to the nitrogen stage is necessary, as plants get nearly all of this class of nourishment from nitrogen and not from albuminoids, hence the great value and use of the unseen and unappreciated friends of the farmer.

All is changed or changing. The plant is now the farmer's friend; he can commune with it. It has life and development. It languishes if hungry, droops if thirsty, and shows pain when its roots are placed in rough stocks of clay and stone.

Discovery of some of nature's modes of action has led to questioning the soil and the plant. It has made the thoughtful man an attentive listener and a close observer. He has learned that the soil contains many friends, both animal and vegetable.

The nitrifying organisms which are ever at work breaking down and changing crude and useless material and transforming it into a high class of plant food, although invisible to the unaided sight, are worthy of the most careful attention. Although he cannot see these myriad invisible vegetable organisms, he can note their effect, and reasoning from cause to effect, he soon discovers that these nitrifying plants, like other vegetable growths, flourish best when their home is mellow, warm, dark and moist.

Three to six thousand pounds of potential nitrogen is found in the first foot of an acre of fairly fertile soil; if the best conditions for the multiplication of the nitrifying organisms are secured, most of this may be made available for the plant. If, then, the culture of the soil were what it might be, and should be, this vast store-house of useless plant food would be unlocked and its treasures put into circulation and finally returned to the land only slightly diminished in quantity and much improved in quality. If these things be so, is it good economy to purchase commercial nitrogen and leave that in the soil unused, being unavailable because the half-tilled earth is not an ideal home for these valued friends of the farmer?

All trees and shrubs flourish best when supplied with a fairly liberal

amount of this stimulating plant food, nitrogen, in the earlier stages of their growth. Few of them are able to get it from the atmosphere. The soil, the rain and the nitrifying organisms can supply it if they work in harmony with nature's modes of action.

Maneuvering the soil by culture tends to promote nitrification and also tends to make available the mineral elements, phosphoric acid and potash. All these laws point to a short rotation, frequent plowing, partial soiling, the use of leguminous plants and a more intensified agriculture.

Land that is water-logged is never prolific in nitrifying organisms. Here dwell the enemies of the farmer, those denitrifying organisms which change this expensive plant food into forms which cannot be used by the higher plants. The nitrifying organisms cannot prosper when super-saturated with moisture, hence, as a rule, in all lands not naturally drained artificial drainage should be supplied.

The plow, both surface and subsoil, and other implements of culture are used primarily to promote nitrification and chemical action, and not for the purpose of making the soil porous in order that the roots of plants may enter it easily. It should be emphasized more fully than it has been that the objects of cultivation are primarily and chiefly for the purpose of promoting invisible vegetable growth, and chemical action in the soil and for the purpose of forming a reservoir which, while holding on to microscopic water, will allow free water to pass downward into the subsoil. All this implies labor and expense, and so in many cases the same objects may be partially or wholly secured by the use of leguminous plants.

It would seem that, with the present advanced knowledge of agriculture, there should be little need in the future of providing, by the use of commercial mixtures, this high-priced though necessary constituent of plant life. Except in rare cases the cost of nitrogen may be eliminated from the expense account, because when all is considered and a comparative view is taken of the subject, nitrogen can be procured literally at no cost.

Where it is not feasible or wise to practice this intensified agriculture, leguminous plants may be used to great advantage, for they accomplish in their silent way all and sometimes more than culture does, and hence should be used to supplement the forces which lie in the plow handles.

WATER.

Water, or moisture, plays such an important part in successful agriculture that it should receive most careful attention. Neither the lower or higher organisms can flourish without it. However much plant food may be in the land, however fine the tilth of the soil, no plant growth can take place except in the presence of water in some form. It is nature's universal carrier, it transports all nutrition into and out of the circulation of all animal and vegetable growth. It is not only capable of lifting millions of tons of solid matter from a few inches to hundreds of feet in the stems and trunks of trees and smaller plants, but is capable of breaking the hardest rock, levelling hills and mountains and transporting them to the seas. Most of this work is done quietly, that is, unseen and unnoticed by the casual observer.

Nearly all the moisture used by plants is brought to them by the silent forces of capillarity. If the soil is in the proper physical condition, moisture flows upward to the roots of vegetation from the great reservoirs in the subsoil as certainly as it runs downward by gravitation. The more the subject is studied the deeper is found the real underlying principles of successful husbandry. There should be an ample reservoir in the soil for the storage of moisture to tide over plants at critical periods. This moisture should not be in the form of free water or that which is capable of being pushed along by its own weight, but water that is held in the soil by capillarity. Well-prepared soils are capable of holding about 30 per cent. of their own weight of moisture by

capillarity, and yet not contain any free or flowing water.

Water may rise fully three feet by capillary force alone. Three feet of soil weighs 5,400 tons per acre. Thirty per cent. of this is 1,620 tons, or 3,240,000 pounds, or 400,000 gallons. This is nature's great reservoir, from which plants draw their moisture. If this reservoir is but six inches deep, the more common depth, it will hold but one-sixth as much, hence plants grown over this small reservoir would likely droop in dry weather. Ample reservoirs secured by means of under drainage, culture and tap-rooted plants bid defiance to any reasonable drought. Having provided a supply of water, the next effect is to make as much of it a possible pass through the plant and allow as little as possible to evaporate from the surface. This is done by keeping the soil so porous and loose for two or three inches at the surface that water cannot pass upwards except through the plants.

Beneath our feet, then, are found ever-acting, kindly forces and unnumbered forms of vegetation, all waiting to be guided and directed into useful channels by the skill of the husbandman.

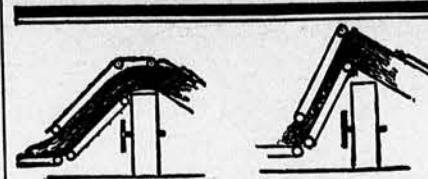
Fruit Products of Venezuela.

Perhaps such of your readers as have a taste for horticulture may be interested to hear of the fruit products of a region much nearer in miles and money to New York than is California, and not much more distant in time, by the slow but excellent steamers sailing every ten days. The valley of Caracas has a climate of perpetual May—mean annual temperature 71°, usual range in the cooler months, 55° to 75°; in the warmer, 60° to 80°; lowest record, 48°; highest, 85°.

Of the fruits produced here, and abundant in the market and on the hotel table during our six weeks' stay in January and February, the chief are these: Chirimoya, oval-shaped, average diameter about 4x5 inches; skin like a green cucumber, filled with white, soft pulp, in which are imbedded a number of black seeds, as large as a kidney bean; sweet, with a delicious, aromatic, pineapple flavor. Rinon is much like chirimoya, but smaller and having a rather more delicate flavor. Sour Sop grows to dimensions of 6x10 inches, tart, excellent for stewing. Lachosa looks, cut or uncut, like a large muskmelon, except that the very thin skin (rather than rind) is smooth, and the spicy, edible seeds are about the size of grains of wheat. Pulp sweet without mushiness, and buttery rather than watery. Mango is like a plum of orange size and color, large stone, sweet, juicy, a slight, not unpleasant, suggestion of turpentine in flavor. Nispero is like a Japan persimmon, except its rusty coat; flavor and flesh between that and a Sheldon pear. Alligator pear, orange, lime, sweet lemon.

All the foregoing grow on trees, some of the trees very large, and get little or no cultivation. Bananas of finest quality grow almost wild, and the excellent pineapples are indigenous in Venezuela, as is also, I think, the parchita, which is, Humboldt says, at its best here. The home-grown apples, quinces, peaches, nectarines, plums, watermelons and muskmelon in the market, are mostly of poor quality because utterly neglected. I think that there is not one budded or grafted tree in the country. In this equatorial region, nature is so prodigal of spontaneous production that man grudges even a little labor to assist.

Vines of the finest European grapes produce three crops a year, but they must be trimmed, and that is too much trouble. I do not hear that they are attacked by fungus or insects. Wild strawberries are in market, a different species from ours, about the size of our wild ones, but less acid. The bread fruit trees that I have noticed, have no fruit on them at present. I am told that the fruit is little used here, and I see none in the market. Some of the fruits ripen continuously in this valley through the year; others, not now ripening here are brought from a different altitude, where a higher or lower temperature hastens or retards.



CONCERNING BINDERS.

WHAT'S the matter with the elevators of all other Binders except the CHAMPION?

All of them are too steep.

Most of them are too high.

All the canvases are too close together.

All are too narrow, though some try to overcome this objection by leaving the rear end open.

Other low elevators have low master wheels under them and flat binder decks.

The CHAMPION has the only low elevator with easy upward slope and high master wheel and steep binder deck.

The CHAMPION is the only Binder that gives ample space between the needle and top of elevator, and therefore no straws drag down over master wheel.

The CHAMPION is the only Binder that provides extra power to compress the bundle, and thereby saves slipping of the master wheel on soft ground, and choking the machine. The eccentric wheel does it.

The CHAMPION has all the good points belonging to other Binders, and in addition these, the greatest of all, belong only to the CHAMPION.

All other elevators must be steep, because of their plan of going over the master wheel.

When steep, canvas belts must be close together to hold the grain tight enough to be elevated.

This tight grip shells so much grain that some try making the elevators narrower and open at the back, leaving the heads stick out behind the canvas, but then the heads are shelled by shafts, chains and other operating parts.

When you or your family are sick, you call in your family doctor, in whose knowledge and skill you have confidence. When you need an attorney you employ one who has been successful in similar cases in your own courts. You would think it very unwise to risk your health or your interests in the hands of men about whom you or your neighbors know nothing, and who have not proved their worth IN YOUR NEIGHBORHOOD.

Beware of the Binder that has not demonstrated its worth in your neighborhood, no matter if it is made by an old established company, or what claims are made for the work it did somewhere else, where the motive power and the conditions are not like yours.

The Warden, Bushnell & Gleason Company
Makers of CHAMPION Binders and Mowers,

SPRINGFIELD, OHIO. CHICAGO.



Carnahan's Tree Wash and Insect Destroyer

Destroys the bore worm and apple root louse, protects the plum from the sting of the curculio and the fruit trees from rabbits. It fertilizes all fruit trees and vines, greatly increasing the quality and quantity of the fruit. Agents wanted everywhere to sell the manufactured article. Address all orders to John Wiswell, Sole Mfr., Columbus, Kas., and Cleveland, Ohio.

CORRUGATED STEEL IRON ROOFING

\$1.75 PER SQUARE.

The above, partly from World's Fair Buildings, we guarantee good as new. We have only a limited amount on hand and would advise forwarding orders at once. CHICAGO HOUSE-WRECKING CO., Largest Second-hand Depot in the World. 3025 S. Halsted street, Chicago, Ill.

CIDER MACHINERY
Hydraulic, Knuckle Joint and Screw
Presses, Graters, Elevators, Pumps,
etc. Send for Catalogue.
BOOMER & BOSCHERT PRESS CO.,
399 W. Water St., Syracuse, N. Y.

Piles
Cure guaranteed. For particulars and free sample address Hermit Remedy Co., Dept. L., 183 Dearborn St., Chicago, Ill.

There is a great change in a short distance; for example, La Guayra, six miles from here, twenty-three by the winding railroad, has an annual mean temperature of 84°, 13° higher than Caracas. It is 3,000 feet lower.

But some of the fruits of the region are not in season so as to be found in this market now. Prickly pear we have had at table, but I get the names pomerosa, icaco, perra, memon, mamac, tamarind, as fruits now ripening, which I have not seen.

But this does not tell the whole story of the fruit capabilities of the elevated part of the equatorial belt of South America. Bates, in his great work, "The Naturalist on the River Amazons," enumerates twelve fruits found wild in the forest in one locality on the upper Amazon, and says that there are "a great number of others." He says: "I was quite surprised at the variety of wild kinds, and the delicious flavor of some of them; being the peculiar productions of this highly favored and little known interior country." Bates concludes his book with his estimate of this region in these words: "I hold to the opinion that it is under the equator alone that the perfect race of the future will attain to complete fruition of man's beautiful heritage, the earth." —A. J. Coe, in *Rural New Yorker*.

In the Dairy.

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

Reasons Why Kansas Should Pass Anti-Oleo Laws.

1. The dairy industry is of more importance than any other business at this time.

2. With protective laws, our rough feed and cheap grains could be turned into ready cash more profitably through dairy products than by any other method.

3. Dairymen have become discouraged trying to compete with oleo, the base of which costs only 3 to 4 cents a pound, when pure butter cannot be made for less than 12 cents.

4. Kansas butter stands high among critical buyers all over the country, and only needs the fostering arm of the law to make it the safest crop that can be produced wherever feed can be grown.

5. As long as oleomargarine is allowed to come in competition with butter, just so long will prices be depressed, and a check put upon the growth of dairy enterprise.

6. Nothing gives a State greater wealth, more fertile soil and better homes than dairying, and no act of the Legislature could bring to our State more genuine prosperity than the passage of an anti-oleo law.

7. The State of Iowa, after the passage of such a law two years ago, has decreased the manufacture and sale of imitation dairy goods 90 per cent., and Missouri, with an act in force only one year, has accomplished even more than Iowa.

8. Dairying is a legitimate enterprise and has never practiced deception upon its customers. On the other hand, oleo has gained its prestige by arts and tricks upon the people, and but for its stolen color, it would never have been known.

9. In the celebrated case from Massachusetts, decided by the United States Supreme court in 1894, Judge Harlan well says: "The constitution of the United States does not guarantee to any person the right of defrauding the public." This is the whole matter in a nut-shell, and furnishes the strongest evidence that the illicit traffic should have no sanction among honest men.

Export News.

Alex. W. Grant, one of the most prominent exporters, with offices in New York, Montreal and London, returned, recently, from Liverpool. Mr. Grant tells us that there is a chance for the United States to sell butter to England and get fair prices, provided the producers make the butter to suit English buyers. Mr. Grant says that

for the last sixty days creamery butter could have been shipped to England, and paid a profit had it been put up in the shape the English prefer it.

To sell to advantage in England, it should be of light color and contain only 3 to 4 per cent. of salt, packed in square boxes, holding fifty-six to sixty pounds, lined with parchment on bottom and sides. Mr. Grant says the square box has supplanted the tub in English favor, and he believes if it is tried in this country, will supplant the tub here.

From the latest information, there is every reason to believe the production of butter this season will be unusually large, therefore there is special need of the American butter-maker to encourage an export outlet for the surplus. Unless we have an export outlet for the surplus, prices must range very low. Would it not pay some of our large creameries to try this package and put up butter for export trade?

Dairy Notes.

Cows with flat-ended teats, 'tis said, milk easiest.

Grass knocks the demand for artificial butter color.

Don't neglect the cows because dairy products sell at a low price.

A cow that is heated and worried will not milk well, and her milk will not make good butter.

It is no use to say that dairying does not pay, for it does pay those who know how to conduct the business.

If you can arrange to divide the pasture into two or more lots, do so and you will gain in feed and milk.

Good cows will pay for good care even though milk and butter are down in price; they rarely go below the cost of production.

If there is no shade in the pasture and the field is next to the woods, fence in an acre or two of the wood lot for a cow shade; it will pay.

Some farmers have a pasture near the barn to use as a night pasture. The soiling crop should be also near the barn for convenience in feeding it.

Every one that buys milk for family use, ought to get that which contains 4 per cent. of fat. But much of the milk delivered to customers only shows 3 per cent.

If the butter comes too hard for working and salting, because of the low temperature at which it was churned, you can easily and quickly remedy it by warming the washing water.

If the cows are bred to calve next fall they ought to give milk enough this spring and summer to pay a profit over cost of feed and labor; and they will if they are the right kind of cows.

A good butter-maker says that the main point in making granular butter is to have the temperature low enough to prevent adhesion of the globules when they appear, and to stop the churn while they are in that condition.

Dairying is like any other business; it must have certain requisites as capital to work with. Among these are good cows, good feed and a good feeder. These three make a whole team that will pull the profits out in any kind of times.

Prices on butter seem to be getting worse and worse. Dairymen should take advantage of the situation and find out where the trouble lies. It may be that a little legislation would not be out of place at this time. Let us try the experiment.

The Winchester (Kansas) Creamery Company have completed a deal by which they expect to put in a skimming station at the old creamery stand at Legler's mill at Valley Falls. The farmers have promised the milk from 225 cows to start with and there is more to follow.

This is a very truthful observation of the *German Town Telegraph*: "Good cheese is a prime article of diet, and it is eaten more extensively in this country than ever before. But good cheese presupposes two things—good milk and good makers. One alone will not be sufficient. Many cheese factories have

to close because they cannot put out prime No. 1 cheese, and this is often as much the fault of the dairymen as the makers. If a factory is located in a good dairy district and farmers persist in sending only inferior milk to it, the closing of that factory is only a question of time."

An important ordinance passed by the Indianapolis, Ind., Council, was one establishing a standard for butter. City Sanitarian Ferguson was present to explain the purpose of the ordinance, showing that the necessity for it arose from the immense sale in that city of "pepsi butter," which sours after twenty-four hours. This is an article made by the use of a small quantity of genuine butter mixed with milk which has been digested with pepsin. The whole has the appearance of butter, but the cost is reduced more than one-half. The standard prescribed in the ordinance places the minimum of fat in the butter at 78 per cent. This is the lowest grade of pure butter. The ordinance is calculated to drive pepsin butter out of the Indianapolis market. There was a unanimous assent to its passage.

THE STARTING PULL.

Roller and Ball Bearings Effect a Remarkable Saving in Power.

It requires a pull of thirty-two pounds per ton of weight to start an ordinary railroad car on a level track. The Delaware & Hudson Canal Co.'s railway in New York by applying roller bearings to the journals has reduced this to less than fourteen pounds per ton.

It requires the utmost exertion of three horses to start an ordinary binder on level land; but the Deering Harvester Co. has applied roller and ball bearings to its machines in such a way that the starting stress is less than the pulling stress of the ordinary machines with friction bearings.

Roller and ball bearings not only save half the power in starting from a stop, but they also effect a uniform saving of over 30 per cent. while the machine is in motion. A Deering roller bearing binder is drawn easily by two horses under conditions where the utmost exertions of three horses are required on ordinary binders.

The saving in draft in the Deering roller bearing mowers is even more noticeable. At the official World's Fair trial the Deering Roller Bearing Ideal Mower registered a draft of 85½ pounds as against 152 pounds for the lightest draft competing machine of the same width of cut.

Roller and ball bearings not only save from one-third to one-half of the draft, but what is fully as important, they prevent wear. The rapidly revolving axles or shafts, instead of rubbing and grinding in their bearings, roll easily on the roller or ball bearings, which change sliding contact to rolling contact.

In the three years that their roller and ball bearing machines have been in the field, the Deering company say they have had almost no calls for repairs for parts of their machines connected in any way with the roller or ball bearings.

The *Deering Farm Journal* for February, and a handsome pamphlet, called "Roller and Ball Bearings on the Farm," both contain interesting information about the wonderful draft-saving bearings. Sent free to farmers addressing Deering Harvester Co., Chicago, and mentioning this paper.

Union Pacific Route.

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

Millions of Gold

In sight at Cripple Creek, Colo. Only twenty-three hours from Topeka by the Santa Fe Route, the only broad-gauge route passing right by the "Anaconda" and all the famous mines. See the nearest Santa Fe agent for all particulars, or write to Geo. T. Nicholson, G. P. A., Chicago, Ill., or W. J. Black, A. G. P. A., Topeka, Kas.

OUR WELL DRILLS

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

Portable Well Drilling MACHINERY

Established 1867. Covered by patents. Machines drill any depth both by steam and horse power. We challenge competition. Send for free illustrated catalogue.

Address, KELLY & TANEYHILL,
WATERLOO, IOWA.

HAY THERE! OMAHA HAY PRESS!



MARTIN & MORRISSEY MANUF'G. CO.,
Seventh street, Omaha, Neb.

J.I.C. DRIVING BIT Still King

THE BIT OF BITS.
Will control the most vicious horse.
Sales Greater Than Ever.
Sample mailed XC for Nickel, \$1.50.
Stallion Bits 50 cts. extra.

RACINE MALLEABLE IRON CO., RACINE, WIS.

FRENCH BUHR MILLS

22 sizes and styles. Every mill warranted.

For All Kinds of Grinding.

A boy can operate and keep in order. "Book on Mills" and sample meal FREE.

All kinds of machinery. Flour mills built, roller or buhr system.

Reduced Prices for '96.

NORDYKE & MARMON CO., 285 Day Street,

Indianapolis, Ind.

Make Cows Pay.

Twenty cows and one SAFETY HAND CREAM SEPARATOR will make more butter than twenty-five cows and no separator. Sell five cows; the money will buy a separator and you save cost of their keep, while the butter you make sells for two cents more per pound. Send for circulars. Please mention this paper.

P. M. SHARPLES,
West Chester, Pa.,
Elgin, Ill.

TOUGH ON FLIES

Instantly and positively prevents flies, gnats and insects of every description from annoying horses and cattle. It improves the appearance of the coat, dispensing with fly-nets. Applied to cows it will give them perfect rest, thereby increasing the quantity of milk. It is also a positive insecticide for plants. We guarantee it pure, harmless and effective. Recommended by thousands using it. One gallon lasts four head an entire season. Price, including brush, quart cans, \$1.00; half-gallon, \$1.75, and one gallon, \$2.50. Beware of imitations. Made only by The Crescent Manufacturing Co., 2109 Indiana Avenue, Philadelphia.

AGITATOR SEPARATORS WITH METHERY WIND STACKERS

ARE MOST PRACTICAL AND MOST POPULAR



SELF FEEDERS AUTOMATIC SWINGING STAGNERS

SAW MILL MACHINERY

TREAD POWERS & SAW FRAMES

GRAIN ELEVATORS & MEASURERS

DINGEE WOODBURY POWERS

SIMPLEX AND SINGLE CYLINDER

COMPOUND

TRACTION, PORTABLE, SKID & STATIONARY

ENGINES



CATALOGUE MAILED FOR THE ASKING! ASK FOR IT!

J. CASE THRESHING MACHINE CO.

RACINE, WIS.

When you write mention Kansas Farmer.

Gossip About Stock.

J. R. Killough & Sons, Richmond, Kas., announce that they will hold a public sale of Poland-Chinas at their farm, on October 30, 1896.

Kansas wool-growers should send to Silberman Bros., Michigan street, Chicago, for their latest wool circular, which gives present condition, prospect and prices for wool for the present season.

Ward A. Bailey, Wichita, Kas., writes that he has a few extra fall and winter for Poland-China pigs that are now ready for the trade. The spring crop of pigs is as fine as the Royal herd ever produced.

In response to a query from Pratt, Kas.: The T. F. B. Sotham sale of forty-nine Hereford cattle averaged \$166; nineteen bulls averaged \$200 and thirty females \$144. At the same time, five young bulls owned by J. H. Veitch, of Kansas City, averaged \$237.

Dietrich & Gentry, Richmond, Kas., write that they have the best finished lot of spring pigs they have ever raised, and promise a great surprise to breeders who will visit their herd, and while they have kept as royal blood as exists, their policy has always been "pig first and pedigree afterward."

The harvest for the wool-growers of Colorado has been in progress for the past two weeks. J. P. Smith, of Macon, Kas., reports shearing 2,800 lambs, near Rocky Ford, Colo., that averaged in weight 126 pounds each. He claims the alfalfa grown on Colorado prairies is the best material for feeding sheep and will produce the finest wool and fattest mutton.

The Home Market and Stockman says that the public sale of Col. Harris' Short-horn cattle last week has had the effect to revive interest in pure-bred stock, and the prices realized by Col. Harris—an average of \$205 on sixty-two head—in these "hard times" is very gratifying to those breeders who have been making steers of their bulls during the past several years.

Publishers' Paragraphs.

Windmill owners will find something of interest to themselves in advertisement of Egis Manufacturing Co., of Marshalltown, Iowa. If your mill does not operate smoothly you need just such a spring as they advertise. Write them for circulars.

We desire to call attention to the change of advertisement of the Field Force Pump Company, of Lockport, N. Y., manufacturers of spraying outfits and machinery. The season for spraying grapes and potatoes is now close at hand, and it will pay our readers to send for catalogue and instructions, which the company will send free on application.

Persons afflicted with chilblains, so troublesome to many, will find a pleasant and permanent cure in Salvation Oil. 25c.

Millions of Gold

In sight at Cripple Creek, Colo. Only twenty-three hours from Topeka by the Santa Fe Route, the only broad-gauge route passing right by the "Anaconda" and all the famous mines. See the nearest Santa Fe agent for all particulars, or write to GEO. T. NICHOLSON, W. J. BLACK, G. P. A., Chicago, Ill. Topeka, Kas.

Republican Convention at St. Louis, via Burlington Route.

For the National Republican Convention, at St. Louis, June 16th, 1896, excursion tickets will be sold at very low rates over the "Burlington Route."

This will be the greatest political gathering since the War. Preparations are being made for entertainment on a grand scale; scores of marching Clubs in uniform will take part in Parades; all the prominent Republicans of the Country will be present.

Write Major C. C. Rainwater, 910 Washington Ave., Chairman of Hotel and Boarding House Committee, in regard to your accommodations.

Consult your Ticket Agent in regard to time and rates. L. W. WAKELEY, Gen. Pass. Agt., St. Louis, Mo.

Low Rates to Cleveland.

The Nobles of the Mystic Shrine will meet at Cleveland, June 23 and 24.

For this occasion the B. & O. R. R. Co. will sell tickets at reduced rates from all points on its lines west of the Ohio river, for all trains of June 21 and 22, valid for return passage until June 25. The fare from Chicago will be \$8.50 and correspondingly low rates from all other points. Tickets will also be on sale at all points throughout the West.

The B. & O. is the only line running Pullman sleeping cars between Chicago and Cleveland.

For full information write to L. S. Allen, A. G. P. A., Grand Central Passenger Station, Chicago, Ill.

Pittsburgh Excursions.

From St. Louis via Vandalia-Pennsylvania Short Lines, May 24th, 25th and 26th, account Prohibition National Convention, and on June 6th, 7th and 8th, for North American Saengerfest. Apply to W. F. BRUNNER, A. G. P. Agt., St. Louis, for low rates, time of trains and return limit.

For the N. E. A. Meeting

at Buffalo, N. Y., July 7 to 11, it will be of interest to teachers and their friends to know that arrangements have been successfully accomplished by the Nickel Plate Road providing for the sale of excursion tickets at \$12 for the round trip with \$2 added for membership fee. Tickets will be on sale July 5 and 6 and liberal return limits will be granted. For further information as to stop-overs, routes, time of trains, etc., address J. Y. Calahan, Gen'l. Agent, 111 Adams street, Chicago, Ill. 98

A Look Through South Missouri for Four Cents.

The Kansas City, Fort Scott & Memphis Railroad Company has just issued a magnificent book of sixty or more photo-engraved views of varied scenery in south Missouri. From these views an accurate knowledge can be obtained as to the productions and general topography of that highly-favored section that is now attracting the attention of home-seekers and investors the country over.

The title of the book is "Snap Shots in South Missouri." It will be mailed upon receipt of postage, 4 cents. Address J. E. Lockwood, Kansas City, Mo.

Ho! for Cripple Creek.

Remember that the Chicago, Rock Island & Pacific is the only line running directly from the East to Colorado Springs, the natural gateway for the Cripple Creek district.

Colorado Springs lies at the foot of Pike's Peak at its eastern base, and Cripple Creek is part way down the southwest slope of Pike's Peak and near its western base.

Two all rail routes from Colorado Springs are offered you. One by the Midland railway up Ute Pass, via Summit, to Cripple Creek. Another over the Denver & Rio Grande, via Pueblo and Florence, to Cripple Creek. Take the Great Rock Island Route to this wonderful gold mining camp. Maps, folders and rates on application. Address JNO. SEBASTIAN, Gen'l. Pass. Agt., Chicago.

Reduced Rates to Washington.

The Young People's Society of Christian Endeavor will hold their Annual Meeting in Washon, D. C., July 7 to 13.

For this occasion the B. & O. R. R. Co. will sell tickets, from all points on its lines, west of the Ohio river, to Washington, at one single fare for the round trip, July 4 to 7, inclusive; valid for return passage until July 15, inclusive, with the privilege of an additional extension until July 31 by depositing tickets with Joint Agent at Washington.

Tickets will also be on sale at stations of all connecting lines.

Delegates should not lose sight of the fact that all B. & O. trains run via Washington.

Send \$1.35 to KANSAS FARMER office for one year's subscription to KANSAS FARMER and Chicago Weekly Inter-Ocean.

LIVE STOCK AUCTIONEERS.

LiveStockAuctioneer, JAS. W. SPARKS, Marshall, Mo.

Sales made everywhere. Refer to the best breeders in the West, for whom I sell. Satisfaction guaranteed. Terms reasonable. Write before claiming dates. Mention KANSAS FARMER.

ELI ZIMMERMAN, Hiawatha, Kansas, Live Stock and General Auctioneer.

Pedigreed and registered live stock a specialty. Write for dates. Sales conducted anywhere in the country. Best of references and satisfaction guaranteed.

S. A. SAWYER, FINE STOCK AUCTIONEER, Manhattan, Riley Co., Kas. Have thirteen different sets of stud books and herd books of cattle and hogs. Compile catalogues. Retained by the City Stock Yards, Denver, Colo., to make all their large combination sales of horses and cattle. Have sold for nearly every importer and noted breeder of cattle 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.

DOGS.

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

MEN BE MEN
We will send you the marvelous French Preparation CALTHOS free, and a legal guarantee that CALTHOS will Restore your Health, Strength and Vigor. Use it and pay if satisfied.
Address VON MOHL CO., Sole American Agents, Cincinnati, Ohio.

Piles Cured for \$25

Without Knife or Ligature.
CURE GUARANTEED OR NO PAY.
Book on Rectal Diseases, with Testimonials, Free—Sealed. Call or address DR. GIBBS & CO., 10 West Ninth St., Kansas City, Mo.

Free to Every Subscriber.....

That grand semi-monthly, 20-page ladies' journal, **LADIES HOME COMPANION**, whose subscribers now number nearly 200,000; and this number is increasing rapidly. If you have seen some of the recent issues of this beautiful journal, and noted the many and decided improvements that have been made, you will not be at all surprised at this rapid growth.

**WOMAN IS QUEEN,
and Home is Her Realm.**

We have at last succeeded in completing arrangements whereby we are enabled to present our readers with this charming periodical free of all cost.

Who Has Not Heard of the**....Ladies Home Companion?**

Hundreds of thousands are familiar with this magnificent publication, and its beautiful colored covers, containing a new and attractive design for each issue, issued twice a month; its twenty or more pages are filled with illustrations, stories, sketches, poems and practical suggestions of the most absorbing interest to every member of the household.

The various departments, each under the direct supervision of writers especially adapted to them, are as follows:

Housekeeping This department is full of valuable suggestions on domestic economy and preparation of the daily meals.

Fancy Work The numerous illustrations and practical instructions of this department will delight all lovers of this dainty art.

Decorations, Etc. This department is invaluable to those wishing to furnish apartments according to modern taste ideas.

In addition to the above there is "Children's Corner," "Mothers' Chat," "Knotty Points," "Knick-Knacks," and "Miscellaneous."

OUR OFFER! In order to secure this Magazine free, send us two subscriptions for KANSAS FARMER, and \$2, and we will order Ladies' Home Companion sent to your address one year, free to you. Or, send us your own subscription and \$1.35, and it will pay for KANSAS FARMER and Ladies' Home Companion one year. Add 10c. if "Modern Cook Book" is desired.

Address

KANSAS FARMER CO., Topeka, Kas.

Semi-Weekly Capital

When you can get both for little more than the price of one. The Semi-Weekly Capital is issued twice each week, Tuesday and Friday—eight pages, forty columns of choice reading matter every issue. It contains the full run of Kansas news, all while it is fresh and interesting, besides a large amount of bright, spicy and interesting miscellaneous reading matter of every description.

The KANSAS FARMER Co. has made arrangements with the publishers whereby it can offer the Semi-Weekly Capital and KANSAS FARMER for the very low price of \$1.50, or with Almanac and KANSAS FARMER CO., Topeka, Kas.

TAKE THEM BOTH!

Perhaps you will prosper better and be happier and more thoroughly informed when you take both the KANSAS FARMER and the

The Veterinarian.

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

SICK COW.—I have a cow that calved in March and gave a gallon of milk at a time, but now gives only a pint. She does not chew her cud, but lies around about half of the time and eats weeds; she has not shed yet. H. B.

Lyndon, Kas.

Answer.—It is rather hard to guess without some symptoms to start from, but give her 1 pound of Epsom salt dissolved in half a gallon of warm water at one dose, then follow with one pint of raw linseed oil once a day for a week. If her bowels get too loose, miss one day.

LUMP ON HEAD.—Last fall I discovered a lump on the top of my mare's head. She ran out all winter and this spring I found the lump still growing, and hard and bony. A veterinarian gave me some salve to rub on it and told me to bring her back when it got soft; but it remains hard, and the salve is all gone. W. P.

Talmo, Kas.

Answer.—If the veterinarian is a reliable one follow his advice. The lump is probably a deep-seated poll-evil, and will finally come to a head, but it may be a fibrous growth caused by injury from halter or bridle.

There is more Catarrh in this section of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease, and prescribed local remedies, and by constantly failing to cure with local treatment, pronounced it incurable. Science has proven catarrh to be a constitutional disease, and, therefore, requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, is the only constitutional cure on the market. It is taken internally in doses from ten drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials. Address, F. J. CHENEY & CO., Toledo, O. Sold by Druggists, 75 cents.

Send for new program, including list of trotting purses offered, for inaugural meeting of the El Paso County Horse and Bicycle Association, May 30, June 1, 2 and 3, 1896, to J. W. Miller, Secretary, Room 2, Bank Building, Colorado Springs, Colo.

People who wish to go to Buffalo to attend the N. E. A. convention, who want fast time, the most excellent train service and superior accommodations, will do well to consider the Nickel Plate Road before purchasing tickets. A fare of \$12 for the round trip will apply with \$2 added for membership fee. Tickets will be on sale July 5 and 6 with liberal return limit and with privilege of stop-over at Chautauqua Lake. Additional information cheerfully given on application to J. Y. Calahan, General Agent, 111 Adams street, Chicago, Ill. 95

RATES WILL BE LOW

To Pittsburgh and Washington.

Excursion tickets to Pittsburgh via Vandalia-Pennsylvania Short Lines from St. Louis will be sold May 24th, 25th and 26th, account Prohibition National Convention, and June 6th, 7th and 8th, for North American Saengerfest. To Washington, D. C., July 4th, 5th, 6th and 7th, for Christian Endeavor Convention. Address W. F. BRUNNER, A. G. P. Agt., St. Louis, for particulars.

Uniformed Attendants for Eastern Passengers via Vandalia-Pennsylvania Lines.

Uniformed Parcel Porters will, free of charge, look after the comfort of all arriving and departing passengers over the Vandalia-Pennsylvania route at Jersey City Passenger station and will accompany them (if desired) between Cortlandt street ferry, New York city, and the American Line Pier, Sixth Avenue Elevated Railroad, and the Central Railroad of New Jersey station; also between Desbrosses street ferry, New York city, and the Ninth Avenue Elevated Railroad. They will also meet Vandalia-Pennsylvania Line trains at Philadelphia Broad street Passenger station and assist passengers who may desire their aid; take charge of rolling chairs when needed; meet carriages and make themselves generally useful to passengers. They will be in attendance from 6 a. m. until 12 midnight, and when accompanying passengers will carry parcels and hand baggage.

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A Safe, speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all Liniments known, or severe Action. Remedy for Bummers, Blistering, Infected Action, Horse & Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blisters. Every bottle sold is warranted to give satisfaction. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

MARKET REPORT.

Kansas City Live Stock.

KANSAS CITY, Mo., May 18.—Cattle—Receipts since Saturday, 2,730; calves, 35; shipped Saturday, 1,721 cattle, no calves. The market was generally steady. Following are to-day's sales:

No.	Ave. Price.	No.	Ave. Price.
16	\$2.53	46	\$1.73
21	1.253	40	1.334
2	1.240	3.75	1.441
46	1.347	8.70	1.251
11	1.274	8.65	1.274
18	1.387	8.60	1.388
1	1.530	3.50	1.300
4	712	3.00	1.996

SHIPPING AND DRESSED BEEF STEERS.

No.	Ave. Price.	No.	Ave. Price.
16	\$2.53	46	\$1.73
21	1.253	40	1.334
2	1.240	3.75	1.441
46	1.347	8.70	1.251
11	1.274	8.65	1.274
18	1.387	8.60	1.388
1	1.530	3.50	1.300
4	712	3.00	1.996

TEXAS AND INDIAN STEERS.

No.	Ave. Price.	No.	Ave. Price.	
45	1.053	83.35	46	1.040
5	978	8.30	46	1.028
20	1.026	3.15	9	1.054
2	1.925	2.50	1	935

COWS AND CALFERS.

No.	Ave. Price.	No.	Ave. Price.	
1	1.240	83.45	1	1.670
10	707	3.35	4	600
22	897	3.20	30	582
3	1.210	2.90	1	1.110
9	961	2.75	1	1.370
6	960	2.70	1	1.450
1	1.108	2.60	3	1.256
1	940	2.50	1	1.080
2	880	2.25	1	900
1	870	2.10	1	850

STOCKERS AND FEEDERS.

No.	Ave. Price.	No.	Ave. Price.	
8	1.028	83.75	1	800
3	760	3.00	2	805
1	550	2.50		

Hogs—Receipts, since Saturday, 4,555; shipments Saturday, 845. The market opened strong to a shade higher, but closed weak.

The following are representative sales:

No.	Ave. Price.	No.	Ave. Price.	
62	154	83.27%	92	186
6	151	3.25	10	184
27	194	8.22%	92	192
64	168	3.20	72	191
75	241	8.17%	66	196
85	185	3.17%	85	211
71	192	3.15	89	215
79	145	3.15	81	222
75	238	3.12%	65	244
72	172	3.10	75	211
61	284	3.10	48	266
20	241	3.10	71	238
66	250	3.10	66	233
52	272	3.10	8	268
66	261	3.10	20	233
2	359	3.00	8	303
2	375	2.75	1	651
1	600	2.50	1	600

Sheep—Receipts, since Saturday, 2,990; shipped Saturday, 555. The market was steady.

The following are representative sales:

No.	Ave. Price.	No.	Ave. Price.	
29	121	83.20	5	583
22	122	8.10	21	81.00
2	87	3.10	2	87

Horses—Receipts, since Saturday, 96; shipments Saturday, 109. The receipts are increasing somewhat and there is better demand all around. Prices are also firmer, though not materially higher for the reason that horses of a better quality are arriving.

Chicago Live Stock.

CHICAGO, May 18.—Cattle—Receipts, 20,000; market 10 to 150 lower: fair to best beavers, \$2.50@\$2.85; stockers and feeders, \$2.60@\$2.90; mixed cows and bulls, \$1.50@\$1.80; Texas, \$2.70@\$2.80.

Hogs—Receipts, 32,000; market steady to 50 higher; light, \$3.30@\$3.55; rough packing, \$3.10@\$3.20; mixed and butchers, \$3.25@\$3.50; heavy packing and shipping, \$3.25@\$3.47%; pigs, \$2.75@\$2.80.

Sheep—Receipts, 10,000; market 10 to 150 higher; native, \$2.50@\$2.90; western, \$3.40@\$3.80; Texas, \$3.50@\$3.60; lambs, \$3.25@\$3.50.

St. Louis Live Stock.

ST. LOUIS, May 18.—Cattle—Receipts, 8,000; market lower: native steers, \$3.75@\$4.25; Texas steers, \$2.75@\$3.61.

Hogs—Receipts, 5,000; market weak; light, \$3.10@\$3.30; mixed, \$3.25@\$3.50; heavy, \$3.00@\$3.25.

Sheep—Receipts, 5,000; market strong,

Chicago Grain and Provision.

May 18.	Opened	High'st	Low'st	Closing
---------	--------	---------	--------	---------

Wh't-May	61 1/4			60 1/4
July	62 1/4	62 1/4	61	61 1/4
Sept	63	63 1/4	61 1/4	62

Corn—May	29 1/2	29 1/2	29 1/2	28 1/2
July	30	30	29 1/2	29 1/2
Sept	30 1/2	30 1/2	30 1/2	30 1/2

Oats—May	19			18 1/2
July	19 1/2	19 1/2	19 1/2	19 1/2
Sept	19 1/2	19 1/2	19 1/2	19 1/2

Pork—May				7 57 1/2
July	7 72 1/2	7 80	7 65	7 57 1/2
Sept	7 90	7 92 1/2	7 85 1/2	7 82 1/2

Lard—May				4 65
July	4 67 1/2	4 67 1/2	4 65	4 65
Sept	4 80	4 80	4 77 1/2	4 77 1/2

Ribs—May				4 00
July	4 10	4 10	4 07 1/2	4 07 1/2
Sept	4 20	4 25	4 20	4 20

Kansas City Grain.

KANSAS CITY, May 18.—A few samples of wheat offered to-day on 'change sold at about steady prices. There were a few small mill orders for good wheat.

Receipts of wheat to-day, 9 cars; a year ago, 47 cars.

Sales were as follows on track: Hard No. 2, 1 car 55 1/2; 1 car 55 1/2; No. 3, 1 car 46; 2 cars 46; No. 4, nominally 25@28%; rejected, nominally 32@35%. Soft, No. 2 red, nominally 22@24%; No. 3 red, 3 cars 54%; No. 4 red, nominally 25@28%; rejected, nominally 32@34%. Spring,

WOOL

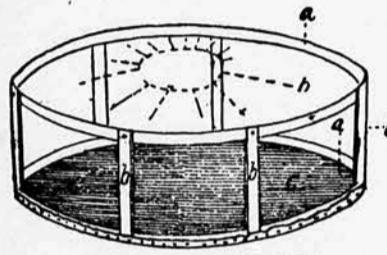
We are now the largest receivers of wool direct from the CROWERS of any house in this market. A few years ago we commenced at the bottom of the list but

The Poultry Yard

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Why Those of Circular Shape Give the Most Satisfactory Results.

Circular shipping coops are strong and durable, easily and quickly constructed, very light, readily handled, neat in appearance, least destructive of plumage of restless fowls when en route, cost but a few cents, and save express charges. I make the coops in different sizes for pens, trios and single birds. Dimensions for larger coops are given with the illustration. Cheap full-width unbleached muslin is used for the cover. A wide hem is turned down at each selvage edge and machine



CHEAP SHIPPING COOP.

Made of two barrel hoops (a) 64 inches in diameter, and six strips of lath (b) 20 inches long, fastened with shingle nails clinched. The bottom (c) is gunny sacking, or partly worn grain sacks.

stitched, for the drawstring. It is then seamed up by machine, for all must be made very strong, but the hems are not seamed across; simply sew from hem to hem, and with needle fasten the seam just below lower edges of hems. Strong manilla cord is drawn into the hems. The muslin case is then placed over the frame and drawn tight at both top and bottom, and fastened at the bottom. This makes the floor of the coop doubly strong. When the fowls are in and ready for shipment, the drawstrings at top are drawn tight, leaving a small opening to admit air, food and water. Before the muslin cover is seamed up, pockets are stitched on the inside of cover for corn. Thus is their food supplied in plenty for the journey, and kept clean for them. A drinking cup is made fast by encircling a pint cup with a cloth band, the ends of which are tacked to one of the pieces of lath.—Nellie Hawks, in Orange Judd Farmer.

AMONG THE POULTRY.

Eggs of a uniform age hatch at a uniform time.

For laying hens care and close quarters will beat neglect and a ten-acre run every time.

The heavy sitters should have shallow nest boxes and rather flat nests, otherwise there will be many broken eggs.

Is milk abundant at your house? Warm a panful, put a little salt in it and set it before the hens early in the morning.

Let the children have charge of the flock, but let an older head look after the children in a helpful and encouraging manner.

If a hen deserts her nest, don't throw the eggs away. Put them in warm water for five minutes, dry them with a rag, wrap in woolen and set by the stove and hunt another broody hen. With care the eggs will wait for two or three days if not badly chilled.—Farm Journal.

Testing Eggs for Incubators.

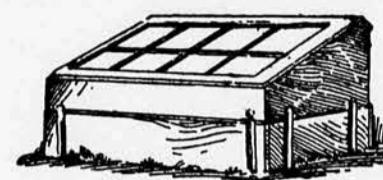
Eggs ought to be tested when seven days old. This is done by holding them before a candle or strong light and looking through them, the hand shading the light from the eyes. If clear, the egg is infertile, but is quite good for cooking. If it is dark in the center, shading off to lighter at the edges, it is fertile. Two days before hatching they can again be tested, but in water heated 105 degrees, or as hot as the hand can bear it. The eggs containing live chickens will be seen to jump about, while the dead eggs will either sink or float motionless. This water test will soften the shell and assist hatching very materially.—Farm and Home.

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

SHELTER FOR CHICKS.

Excellent Device for Keeping the Brood Warm and Comfortable.

It is not a difficult matter to hatch out chicks early with hens. It is a more difficult matter to make them live and grow when hatched in cold weather. They must stay under the hen almost constantly in order to keep warm, but after a few days the hen



will not continually brood them, even if cold, and the chicks become chilled. The engraving shows a device for keeping the brood warm. It is a coop with glass top set on top of a pen filled with heating horse manure. It is, in fact, a coop on top of a hot bed. The bottom of the coop is of thin boards, so that sufficient warmth will go up into the coop to make it very comfortable. The hen and the chicks are placed inside sand and chaff given to scratch in. A score of early chicks can thus be raised that will set to laying early in the fall.—Orange Judd Farmer.

Indigestion in Poultry.

Indigestion is one of the commonest troubles of fowls and one of the most easily prevented. Grit takes the place of teeth with fowls. It requires to be sharp in order to grind up the food and prepare it for digestion. Yet how often is the supply deficient? Crushed oyster shells or sharp gravel should be accessible to the hens. Acidity of the stomach is the result of indigestion. It may be corrected by mixing very fine pulverized charcoal with the food or by keeping a supply of broken charcoal in the neighborhood of the fowls. One of the best methods of giving it is to char a couple of corn cobs once a week in the oven and then let the fowls have them to peck at. The feeding of charcoal is excellent at all stages of the hen's existence, but it is particularly desirable when the fattening process is going on.

Cost of Eggs and Meat.

The nutritive value of eggs and the cheapness of their production are scarcely realized by the public. It may seem rather improbable to state that when meat is 25 cents a pound, the food value of eggs is about 37½ cents a dozen, yet this seems to be the fact. A hen may be calculated to consume one bushel of corn yearly, and to lay 12 or 18 pounds of eggs. This is equivalent to saying that 3 1-10 pounds of corn will produce, when fed to this hen, 1 pound of eggs. A pound of pork, on the contrary, requires about 5 1-3 pounds of corn for its production. Judging from these facts, eggs must be economical, and especially fitted for the laboring man in replacing meat.—Scientific Farmer.

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CURED AS IF BY MAGIC.

Victims of Lost Manhood should send at once for a book that explains how full manly vigor is easily, quickly and permanently restored. No man suffering from weakness can afford to ignore this timely advice. Book tells how full strength, development and tone are imparted to every portion of the body. Sent with positive proofs (sealed) free to any man on application.

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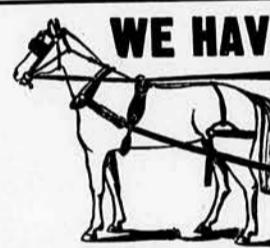
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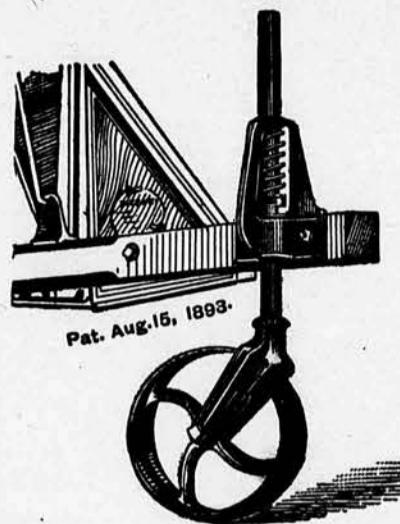
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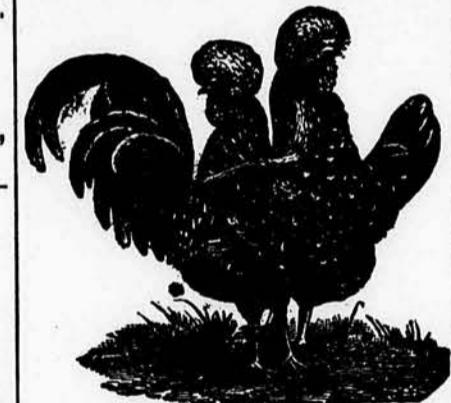
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Director Ohio Agricultural Experiment Station.

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(Continued from page 1.)**SWINE.****E. E. AXLINE, OAK GROVE, MO.**

Breeder of B. Plymouth Rocks exclusively of the best strains. Eggs from best matings at \$1 per sitting of fifteen. Also breeds and ships POLAND-CHINAS of best families. Will hold Public Sale October 1, 1896. Write for Poland-China catalogue.

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Forty-five spring pigs sired by Silver Dick 14180 S. and out of high-class dams. Write or visit herd.

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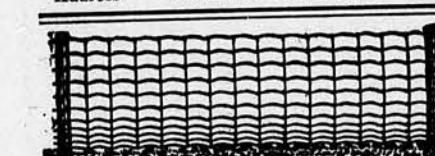
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Breeds and has for sale Bates and Bates-topped SHORT-HORNS. Waterloo, Kirklevington, Filbert, Cragg, Princess, Gwynne, Lady Jane and other fashionable families. The grand Bates bulls Winsome Duke 11th 115137 and Grand Duke of North Oaks 11th 115735 at head of the herd. Choice young bulls for sale now. Visitors welcome. Address **W. L. CHAFFEE**, Manager.**BETTER THAN 16 TO 1.**

We are constructing 14 miles of fence for a Michigan railway. As an inducement to sell right of way, farmers were given choice of fences. All but two preferred the Page. An elastic fence supported by such solid facts is invincible.

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Special Want Column.

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

SORGHUM SEED FOR SALE.—For prices write S. J. A. Bowers, Sabetha, Kas.

WANTED—On a small farm, before July 1, a farm-bred woman, healthy, neat and industrious, as working housekeeper. Address "X. Y. Z.", care this paper.

A GENTS WANTED.—The Noblestown Mfg. Co., who manufacture the Burson Combination Dry Air Refrigerator Shipping and Storage Vessel, are offering exceptional inducements to agents and giving exclusive right of territory. If you want a good paying position write to-day. Noblestown Mfg. Co., Noblestown, Pa.

FOR SALE—Forty or eighty acres of fruit farm. The best varied collection of bearing fruit in the county if not in the State. No pains of expense has been spared to make an ideal fruit farm. Fifty acres in bearing, twenty of which are in vineyard. Fifteen varieties of grafted oriental plums loaded with fruit. The best of Kaw valley land. Reason for selling, the encroachments of age. A. L. Entzinger, Silver Lake, Kas.

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EGGS—From choice S. L. Wyandottes, Light Brahma and Black Langshans, \$1 per fifteen, \$1.75 per thirty. Wm. Plummer, Osage City, Kas.

FOR SALE—Four registered Jersey bulls (three young and one old) from the best milking families in the United States. T. P. Crawford, Manager Deer Park Jersey Farm, Topeka, Kas.

WESTERN POULTRY SUPPLY CO.—Fourteenth and Main Sts., Kansas City, Mo. Ozark grits, 75c. per cwt.; Dead Easy Disinfectant, 1 gallon 75c.; Roux Paste, 25c.; chick markers, 25c.; oyster shells, 100 pounds \$1.75; incubators, brooders, drinking fountains, etc. Send stamp for price list and sample Midland Poultry Journal.

FOR SALE—A hedge-trimmer which can be attached to a McCormick mower. Will be sold at a bargain if taken quick. Inquire at KANSAS FARMER office.

PURE FOLGERS, COLMAN, COLLIER SORGHUM 1 seed for sale, raised from pedigree seed. Mary Best, Medicine Lodge, Kas.

50,000 TEN BEST KINDS SWEET POTATO 5 plants for sale during May and June at low prices. Inquire of N. H. Pixley, Wamego, Kas.

EGGS FROM PRIZE-WINNERS.—Langshan, Leghorn, Plymouth Rock, Minorca, Wyandotte and Hamburg fowls, bred in the purple. A few more pedigree Yorkshire hens for sale. James Burton, Jamestown, Kas.

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WANTED—Buyers for Large English Berkshire gilts, bred or ready to breed to son of imported boar. Bargains! O. P. Updegraff, North Topeka, Kas.

ALFALFA—Crop of 1895. Pure seed for sale. Address W. P. Haywood & Co., Lakin, Kas.

WE MAKE A GOOD FARMER'S SPRING WAGON, two lazy backs and let-down end-gate, for \$55. Warranted. Kinley & Lanan, 424-426 Jackson street, Topeka.

SORGHUM SEED FOR SALE.—For prices, write J. H. Foote, Fort Scott, Kas.

SHORN-HORN BULLS—Cruickshank-topped, for

sale. Choice animals of splendid breeding. Address Peter Sim, Wakarusa, Shawnee Co., Kas.

Salesmen Wanted!

\$100 to \$125 per month and expenses. Staple line:

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The brood sows in my herd belong to the leading families, such as Chief Tecumseh 2d 9115, Orient 8131, Good Quality 4700, Iowa's Champion 2d 6270, Longfellow 29785 O., J. H. Sanders Jr. 18514 S., Herd board used during 1895, Wren's Medium 12387 S. and Corwin White Face 9224 S. Sows and gilt for sale bred to Hadley Yet, a son of Hadley Jr. 18814 S., the great prize-winner, whose picture appeared in the Breeder's Gazette's last Christmas number. Write and describe what you want, or better, come and select what you wish out of the best bred and finished lot ever raised on the farm. For sale, No. 1 jack, fifteen and one-half hands high. Warranted a breeder. W. H. WREN, Marion, Marion Co., Kas.**ROUND TOP FARM, PARKVILLE, MISSOURI.**

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From my pedigree exhibition Barred and White Plymouth Rocks, Black Langshans, Indian Game, Light Brahma, Buff Leghorns, Game and Fancy Bantams, all varieties, Pekin Ducks, Bronze Turkeys and White Guineas. Winners at the leading shows. Breeders score 90 to 95%. Eggs \$5 per sitting, \$5 for two sittings. We are hatching 400 chicks per week; 45 acres devoted to raising them. Thoroughbred farm raised Barred Rock eggs \$1.50 per 15, \$3.50 per 50, \$5 per 100. Above are large, vigorous females mated to males scoring 90 to 95%. Sole Western Agent Prairie State Incubators, Brooders, Supplies, Etc.

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PLANTS BY MAIL—Fuchsias, Coleus, Geraniums, Roses, Begonias, Carnations, etc., assorted, strong, well-rooted. Will send as samples, fifteen for 50 cents (2-cent stamps); for clubs of five, these (separate) for \$2. Satisfaction and safe arrival guaranteed. Try them. Tyra Montgomery, Box 186, Larned, Pawnee Co., Kas.

WANTED—Buyers for Large English Berkshires and improved types of Poland-Chinas, from prize-winners at farmers' prices. Riverside Stock Farm, North Topeka, Kas.

FOR SALE—One hundred and sixty acre farm, one and a half miles from Bushong station, Lyon county, Kansas. Good spring. Price \$8 per acre. J. B. McAfee, Topeka, Kas.

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

WANTED—Readers of the KANSAS FARMER to try our "Special Want Column." It is full of bargains and does the business. For less than one dollar, 2-cent postage stamps are acceptable.

EGGS FOR HATCHING.—See advertisement elsewhere. Belmont Stock Farm.

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SHORN-HORN BULLS—Cruickshank-topped, for

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Full colonies of Italian Bees shipped to any point, and at any time during the summer. Safe arrival guaranteed. Bee-hives of the latest pattern, Smokers, Extractors, Comb Foundation, Books on Bee Culture, and everything pertaining to bee industry. Circular free.

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