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The Web Worm.

For the Illinois crop report of June, Prof. Forbes, State Entomologist, prepared a paper which will be of much interest to farmers. We gather its substance from an article in the *Western Rural*. Among other things

was sent to us last year from various localities in Henry, McLean, Macon and Livingston counties, and doubtless occurs everywhere throughout Illinois. There was no evidence that the previous history of the land had anything to do with the prevalence

The Blue Blue Valley Herd.

Imported Double Gloster 55406 (49383), the bull illustrated on this page, now heads the Blue Valley Herd of Short-horns owned by W. P. Higinbotham, Manhattan, Kansas. The bull is a pure Cruickshank, bred by

during the summer, Mr. Higinbotham believes that first-class stock deserve first-class quarters, and therefore has provided all the modern improvement for the stock. Everything in his establishment is conducted in a mechanical, systematic and business-



"Imp' Double Gloster"
A CRUICKSHANK SHORT-HORN BULL OF THE BLUE VALLEY HERD.
Property of WM. P. HIGINBOTHAM, Manhattan, Kansas.

he says: "Much additional information is still to be desired, and I report here the facts already made out, in the hope that other observers may be induced to assist in the completion of the life history of the species, and may help to a fuller knowledge of its origin and its injury to vegetation. Although working somewhat like the cut-worms, it belongs to another family of moths, and may easily be distinguished from these pests by its habits, and the character of its injuries. If a hill of corn damaged by this insect be carefully examined, a mass of dirt, loosely webbed together, will invariably be found just beneath the surface of the ground, close beside the young stalk or among the larger roots. If the nest, which is irregular in shape, and commonly about as large as a hickory nut, be opened, a reddish, bristly, active worm, half an inch or a little more in length, if full grown, will be found hidden within the matted earth, evidently serving as a retreat from danger. The stock of the affected plant will be found gnawed irregularly beneath the earth, sometimes wholly severed, as by a cut-worm, but more commonly scarified or bored lengthwise, either superficially or through the center of the stalk. From one to ten larvae may be found in a single hill. The species

of the insect. Whether a second brood occurs or not is wholly uncertain, and to this point special attention is asked of those that work in the corn-field throughout the Summer. Information tending to show that the larva feeds on any other plant than corn will also be especially useful and welcome. The injuries inflicted occur so early as to permit replanting in most seasons in case they should be of serious import, and this species is consequently to be classed with cut-worms, so far as the effect of its injuries to corn is concerned. Minute mites, which attacked the pupae in our breeding cages, and were apparently responsible for the loss of nearly all the larva we attempted to rear, probably also attacks the worm in the field. Besides this, I determined by dissection that certain predaceous beetles, especially abundant in fields infected by the web worms, had also been feeding upon them. Further than this, we have no knowledge of natural checks on the increase of the species.

The ushers who acted at a wedding held in Baltimore two years ago were the pall bearers at the funeral of the bride last week, and invitations to attend the funeral were sent out to all who had been invited to the wedding.

Amos Cruickshank, Esq., Sittydon, Aberdeenshire, Scotland, and imported in the fall of 1883, by James O. Davidson, of Balsam, Ont. He is of the Duchess of Gloster tribe, topped with Mr. Cruickshank's best sires. Double Gloster was purchased by W. A. Harris, in January 1884, and afterward at a long price to be used on the Blue Valley Herd, which is now conceded to be one of the largest and best in the West. The drafts from this herd that have been sold at occasional public sales have always realized the highest prices and uniformly have gone to build up representative herds in the State. Mr. Higinbotham has always exercised commendable enterprise and good judgment in the selection of the breeding animals for his herd and stud, hence the produce is in constant demand by breeders who are seeking good stock. The Blue Valley herd of thoroughbred Short-horns numbers 109 head of representative cattle, the females are bred to Double Gloster, assisted by Col. Barrington 55135, a straight bred Young Mary bull.

The Blue Valley Herd comprises in addition to the above 300 grade Short-horns and about ninety head of young well-bred horses; also some forty brood mares, which are bred to a noted stud which will be illustrated

like manner. The establishment is well worthy a visit and every patron can depend upon a square deal.

Topeka Stock Yards Sales.

The representative sales of live stock at the Topeka stock yards for the week ending Saturday, June 27, are as follows:

Yearling steers at \$18; fat hogs, weighing from 230 to 290 lbs., sold at from \$3 to \$3.20; Texas ponies sold at from \$30 to \$32.50; sixty sheep averaging fifty-six pounds at \$2.50 per 100 lbs.; twenty calves, weighing from 155 to 200 lbs., sold at prices ranging from \$3.40 to \$5.25 per 100 lbs.; twelve old cows, stockers, sold at from \$21 to \$24 each; milch cows and springers at prices ranging from \$25 to \$37.50; twenty fat steers, weighing from 960 to 1,100 lbs., sold for from \$4 to \$4.50; sixty fat cows, 960 to 1,180 lbs. average, brought prices ranging from \$3 to \$5.50, the prevailing price being about \$3.10; 140 2-year-old heifers sold for from \$18 to \$20, 100 head of this lot were shipped to Denver parties.

The business of monarchy promotes longevity. Witness the ages of the following rulers: The Emperor of Germany is 87; the King of the Netherlands, 67; the King of Denmark, 66; and Queen Victoria, 65.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.

July 7 and 8—Jas. Richardson, Short-horns, Kansas City.
October 28—Hon. T. W. Harvey, Burlington, Neb.
November 3 and 4—Inter-State Short-horn Breeders, Kansas City Fat Stock Show.
S. E. Ward & Son, Short-horns, first Friday of Kansas City Fat Stock Show.

Beginning a Herd.

A great many men go into business in a haphazard kind of way, taking lessons as they go at an unbearable expense. It is much better to obtain all information that one can obtain before starting, for it is that much capital to begin with. Practice must be had before success can come in any vocation, but if one is well informed in theory before undertaking the work he has just that much the start of one who goes it blind. The rule holds good no where more forcibly than in beginning a herd. A novice is badly at sea unless he has thought some over fundamental principles and necessary facts.

And to begin with, as suggested by the *National Live Stock Journal*, it is well to understand that good meat and good beef producing qualities are much better in practice than the color of an animal's hair. "A herd cannot be built up on the principle of the rule, square and tape line, says the journal above quoted. No man need necessarily pattern after the taste of another, provided always that he possesses a full measure of taste and judgment himself. If a man start a print mill he can, if he will, change the patterns that have been in common use all through, provided he observe proprieties in colors and markings, and preserve the wearing qualities—the really useful features—of the goods intact. A like rule can be applied by the beginner to cattle bred for their flesh. He may breed, as he prefers, to produce white, spotted, red or black. In no way can he reduce the number of muscles, which, taken together, make up the lean meat of the body; neither can he change the location or the point of origin and insertion of one of these.

Breeding for muscle is desirable, but to select material with this end in view, the selections must be made from a collection of cattle that are, to a degree, thin, or at most are not in more than a medium condition of fatness. Fat is liable to be mistaken for flesh, and the importance of having the former largely overtopped by the latter needs only the illustration of the fact that the flesh proper, of the select beast is worth, according to the part it is taken from, from eight to twenty-five cents a pound, while the fat will only bring the lowest figure named, and note the fact, too, that the fat from the high-bred steer or heifer is worth no more in the market than the same commodity from the scrub is worth. An important end to be sought after in making up a herd is not so much a tendency to become excessively fat as to rapidly acquire a moderate degree of plumpness. An animal that has, through its frame and muscular structure, a fair degree of symmetry when thin, will rapidly become symmetrical under the process of fattening, while the angular and generally unshapely beast will require a large amount of fat to give it a reasonably fair external finish. It is said that fat covers a multitude of faults, and in the case of the angular beast referred to, a very liberal deposit is required before passable symmetry is reached. It is quite within the possibilities for a man of experience and penetration in cattle matters to readily single out the animal that will finish up into presentable shape with a mod-

erate amount of feeding, and it is equally easy for the same man to point out the individual that will require a great deal of nursing and high feeding to excessive fatness before its faults of formation will be reasonably well obscured.

"The beginner who starts in under the impression that the ultimatum in breeding has been reached, and that it only remains for him to breed from what other men have fashioned into fixed, unchangeable shapes, had better disabuse his mind of this error. Under such a belief there can scarcely remain any scope for even a moderate ambition, and rightly viewed, one of the highest incentives for engaging in the business would be cut off. The idea, too often entertained, that there are casual or accidental relations between the means used for propagating and the excellence possessed by the offspring, should be dismissed. There are fixed principles upon which the beginner can confidently rely, and while it is infinitely easier to hobble along guided by hearsay, than to become master of these principles, still the ending in the case will be about as satisfactory as when the blacksmith attempts to repair a watch. Some of these principles are very simple, yet effective in practice; others are not, and require a greater or a less period of observation and study. The beginner can seize hold of the evidences furnished by these pointers, and turn them to account. Thus, as is well known among cattlemen, there have been certain individual animals, not exclusively of either sex, that have been remarkable progenitors, individually excellent, duplicating their good qualities quite faithfully, and not infrequently producing offspring that excelled themselves.

Some individuals of Mr. Booth's breeding made their mark in this way. The same may be said of some of the Cruickshank cattle. Notably of Bates cattle, many of the Dukes and Duchesses belong in this category. On this side of the water we have seen results creditably uniform. Outside of line-breeding there have been notable instances of persistent perpetuation of good qualities. General Grant, so long in the Spears herd, was a conspicuous illustration. It may be deduced from this that there is a principle involved in the citations in nowise obscure, neither beyond the reach of a fairly close observer to find out and follow. The beginner will be wise if he cast about him in quest of a bull of high merit individually, of age sufficient to have had ample opportunities for proving his value as a sire. Satisfactory evidences can be found quite generally among the offspring of some bulls, while they are notable for their absence in the case of others. In the former case, the animal should be carefully handled that his life of usefulness may be prolonged, while in the case of the latter he should be consigned for use in a herd of grades or fed up for the butcher.

"It will hardly be necessary to call up and emphasize the saying, that the bull makes up half of the herd. This is true with this qualification, that in the case of bulls that possess special merit as sires, the bull is quite likely to demonstrate that, in practical results, he forms more than half the herd; while in the case of others, the sum total of their usefulness is hard to find out. The difference in results to the beginner between the use of the one or the other of the animals named, is the difference between success and failure, a difference well worth a careful and deliberate examination of all the indications within reach to secure. There are outward signs by which the value

of a bull as a sire may be judged. First, an opinion may be formed from the recorded lineage, and from this source evidence may be got strongly commendatory, or the opposite. It is not correct to say that the pedigree question is one of fancy. The pedigree should be looked upon as a letter of credit, the sum covered by the letter being indicated by the sum total of meritorious crosses shown. Two animals being equal in their *personnel*, their comparative value is settled by the meritorious blood and individual merit of their progenitors.

Inoculation of Cattle.

A great deal of interest is taken in veterinarian affairs by scientific persons in this country as well as by persons specially concerned in the raising and handling of animals. Some correspondence was had recently by Dr. M. E. Chartier, of St. Louis, with M. Pasteur, the celebrated French scientist, who has been experimenting with inoculation in cattle, and with special reference to pleuro-pneumonia. Among the matter sent to Dr. Chartier were some circulars which were translated and printed in the *Globe-Democrat*. They treat first of diseases of sheep, hogs and chickens; or, in other words, of the sheep and goat disease known as "Siberian pest," or "bloody spleen," hog cholera and chicken cholera. These were inclosed in a letter of which the following is a copy in translation:

PARIS, May 28, 1885.—Dr. Chartier, St. Louis, Mo.: M. Pasteur has received your favor of May 10, with much pleasure, and has directed me to inform you that the investigations on pleuro-pneumonia have only been commenced in his laboratory. The method which appears to be the most efficacious against this disease is the inoculation of the virus taken from the lungs of an animal which has just died of the disease, inoculated in the tip of the tail of a healthy animal. In order to obtain the virus pure it is necessary to make in the lungs, after having passed a hot iron over its surface, an incision with a heated scalpel and then place in warm, dry test tubes the liquid which flows from the incision. The virus thus obtained can be used for several days. Hoping that these researches will be useful to you, I am yours truly,

F. BOUTROUX.

Following is matter taken from the circulars:

THE LOGIC OF VACCINATION.

The disease known under the name of Siberian pest, or bloody spleen, is produced by a microscopic organism, or bacteria, which gets into the blood of the animal.

If several drops of the blood of an animal which has died of bloody spleen are introduced under the skin of a sheep or rabbit in good health, death by this disease supervenes in almost all cases at the end of two or three days. The bacteria, the cause of the death, are then endowed with great virulence, and if these bacteria are cultivated, that is to say, developed in suitable liquid, they preserve their virulence.

By means of a peculiar method, which has been published in the papers of the Academy of Science, Messrs. Pasteur, Chamberland and Roux have been able to reduce the virulence of these bacteria and have obtained bacteria of new species, whose virulence progressively diminishes. Thus poisonous microbes are obtained whose virulence leads infallibly to the death of animals, and microbes more or less attenuated which communicate to the animal a disease more or less mild, and finally microbes deprived of all virulence which communicate no disease. Now, when an animal has had a disease in a mild form, contracted from the introduction under the skin of microbes deprived of a degree of their virulence, it is not apt to contract the fatal malady; that is to say, this animal can not die of bloody spleen, at least during a certain time, a year or more. It is upon this principle that bloody spleen vaccination rests. In order not to communicate to animals a disease which may prove fatal, two preservative inoculations are necessary. The first with a very weak virus which only gives the animal a light fever, and the second ten or fifteen days later with

a stronger virus, which of itself would kill an animal if it were not already partly protected by the first inoculation; but by reason of this partial protection the subject only experiences a slight fever. After this the animals are fully protected and vaccinated, that is, they are not subject to the bloody spleen disease. Thus sheep, goats, calves, cattle and horses can be vaccinated.

THE METHOD.

The method of vaccination is as follows:

The virus is conveyed to the place of operation in bent tubes, firmly sealed, and containing virus enough for fifty or one hundred sheep. They are labeled first vaccine virus and second vaccine virus. This is the liquid that must be introduced in certain quantities under the skin of the animals. For this purpose a Pravaz syringe (hypodermic syringe), often used by surgeons and veterinarians, is used to make the hypodermic injections. It is first necessary to fill the syringe, and in order to do this the little wire in the needle (which has no other use than to prevent its being stopped up by foreign bodies) is first taken out. The needle is adjusted on the barrel, and after the contents of the tube have been shaken to mix the virus thoroughly, the syringe is filled by raising the piston slowly. If the syringe is in good order it will be completely filled, leaving only a very small bubble under the head of the piston. But if, as it frequently happens, the piston is more or less dry, or the needle point is not fastened securely on the barrel, the liquid will not completely fill the barrel and there will be a large air space under the piston. In this case the liquid must be returned to the tube until the piston is thoroughly wetted or the needle is securely fitted to the tube and the syringe is completely filled. This first condition is indispensable.

The syringe being completely filled the gauge on the rod is set to the first division and then the assistant seizes the sheep. The needle is introduced under the skin on the inside of the right hind leg and the first dose is injected. The gauge on the piston is then set to the second division and a second sheep vaccinated, and so on until the syringe is empty. Each syringe full inoculates eight sheep, and with a little practice 150 can be inoculated in an hour.

Twelve or fifteen days afterward the sheep are inoculated again, this time the stronger virus being used, and it is necessary to inoculate the left hind leg, that is, the one that has not received the first inoculation.

FOR CATTLE AND HORSES.

For calves, cattle and horses the same methods apply, but a double dose is used and one syringe full only suffices for four animals. In place of the rear leg the vaccination may be made behind the shoulder for calves and cattle, and on horses anywhere that the harness does not touch.

As the skin of calves and cattle is often very difficult to pierce, it is very necessary to see that the needle is exactly in the axis of the syringe so as not to break or bend it. It is often well to take up a fold of the skin with the left hand in order to facilitate the introduction of the needle. Above all, absolute purity of the virus is necessary and an absolutely clean syringe.

Cattle and calves do not generally show any swelling or tumor at the point of vaccination, but horses, particularly young horses, have a large swelling at that point, but it subsides promptly within a few days without any other treatment.

HOG AND CHICKEN CHOLERA.

The other circulars treat of hog cholera and chicken cholera, and do not contain any further information except as to the method of dealing with chickens. These are vaccinated at the extremity of the tail. Dr. Chartier said that it would be well for the State Veterinary Surgeon to investigate these points and endeavor to carry them out in their practice. Pleuro-pneumonia can be stamped out in this way, and at a far less expense than by killing all the affected cattle. A few thousand dollars expended in vaccinating all the cattle in the State would do more good than a million dollars expended in slaughtering affected cattle. Vaccination can and will stamp out the disease.

Dr. Chartier expects in a few days to receive from Europe some Asiatic cholera virus, and intends to inoculate himself.

How I Raise My Colts.

The following paper by Mr. E. Woodman, of Paw Paw, was read at an open meeting, called by the several Granges of Van Buren county, and held at Waverly on the afternoon of May 28th:

Of course it is understood that I am raising colts and horses for the money there is in them, and therefore endeavor to raise them with the least possible trouble and expense and still have them cared for and grown well enough to readily sell at a reasonably fair price. I raise both spring and fall colts, and think I can raise the latter easiest and cheapest, especially from work mares, besides by having rye and other green feed for them after being weaned their growth is not checked nearly so much as is the case with colts weaned in the fall, which must of necessity subsist on dry and artificial food for several months. I do not usually allow my spring colts to follow their mothers when they are at work, but turn them into a box stall with oats and water where they can help themselves, or turn into a field with some other colts they are acquainted with, where they soon learn to run quietly between meals. I usually halter break them by tying beside their mother for a few days while doing some moderate work, and find it much easier than wrestling with them after they have become older and stronger. I prefer not to wean spring colts until cool weather comes in the fall, generally in October, and find they winter better than those that I buy and am forced to take earlier. I find it much harder to keep colts growing and thrifty the first winter than afterward, and feed them corn, oats, bran, middlings and roots if I have them, with plenty of good hay, and usually fail to grow as fast or look as well as I wish them to. We do not tie weaning colts, but turn them loose into a warm box stall, and find it easier and more quickly done. I kept eight head last winter in a stall 14 by 16 feet, and they got along nicely together; we turn them out pleasant days, and feed corn stalks in the yard at noon. If cold or stormy, we leave them out only long enough to drink and have a little play, then put them back and water again at night.

We frequently see weaning colts turned out every day, warm or cold, wet or dry, to stand shivering all day in the fence corners; their owners expecting them to grow flesh, muscle and bone from exposure to the elements, and we usually see that they grow more bones than anything else. I am practicing sowing winter rye early in the fall for early green feed the following spring, and consider it a most excellent plan. We plow sod or stubble only deep enough to turn over, and sow rye on the furrow at the rate of two bushels to the acre, and drag over once thoroughly. My idea being to do the work as quickly and as cheaply as possible; besides, when plowed shallow, say three or four inches, the land is not punched up so badly by the colts in the early spring while still soft, and by plowing the usual depth the next time the sod, weeds and stubble are still kept beneath the surface. I pasture the rye usually until after corn planting, which gives clover pastures a chance to get well started before being fed. The rye acts as a laxative for the colts, rids them of worms, and starts them to shedding their old hair. So that when turned into the clover they are in good shape to grow right along, and the rye fields are in the very best of condition to turn over and plant to beans. I feed no grain while colts are on pasture, and hardly think it pays in the long run to do so. The winter after my colts are a year old, I usually tie them in stalls, using five ring halters, and tying them short; feed them straw mostly, with a fair amount of grain, with hay or corn fodder at noon, fed in the yard if pleasant, and in the barn when severely cold and stormy. By putting something they like in their feed boxes when out of doors, as an apple, ear of corn, handful of oats, or a little salt, they quickly learn to come in and each take their proper places when the doors are opened and they are called, which is much easier than trying to drive them in with a club, and less strain on the temper. The winter after they are two years old I feed about the same, except perhaps giving them a little more straw, and usually harness and drive them a few times as I may have time. I have, so far, sold more at this age than any other, and believe it to be the best and most profitable age to sell at, and also to buy at if the purchaser needs them for immediate work.

Some one may ask why I feed straw so much, and I will explain by saying that while I prefer hay, I find straw much the cheaper, and when fed with a fair amount of grain, I can make them grow and look reasonably well after they are one year old. I usually raise a good deal of hay, but make it a practice to feed out the straw first. I have raised millet a few times, and have found it when cut early, well cured, and fed with straw an excellent food to help out with. I have never fed oil meal to any extent, but have found fine mid-kings excellent. For several years have raised beets which make good food when it begins to get warm in the spring, colts and horses usually eat them readily, and a large amount can be raised on a small piece of ground. Have also raised turnips and carrots, but prefer beets to turnips for feeding, and carrots require too much labor for the bulk produced per acre.

When a colt does not eat corn well and has lampas—instead of burning down the bars of the mouth I feed soft food for a few days, and when I notice a colt's eyes running I look for a chaff in its eye or a bruise outside and let its wolf teeth alone. In fact in raising horses one needs to use a good deal of common sense and judgment, even if it is not in exact accordance with whims that we may have heard from childhood up.

As to the profits of horse raising, from experience I am fully convinced that the same feed and care that will grow a steer old and large enough to sell for fifty dollars, will grow a colt that will sell for two hundred dollars, and believe I can keep a colt nicely on the same feed that would keep five sheep, with even a greater profit in favor of the colt.

J. J. Wooman inquired about the fencing he used, and if he considered barbed wire unsafe. He said he had barbed wire all over his farm. If it was a rail fence, he strung one strand along the inside corners, and that was all the protection to the fence that was necessary. Even if the wire by any means got off the fence, the colts would not step over it. He had never had any serious damage resulting from its use; the worst case he ever had was on a colt that he sold for \$250, and the purchaser could not find the scar after being told that the colt had been cut by barbed wire. The four point wire was the only safe kind. The saw tooth kind is as bad as a knife to cut if a colt gets on it. What new fence he builds will be made of barbed wire.

He trims his colts' feet with a long handled chisel which he holds on the hoof, and has an attendant who strikes it with a maul. This is good rainy day work. If the colts are taken out of a wet pasture, their hoofs are soft, and there is no trouble to trim them. He never had a colt with ring bone, and he thinks keeping the feet well trimmed may prevent it.

He preferred to let colts run in pasture, rather than keep them in a yard and cut feed and carry to them. In the pasture the colts eat as the appetite demands, and never overload the stomach, as they are apt to do if fed green feed from a rack. This latter plan may take less acres of land to keep a colt, but it requires more care and labor, and the colts are more liable to colic from distending the stomach when hungry.

There was some dissent from the statement that it costs no more to keep a colt that will sell for \$200, than a steer that will bring \$50. There were evidently several masked batteries to open on this point, but either through fear that Mr. Woodman's guns were too well loaded, or that the discussion might be too long, the point was dropped, and the statement stands, challenging the readers of the Farmer to controvert it if they think it will not bear the test of experience.—Michigan Farmer.

A mistake is frequently made in over-feeding a few days after lambing and then reducing the supply, whereas the lambs need more milk as they grow larger, and this should be provided for.

For cuts from barbed wire fence, sore shoulders, ticks and open sores on animals, use Stewart's Healing Powder, 15 and 50 cts. a box.

It is said that the originator of the Concord grape has raised over 20,000 seedlings in the past thirty-five years without finding his ideal grape, and only twenty-one had desirable qualities.

T. E. Bowman, Topeka, makes loans on good farm securities, at moderate rate of interest and no commission. Correspondence solicited.

BREEDERS' DIRECTORY.

Cards of three lines or less, will be inserted in the Breeder's Directory for \$10.00 per year, or \$5.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent the advertiser during the continuance of the card.

HORSES.

FOR SALE—On good terms, two imported Clydesdale Stallions, with books of 1885 included. Both sure breeders. Can see their colts. For particulars address Robert Ritchey, Peabody, Kas.

THE IMPORTED CLYDESDALE STALLION—"KNIGHT OF HARRIS" (No. 995 Clydesdale stud book) will stand this season at the stable of the undersigned, three miles west of Topeka (Sixth St. road). He is one of the best Clyde horses in America. Sire Chiefstain; grandsire, the great show stallion Topsmar. To insure, \$25. H. W. McAFEE.

CATTLE.

ASH GROVE STOCK FARM.—J. F. Glick, Highland, Doniphan county, Kansas, breeds first-class THOROUGHBRED SHORT-HORN CATTLE AND POLAND-CHINA SWINE. Young stock for sale. Inspection and correspondence invited.

WALNUT PARK FARM.—F. Playter, Walnut, Kas., breeds the largest herd of Short-horn Cattle in southern Kansas. Stock for sale. Cor. invited.

JOHNSON & WILLIAMS, Silver Lake, Kas., breeders of Thoroughbred Short-horn Cattle. The herd numbers thirty head, with a Rose of Sharon bull at head.

OKA WOOD HERD, C. S. Elchholz, Wichita, Kas. Live Stock Auctioneer and breeder of Thoroughbred Short-horn Cattle, Poland-Chinas & Brnzee Trkys.

DEXTER SEVERY & SONS, Leland, Ill., breeders of Thoroughbred Holstein Cattle. Choice stock for sale, both sexes. Correspondence invited.

CEDAR-CROFT HERD SHORT-HORNS.—E. C. Evans & Son, Prop'r, Sedalia, Mo. Youngsters of the most popular families for sale. Also Bronze Turkeys and Plymouth Rock Chickens. Write or call at office of Dr. E. C. Evans, in city.

T. M. MARCY & SON, Wakarusa, Shawnee county, Kas. We now have 116 head of recorded Short-horns. If you wish a young bull or Short-horn cows do yourself the justice to come and see or write us.

BROAD LAWN HERD of Short-horns. Robt. Patton, Hamlin, Kas., Prop'r. Herd numbers about 120 head. Bulls and Cows for sale.

ALTAHAM HERD. W. H. H. Cundiff, Pleasant Hill, Cass Co., Mo., has fashionable-bred Short-horn Bulls for sale. Among them are two Rose of Sharon and one aged show bull. None but the very best allowed to go out from this herd; all others are castrated.

U. P. BENNETT & SON, Lee's Summit, Mo., breeders of THOROUGHBRED SHORT-HORN CATTLE, Cotswold sheep, Berkshire swine, Bronze turkeys and Plymouth Rock chickens. Inspection invited.

POWELL BROS., Lee's Summit (Jackson Co.), Mo., breeders of Short-horn Cattle and pure-bred Poland-China Swine and Plymouth Rock Fowls. Stock for sale. Mention this paper.

W. A. POWELL, Lee's Summit, Mo., breeder of the Poverty Hill Herd of Thoroughbred Short-horn Cattle. Inspection and correspondence solicited.

J. W. LILLARD, Nevada, Mo., Breeder of THOROUGHBRED SHORT-HORNS. A Young Mary bull at head of herd. Young Stock for sale. Satisfaction guaranteed.

CATTLE AND SWINE.

COTTONWOOD FARM HERDS, J. J. Malls, Manhattan, Kansas, Breeder and shipper of SHORT-HORN CATTLE and BERKSHIRE SWINE. Orders promptly filled by express. The farm is four miles east of Manhattan, north of the Kansas river.

DR. A. M. EIDSON, Reading, Lyon Co., Kas., makes a specialty of the breeding and sale of thoroughbred and high-grade Short-horn Cattle; Hambletonian Horses of the most fashionable strains; pure-bred Jersey Red Hogs and Jersey Cattle.

SHORT-HORN PARK, containing 2,000 acres, for sale. Also, Short-horn Cattle and Registered Poland-China. Young stock for sale. Address B. F. Dole, Canton, McPherson Co., Kas.

GLENNVIEW FARM. G. A. Laude, Humboldt, Kas., breeds Short-horn Cattle and Poland-China Swine. Also Saddle and Harness Horses.

I HAVE 10 young pure-bred Short-horn Bulls, 10 Cows and Heifers, a few choice Poland-China Boars and Sows—the latter bred for sale. Send for new catalogue. H. B. Scott, Sedalia, Mo.

H. S. FILLMORE, Green Lawn Fruit and Stock Place, Lawrence, Kas., breeder of Jersey Cattle, Poland-China and Berkshire Swine. Stock for sale.

WOODSIDE STOCK FARM.—F. M. Neal, Pleasant Run, Potawatomi Co., Kas., breeder of Thoroughbred Short-horn Cattle, Cotswold Sheep, Poland-China and Berkshire Hogs. Young stock for sale.

SHEEP.

C. F. HARDICK & SON, Louisville, Kansas, breeders of REGISTERED AMERICAN MERINO SHEEP. Having good constitution and an even fleece of fine, dense wool. Fine wool a specialty. Come and see our flocks or write us.

A. F. WILLMARTH & CO., Ellsworth, Kas., breeders of Registered Spanish Merino Sheep. "Wooly Head" 696 at head of flock. Choice rams for sale. Satisfaction guaranteed.

SWINE.

CATALPA GROVE STOCK FARM. J. W. Arnold, Louisville, Kansas, breeds Recorded POLAND-CHINA SWINE AND MERINO SHEEP.

The swine are of the Give or Take, Perfection, and other fashionable strains. Stock for sale in pairs not related. Invite correspondence or inspection of stock.

A. J. CARPENTER, Milford, Kansas, breeder of Thoroughbred Poland-China Swine. Stock for sale. Inspection and correspondence invited.

SWINE.

OUR ILLUSTRATED JOURNAL.—A full and complete history of the Poland-China Hog, sent free on application. Stock of all ages and conditions for sale. Address J. & C. STRAWN, Newark, Ohio.

F. M. BOOKS & CO., Burlingame, Kas., Importer and breeders of Recorded Poland-China and Large Berkshire Swine. Breeding stock the choicest from the best herds in seven States. I have special rates by express. Write.

J. A. DAVIDSON, Richmond, Franklin Co., Kas., breeder of POLAND-CHINA Swine. 170 head in herd. Recorded in A. and O. P.-C. R. Call or write.

ROBERT COOK, Iola, Allen county, Kansas, importer and breeder of Poland-China Hogs. Pigs warranted first-class. Write.

POULTRY.

ONE DOLLAR per thirteen for eggs from choice Plymouth Rock fowls or Pekin ducks. Plymouth Rock cockerels \$2 each. Mark S. Salisbury, Box 931, Kansas City, Mo.

NEOSHO VALLEY POULTRY YARDS.—Established, 1870. Pure-bred Light Brahmans, Partridge Cochins, Plymouth Rocks. Eggs in season. Stock in fall. Write for prices. Wm. Hammond, box 190, Emporia, Kas.

N. R. NYE, breeder of the leading varieties of Choice Poultry, Leavenworth, Kansas. Send for circular.

W. M. WIGHTMAN, Ottawa, Kansas, breeder of high-class poultry—White and Brown Leghorns and Buff Cochins. Eggs, \$2.00 for thirteen.

EGGS FOR SALE—From Light Brahmans, Buff Cochins and Plymouth Rocks; 13 for \$1.75; 26 for \$3. Also Pekin Duck eggs, 11 for \$1.75; 22 for \$3. Also Emden Geese eggs 6 for \$2; and Bronze Turkey eggs 12 for \$3. W. J. McColm, Waveland, Shawnee Co., Kas.

J. M. ANDERSON, Salina, Kas. Breeds Turkeys, Plymouth Rocks, Pekin Ducks, Shepherd Puppies and Jersey Cows and Heifers. Write for prices.

FAIRVIEW POULTRY YARDS. Write postal for price list of fowls and eggs. Six varieties. MRS. GEO. TAGGART, Parsons, Kansas. Lock box 744.

PLYMOUTH ROCK CHICKENS. Eggs for hatching, from the finest breeding pens in the United States. Fowls have taken first premium wherever shown. Eggs safely packed for shipment. Setting of 13, \$2.50. Fowls for sale in the fall. Address E. W. Stevens, Sedalia, Missouri.

MRS. T. W. RAGSDALE, Paris, Mo., breeder of Light Brahma Chickens and Bronze Turkeys—the best. Eggs, \$2.50 for 13.

GEO. H. HUGHES, North Topeka, Kas., 14 first prizes (Felch and Pierce, judges,) on W. F. B. Spanish, & P. Rocks. Eggs, \$3 for 13; 26 for \$5. Prepared shell, 100 lbs. \$5. 12 egg baskets, 90 cts. Poultry Monthly, \$1.

MISCELLANEOUS

OSWEGO TILE FACTORY.—H. C. Draper, Prop'r., Oswego, Kas. Best shipping facilities over Missouri Pacific and Frisco railroads. Write for prices.

S. A. SAWYER, Manhattan, Kas., Live Stock Auctioneer. Sales made in all the States and Canada Good reference. Have full sets of Herd Books. Complete catalogues.

REPUBLICAN VALLEY STOCK FARM.—Henry Avery, Wakefield, Clay Co., Kas., breeder of Percheron horses. Stock for sale. Send for catalogue.

MERINO SHEEP, Berkshire hogs and fifteen varieties of high-class poultry of the best strains. Bucks a specialty. Harry McCullough, Fayette, Mo.

PROSPECT FARM.—H. W. McAfee, Topeka, Kas. For sale cheap 15 registered Short-horn bulls, 1 to 3 years old. Also, Clydesdale horses.

S. V. WALTON & SON, Box 207, Wellington, Kansas, —Breeder of—

IMPROVED POLAND-CHINA HOGS Of the Highest Type. All well pedigreed. Correspondence solicited

THE LINWOOD HERD SHORT-HORN CATTLE



IMP. BARON VICTOR W. A. HARRIS, Linwood, Kansas.

The herd is composed of VICTORIAS, VIOLETS, LAVENDERS BRAWHIT BUDS, SECRETS, and others from the celebrated herd of A. Cruickshank, Sittytown, Aberdeenshire, Scotland. GOLDEN DROPS, and Urvs, descended from the renowned herd of S. Campbell Kinellar, Aberdeenshire, Scotland. Also YOUNG MARYS, YOUNG PHYLLIS, LADY ELIZABETHS, etc. Imp. BARON VICTOR 42224, bred by Cruickshank, and Imp. DOUBLE GLOSTER head the herd. Linwood, Leavenworth Co., Kas., is on the U. P. R. R., 27 miles west of Kansas City. Farm joins station. Catalogues on application. Inspection invited.

STEWART'S HEALING POWDER CURES ALL OPEN SORES, CUTS FROM BARBED WIRE FENCE, SCRATCHES, KICKS, CUTS, &c. Sold Every-where. 15 & 50 cts. a box. Try it! STEWART HEALING POWDER CO., ST. LOUIS

Correspondence.

A Word About English Affairs.

Kansas Farmer:

I think I have previously drawn attention to the queer ideas prevalent in the United States concerning Great Britain, its monarchy and government. Your article in the K. F. of the 17th, as far as composition is concerned, is well enough; but there I must stop, for it bristles with errors. To begin with, Gladstone was not Secretary of State for Foreign Affairs, having been Premier or Prime Minister. Earl Granville was the Foreign Secretary.

What Gladstone sees or does not see is a matter of opinion and not of fact, which I will not further touch upon. Perhaps you can explain what you mean by the times being troublous in England at present. No doubt it is very kind of outsiders to be so solicitous for the welfare of the British Empire, but I don't think the bulk of people in England excite themselves much on the subject. Pray, what are the "local theories of obstinate monarchs," and how applicable to Queen Victoria?

You also inform us that Canada and Australia are "dependencies" only in name. Quite so; also allow me to inform you that Her Majesty, Queen Anne, is deceased. I think I may add that these are matters approaching ancient history, whilst the article in question is supposed to be discussing modern politics. About India, on the other hand, you are somewhat premature, maybe. No doubt but that the federation of England with all her colonies is the hope and desire of every educated and patriotic British subject.

Monarchy in Great Britain, so far as political power is concerned, is in a sense a mere form; but are you quite sure if you understand the sort of hold the monarchy has on the vast majority of Englishmen? Our monarch is simply and has been for many years a hereditary President (one may style it) which is a much preferable arrangement, we think, to having the whole country in a turmoil of excitement every four years over the election of its chief magistrate. There is another almost incalculable advantage too in that the monarch belongs to neither of the political parties, but forms the necessary apex for either when in power. Right here let me say, and let no one forget it, that the political power of England's monarch is less in many respects than that of the President of the United States. All the political power practically centers in the Ministry for the time being, that is, upheld by the Parliament and public opinion. The absolute power possessed by the United States President in some directions would be intolerable to the British people. Let that fact, also, sink into everybody's mind.

It is quite a local and parochial idea that the inhabitants of the States have the monopoly of either the love or possession of perfect political liberty; to their liberty let them add the toleration so conspicuous in England, and often so conspicuous by its absence here. By toleration I mean the ability to calmly listen to a political opponent, whatever his ideas. Were a man to advocate a monarchical form of government in America at a public meeting or in a park, I opine his person and life would be in danger. Political agitators constantly advocate republicanism in the public parks in London, and at the most are pooh-poohed and smiled at by monarchists.

The social power of Queen Victoria is great, for she always is somebody; whereas the Presidents of Republics, when their term of office expires, sink as a rule into obscurity. Your obedient servant, JOB.

[REMARKS.—Our calling the Premier a Secretary of State for Foreign Affairs was purely a mistake, and how it occurred we do not know. It was a foolish one, too, for we are not wholly ignorant of affairs in England. We regard civilization in England as at the front, and there is probably no doubt anywhere that English statesmanship is in advance of all others; and in so far as personal freedom is concerned, Englishmen are as free as anybody; still, so long as the House of Lords is composed of persons beyond the people's reach, and so long as there is a hereditary sovereign there, and so long as a citizen is subject to imprisonment for speaking disrespectfully of the monarch, England is not free.—ED. K. F.]

Notes and Queries from Russell.

Kansas Farmer:

Having a few spare moments before the real work of harvesting commences, I will try and jot down a few notes from Russell county. We have had a good many what I call surface rains this spring but none that have soaked the ground deep since early spring, and the result is our grain, both winter and spring, is short straw with a better quality of grain than last year, but hard to save. There is probably one-third of what was sown that will not pay for harvesting; of course a large amount of this has been plowed up and planted to corn and cane. Our corn at this time is looking as well as I have ever seen corn anywhere at this time of year and I have lived in Illinois where they make a business of raising corn. There is a large amount of cane being planted for feed. Grass is plenty for hay and of fair quality. Stock of all kinds are in good condition; the cases of black-leg and loco poisoning have disappeared. There is some fruit grown in Russell county this year. The Hon. J. J. A. T. Dixon has a fine cherry orchard loaded with fruit. Mr. Yoxall and Mr. J. J. Johnson have each fine orchards of all the ordinary fruits. Others have fruit trees, but until this year fruit culture has been neglected. This spring thousands of fruit trees have been set out in Russell county, and if they are properly cared for we shall soon raise all the fruit we need. There has been a large immigration of permanent settlers to this county this spring.

Can any one tell us how to keep the borers out of peach and apple trees, not how to get them out—we know that; but how to keep them out? RUSSELL CO. FARMER.

About Web Worms and Crops.

Kansas Farmer:

The season is more backward in this locality than in any other year so far as we have heard. There has been a great amount of rain and hail, consequently it has been very cool and crops are not doing as well as they generally do. A great many are not done planting corn yet; a few that had new or sandy land have cultivated their corn once.

About a week ago the ground was covered with a small lead-colored caterpillar, and at present what corn is up is being seriously damaged by a green worm working on the blades first and then the main stalk. They form a web. The largest that I have seen is about one-half an inch in length. One man had thirty acres that had been cultivated once; the worms entirely destroyed it.

Flax looks very well. Oats are poor—too wet the fore part of the season, and now the chinch-bugs are working on them. A fair prospect for potatoes. Very poor gardens; the hail beat them all to pieces and knocked off a great amount of fruit.

We sowed fourteen acres of timothy the first week in last September according to directions in your valuable paper, and got a very good stand, although we had a severe winter, and this spring we sowed clover on the same land and got a very good stand of it. Now, we want to know if we must cut it or let it stand. It is about waist high in some places with heads eight inches long and out in bloom. No weeds among it scarcely. This grass is on high upland prairie. Please answer through the FARMER. J. M. B.

[The grass ought to be cut, and if the stand is good, make hay of it, or, at least, haul it off the ground.—ED. K. F.]

From Chautauqua County.

Kansas Farmer:

Since I last wrote you we of the Cana valley have passed through the most discouraging circumstances that have ever befallen us since this country has been settled by whites. Most of us came out of the hard winter all right and were well through planting corn about the middle of May, when one of those terrible Kansas rains came on Big Cana and its tributaries and sent such a torrent of water down the valley that fences, grain, and even stock in some cases were swept down the angry current. And while small grain crops as wheat and oats suffered but little, the corn, generally, was either washed out or covered up. But a very little portion of the first planting was left. Most farmers went to work immediately to plant over and in from two to three weeks all the fields showed the nice rows of growing corn

again. And as troubles seldom come singly, all at once our fields were alive with what are generally called the web worm, a small, rather greenish striped, very active worm, and possessed of a wonderfully voracious appetite, consuming almost all vegetation before them, and the young tender corn does not go far with them. Some even have planted the third time, and the last remaining ones are eating that. Will the editor or some kind friend tell us if those are the cotton worm and are they likely to repeat this curse again this summer? The worms were preceded by an ash-white moth about half an inch long.

Our wheat crop is fair, just an average yield and rather good quality. Oats never was as good nor quite as much sowed, and the prospect for a hay crop never was better. We have sent North for early corn and will plant again, hoping to raise some feed yet. Some are plowing up and planting their wheat stubble ground. Millet generally looks well and some are still sowing. There will be a fair crop of fruit this season if nothing happens to it yet. Stock never looked better. B.

Hart's Mill, Chautauqua county.

Gossip About Stock.

From various parts of the State nearly 3,000 cases of glanders among horses have been reported to the State Veterinarian, Dr. A. A. Holcombe.

Last week several Hereford breeders from Beecher, Ill., held a public sale at Chicago, and dispersed thirty-one head at an average price of \$245. Eight females averaged \$303, and twenty-three bulls \$225.

The sale of Jerseys made at Beech Grove, Indiana, was not up to the prices realized farther east. Forty-four Jerseys sold for \$7,220, an average of \$164; eleven bulls sold at an average of \$84, and thirty-three females at \$191.

The fourth annual catalogue of the Merino Sheep Farm, owned by R. T. McCulley & Bro., has been received at this office and is one of the most creditable catalogues ever gotten out by these enterprising breeders. Sheep and poultry people should have it.

The *Live Stock Record* report of the Short-horn sale by Chenault Todd, at Fayette, Mo., indicates that it was one of the best sales made in the State. The cattle were in ordinary condition and of the common breeding, yet thirteen bulls averaged \$105, and thirty-seven females \$128.25.

Phil. Thrifton writes that the Jersey cattle sale at Springfield, Ill., the 24th ult., was a fair sale of good cattle, and, everything considered, the prices realized were satisfactory to Messrs. Mills & Chapman, and bargains for the buyers. Nineteen cows and heifers sold for \$2,675, an average of \$140.79.

According to Mr. O. W. Hawden, at the last Dairymen's convention, it requires quite a herd of cows to supply the demands of the people. He estimates that the country contains upwards of 15,000,000 cows and that 650,000 men and women are employed in their care and the manipulation of their dairy product.

The improvement of horses is becoming more manifest in Kansas. The "plug" and the Indian pony must go. While the improvement of our horses has not kept pace with cattle and swine, it is apparent that there is general desire among farmers and breeders that we must have better and more serviceable horses.

July 16, 1885, A. H. Lackey & Son sell at Peabody, Kas., seventy-five head of young cows and heifers, most of which have calves or are in calf by two of the most valuable bulls ever brought to Kansas, Imp. Grand Duke of Barrington 3d (46444) and the grand Cruickshank bull, Bampton's Pride 49854. See ad. in these columns.

A correspondent of the Peabody Graphic writes that C. E. Westbrook has lost twenty-four head of sheep by dogs. That makes 155 head killed by worthless curs in Marion county in the past two years. At three dollars per head it will amount to \$465; double that every year for eight years and it will build a college in Marion county worth \$118,040. Wonder how Charlie likes a lawyer for a representative. By the way we would like to see some good farmer or live stock man represent Marion county once. That makes me think that A. H. Lackey is one of the ablest men we have in the county. Though

he differs with us in politics, we would hold up both hands and not only vote for him but support him. We know the Doctor well; he is a good man.

The organization of the Missouri Valley Jersey Cattle Breeders' Association at Kansas City last week was for the furthering of Jersey cattle interests in Kansas and Missouri. The President is W. Z. Hickman, Westport, Mo., and C. O. Blankenbaker, of Ottawa, Kas., was elected Secretary. Breeders of Jerseys should identify themselves with the organization.

The fifth annual session of the Missouri Wool-Growers' Association was not so well attended as usual. The exercises were earnest and practical and showed that the representative men in attendance still had faith in the industry notwithstanding the unfavorable condition of the industry and the many besetting difficulties. A paper read by G. H. Wallace, of Fayette, should be read by every sheepman in the West. Officers were elected as follows: G. H. Wallace, Fayette, President; R. T. McCulley, Lee's Summit, Vice President; N. H. Gentry, Sedalia, Treasurer; Harry McCullough, Fayette, Secretary. The next meeting will be held in April, 1886, at St. Louis.

Buckwheat as a Fertilizer.

One of our contemporaries, the *Farmer's Review*, if we remember correctly, calls attention to the value of buckwheat as a fertilizer and calls it a "true renovator." It says "the cultivators of the soil, especially in the West, are not sufficiently impressed with the great value of buckwheat. We do not refer to it as a catch crop, and here it has great value; not as an article of diet, and it forms a most delightful change at the table; nor yet the value of the straw and grain in the winter for its milk and butter-producing power which is truly great; nor to its importance to the chicken farmer, for egg production in winter, all of which individual positions it most efficiently fills. We refer to its use as a green manure and true renovator of the soil. It is available to sow and plow under from early spring till late in the fall, but it can be sown after all the spring crops are in and be turned under and ferment and decay during the hot, dry weather of midsummer, which it does most promptly and completely. It can then again be lightly plowed or heavily harrowed and sown again and turned under. In its dense and rapid growth it crowds down and smothers weeds; when turned under its active and powerful fermentation and decay causes the decay of the seeds and roots or weeds as no other crop will do. In preparing foul ground for clean culture there is no cleanser that can compare with buckwheat. In the preparation of land for such crops as strawberries, its value is fully seen. As a manure it is certainly one of the cheapest and most convenient. It forms a fine bee pasturage some years, but is not always alike in this. Some cultivators object to the use of buckwheat for the seed getting out as a weed; this seems to have but little force, as against its benefits, for as no two weeds or plants can occupy the same space at the same time, if weed there must be it may as well be buckwheat as any other.

Wool.

From Hagey & Wilhelm, St. Louis, Mo., who claim to be the *oldest and heaviest* receivers of wool, for sale on commission, in the city, we learn the following:

Market active and firm, and full returns for shipments are received by the grower in ten to fifteen days from date of shipment.

Traveling buyers are misrepresenting the market to growers, and buying their wool in country points for 15 and 16 cents, when if they will ship it will net 16 to 17 cents here. Let the grower ship and make that one cent per pound profit for himself.

We take special pains with small lots and can always sell them to advantage.

In our entire business career we have never speculated to the extent of one cent and have ample means in the Boatmen's Saving Bank to make prompt returns as soon as we sell.

Any grower desiring to be kept posted in our market, or wanting wool sacks free of charge to ship to us in, will please send us his address.

Growers will do well to ship early, as we look for declines in prices during the latter part of July and August.

The Law Against Inclosing Public Lands.

A law was passed at the last session of Congress to put an end to fencing up the public lands. The following is a copy as we find it printed in the *Irrigator*:

AN ACT to prevent unlawful occupancy of the public lands.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That all inclosures of any public lands in any State or Territory in the United States, heretofore or to be hereafter made, erected, or constructed by any person, party, association, or corporation, to any of which land included within the inclosure the person, party, association, or corporation making or controlling the inclosure had no claim or color of title made or acquired in good faith, or an asserted right thereto by or under claim, made in good faith with a view to entry thereof at the proper land-office under the general laws of the United States at the time any such inclosure was or shall be made, are hereby declared to be unlawful, and the maintenance, erection, construction or control of any such inclosure is hereby forbidden and prohibited; and the assertion of a right to the exclusive use and occupancy of any part of the public lands of the United States in any State or any of the Territories of the United States, without claim, color of title, or asserted right as above specified as to inclosure, is likewise declared unlawful, and hereby prohibited.

SEC. 2. That it shall be the duty of the District Attorney of the United States for the proper district, on affidavit filed with him by any citizen of the United States that section one of this act is being violated, showing a description of the land inclosed with reasonable certainty, not necessarily by metes and bounds nor by government subdivisions or surveyed lands, but only so that the inclosure may be identified, and the person guilty of the violation as nearly as may be, and by description, if the name cannot on reasonable inquiry be ascertained, to institute a civil suit in the proper United States District or Circuit Court, or Territorial District Court, in the name of the United States, and against the parties named or described who shall be in charge of or controlling the inclosure complained of as defendants, and jurisdiction is also hereby conferred on any United States District or Circuit Court or Territorial District Court having jurisdiction over the locality where the land inclosed, or any part thereof, shall be situated, to hear and determine proceedings in equity, by writ of injunction to restrain violations of the provisions of this act; and it shall be sufficient to give the court jurisdiction if service of original process be had in any civil proceeding on any agent or employee having charge or control of the inclosure; and any suit brought under the provisions of this section shall have precedence for hearing and trial over other cases on the civil docket of the court, and shall be tried and determined at the earliest practicable day. In any case if the inclosure shall be found to be unlawful, the court shall make the proper order, judgment, or decree for the destruction of the inclosure, in a summary way, unless the inclosure shall be removed by the defendant within five days after the order of the court.

SEC. 3. That no person, by force, threats, intimidation, or by any fencing or inclosing, or any other unlawful means, shall prevent or obstruct, or shall combine and confederate with others to prevent or obstruct, any person from peaceably entering upon or establishing a settlement or residence on any tract of public land subject to settlement or entry under the public land laws of the United States, or shall prevent or obstruct free passage or transit over or through the public lands: *Provided*, This section shall not be held to affect the right or title of persons, who have gone upon, improved or occupied said lands under the land laws of the United States, claiming title thereto, in good faith.

SEC. 4. That any person violating any of the provisions hereof, whether as owner, part owner, or agent, or who shall aid, abet, counsel, advise, or assist in any violation hereof, shall be deemed guilty of a misdemeanor, and fined in a sum not exceeding one thousand dollars and be imprisoned not exceeding one year for each offence.

SEC. 5. That the President is hereby authorized to take such measures as shall be necessary to remove and destroy any unlawful enclosure of any of said lands, and to employ civil or military force as may be necessary for that purpose.

SEC. 6. That where the alleged unlawful inclosure includes less than one hundred and sixty acres of land, no suit shall be brought under the provisions of this act without authority from the Secretary of the Interior.

SEC. 7. That nothing herein shall affect any pending suit to work their discontinuance, but as to them hereafter they shall be prosecuted and determined under the provisions of this act.

Approved, February 25th, 1885.

Are You Going South?

If so, it is of great importance to you to be fully informed as to the cheapest, most direct and most pleasant route. You will wish to purchase your ticket via the route that will subject you to no delays and by which through trains are run. Before you start you should provide yourself with a map and time table of the Kansas City, Fort Scott & Gulf Railroad (Memphis Short Route South). The only direct route from

and via Kansas City to all points in Eastern and Southern Kansas, Southwest Missouri and Texas. Practically the only route from the West to all Southern cities. Entire trains with Pullman Palace Sleeping Cars and free Reclining Chair Cars, Kansas City to Memphis; through Sleeping Car Kansas City to New Orleans. This is the direct route, and many miles the shortest line to Little Rock, Hot Springs, Eureka Springs, Fort Smith, Van Buren, Fayetteville and all points in Arkansas. Send for a large map. Send for a copy of the "Missouri and Kansas Farmer," an eight-page paper, containing full and reliable information in relation to the great States of Missouri and Kansas. Issued monthly and mailed free.

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

The Wool Market.

Manufacturers control the market. They are buying sparingly, leaving small margins of stock on hand waiting for more favorable signs. The condition seems to be hopeful and yet every one is cautious.

Messrs. Hagey and Wilhelm send St. Louis prices, as follows:

Fancy, medium and light fine.....	19a20
Choice, medium and light fine.....	18a19
Fair, medium and light fine.....	16a17
Common and mixed.....	14a16
Carpet.....	10a12
Heavy and Buck.....	12a13

Chicago prices, forwarded by Lucas & Wynn, for Kansas, Nebraska and Territory wools, are:

Fine.....	17a20
Medium.....	19a22
Coarse.....	15a18
Carpet.....	10a13

As to Philadelphia, W. C. Houston Jr. & Co., say:

Since our last issue the market has been quiet and sales restricted. At this time of the year, when the clip of the country is being marketed, the values largely established for some time to come, it is, of course, natural that dealers and manufacturers should bear prices to the utmost of their ability, and that quotations East have held their own in the face of this adverse influence is largely due to the prevailing feeling that hard pan has been touched; though small stocks East, and light receipts until late in the spring, have materially aided holders of wool in maintaining prices. Owing to the stability thus apparently demonstrated, we have considered it safe to do so at figures that will permit them to consign and sell at current Eastern quotations; at the same time we have cautioned them to purchase with discrimination as to condition, grade, etc.; and we are glad to know that wool this year is being bought in a more mercantile manner than ever before, and that operators generally, throughout the country, are insisting upon strict deductions for heavy and unmerchantable wool, and are buying burry and seedy lots on their intrinsic merits.

Business generally is unsatisfactory; there is no use disguising the fact, but the dissatisfaction rests more with the small margin of profit than with the magnitude of business transacted. This being the case, there is every probability that all our domestic wool will be required to supply the wants of our manufacturers, and when the supply is not greatly in excess of the demand, it takes but little to improve values. We don't mean to give the idea that a "boom" is in store for the wool trade, nor do we even say that prices will advance, but simply to state when wool is as low as to-day, and when the clip is not likely to exceed, if it exceeds at all, the amount required by manufacturers in the course of the year, then it is safe to buy and ship, and that the chances of an improvement in values are extremely favorable.

KANSAS, NEBRASKA AND SIMILAR WOOLS.

	Light and bright.....	Dark, heavy and brashy.....
Fine.....	19a20	15a17
Medium.....	19a20	17a18
Quarter Blood.....	17a18	16a17
Common, Cots and Burry.....	15a16	14a15

Important to Wool Growers.

ST. LOUIS, Mo., June 27, 1885.—Manufacturers commenced to-day making a run on light and heavy fine and carpet wools, and travelling buyers are making a rush to the country to purchase before the grower is posted in the advance in prices. Ship to us at once and our sales will net you much more than home prices.

HAGEY & WILHELM, Wool Commission Merchants, St. Louis, Mo.

The Chicago Public Library, now eleven years old, contains 111,621 volumes, and has the largest number of readers of any library in the country except that of Boston.

Buckwheat and turnip seed for sale at the Topeka Seed House. Address S. H. Downs, Topeka, Kas.

There are 60,000 trees in the streets of Washington.

Asthma and Bronchitis cured by Dr. King's New Discovery for Consumption. Trial bottle free.

This, That and the Other.

To preserve cherries—keep the small boys off.

To take out grease spots—sit on a warm stove.

There is one town in Connecticut that has no fear of the measles. It's Haddam.

The whole number of visitors to the New Orleans Exhibition was 1,158,840. The show was open nearly as long as the Centennial Exhibition at Philadelphia, which was visited by 9,910,966 persons.

Henry Russell, who came to this country forty years ago, and wrote the music to "Woodman, Spare That Tree," and "A Life on the Ocean Wave," is still living in England at a very advanced age.

Some of the wealthy Romans had as many as 10,000 slaves. The minimum price fixed by law was \$80, but after great victories they could sometimes be bought for a few shillings apiece on the field of battle.

One of the largest single electric lights ever constructed was placed on exhibition at Seneca Falls, N. Y., on a recent Saturday evening. It was of 50,000 candle power, and was made in Ilion. The light was placed on the tower of a building at a height of seventy-five feet from the ground. It is intended to illuminate the whole village.

The German Government has discharged all women who were employed in its postal, telegraph and railway service as clerks and in other capacities. As during the last twenty years they nearly monopolized such service in some towns, much suffering has ensued among the discharged. The motive alleged is that women are unfit for such public service.

Rats and mice were long the scourge of Hawaiian farmers, but they have been successfully dealt with by the introduction of the mongoose. Thirty-six pairs of this animal were imported from Jamaica two years ago into the district of Hilo, with the result of instantly clearing 4,000 acres of cane of this nuisance. One planter estimates his saving from this cause last year at \$50,000.

She looked such a dear,
Drinking tea from her saucer!
I stole pretty near—
She looked such a dear—
All uncultured, 'tis clear,
For she jumped with "Lor', sir!"
But she looked such a dear,
Drinking tea from her saucer.
—*Vanity Fair*.

The Philadelphia *Medical and Surgical Reporter* gives a report from San Francisco of the death of Dr. Charles Pierce from the morphine habit. He and his wife had been living for months in a lodging house, spending most of their money for the drug to which both were slaves. They were discovered half dead, after being four days without food. They once held high social positions in Baltimore, where the wife acquired the habit while nursing her husband.

"Why Not Eat Insects?" is the title of a recent English book. The writer thinks that such a diet would have certain advantages for poor people, and he insists that an "appetizing relish" is to be found in "boiled caterpillars, fried grasshoppers, and grilled cock-chafers." His argument rests mainly on the descriptions of half-starved travelers concerning their personal enjoyment of cooked insects and the fact that certain savages thrive on such diet.

The famous Panama hats are all made in Guayaquil, Ecuador, and get their name because Panama merchants formerly controlled the trade. They are made of the pita fiber, a sort of palm, and are braided under water by native women of strands often twelve and fifteen feet long, and fine ones are very expensive. It often takes two or three weeks to braid a single hat, which sells for five or six dollars, and lasts forever. A traveler speaks of one made of a single straw or fiber, as fine as thread and soft as silk. The woman who made it was engaged four months in the work, and it was valued at \$250.

A lad of 17, who was with the Egyptian army under Hicks Pasha, was an eye witness of his death, and gives this account: "Hicks Pasha and the very few English officers left with him, seeing all hope of restoring order gone, spurred their horses and sprang out of the confused mass of wounded, dead and dying. These officers fired their revolvers, clearing a space for themselves, till all their ammunition was expended. They killed many. They had got clear outside. They then took to their swords and fought till they fell. Hicks Pasha alone remained. He was a terror to the Arabs. They said he never struck a man with his sword without killing him. They named him Abou Deraa Dougal, the heavy armed (or thick and brawny). He kept them all at bay, but he was struck on the wrist with a sword and he dropped his own. He then fell."

One of the exports of Persia is horses. The Persian dealer travels over the country, haying agents in every large town. He buys for the Indian market. His destination, when he has got together a likely lot of animals, is usually Kurrachee. As a rule the Persian horse dealer buys nothing under fourteen hands. The Persian horses exported to India are sold either as riding horses and chargers at an average minimum price of 600 rupees, or as artillery horses at a standard price of 400 rupees, while the an-

imals that remain unbought for these purposes are eagerly snapped up as carriage horses. The Persian horse dealer, even when most respectable, resorts to bishoping, which dictionaries define as "to use arts to make old horses look like young ones," the arts used consisting in cutting the upper surface of the incisor teeth into a depression, and then with a chemical preparation blackening the cavity so as to imitate the "marks" of a young horse. The operation is always performed during the voyage to India from the Persian Gulf, the instrument used being a dentist's rose-head hand drill.

Hints to Silk Culturists.

Mrs. John Lucas, President of the Women's Silk Culture Association of the United States (office at 1222 Arch street, Philadelphia,) is distributing among the people a circular letter of which the following is a copy:

The Women's Silk Culture Association of the United States, now acting under the patronage of the United States Government, desire to explain to culturists some points which are important to the proper culture preparation of the product of the silk industry, in order to enable them to secure the best market prices for their stock. Complaints have come to the Association for the small prices paid for cocoons, and this condition needs explanation. The small crops ranging from one pound upwards come to us from all sections of the United States, and are raised principally by inexperienced culturist. The seed (or silk worm egg) is often of poor quality, especially if raised from imperfect cocoons. Such worms are feeble, and produce only a small quantity of silk; they are often fed on mixed food, or under-fed, or over-fed, owing to the want of knowledge on the part of the culturist. In the next stage of the industry, we meet with similar difficulties in bad results from stifling. If the cocoons are allowed to remain too long before they are stifled, the worm begins to eat through the cocoon, which ruins it for reeling. If they are stifled too soon or before the chrysalis has dried, the cocoon is imperfect. If heated to too high a temperature, or scorched in the stifling, the silk is damaged. All these conditions render the silk almost valueless. Again, another cause of depreciation is the quality of waste silk. Commercial waste silk, properly prepared and shipped, should be worth from 50 to 80 cents per pound; but commercial waste silk is clean, well cured, well packed, pierced cocoons, from which the worm has escaped in the form of a moth; and for this product there is a ready market. Such waste as the Association has generally received has been badly raised—badly cured cocoons containing the chrysalis, and from each of which the manufacturer must remove the chrysalis before the cocoon can be utilized, an operation reducing the value still more, as additional labor must be paid to prepare it for the mills, and the imperfect product is valueless for reeling, and difficult to dispose of at any price—such waste compares very unfavorably with the standard waste silk of commerce. Hence the loss to the culturist; and hence the delay in remitting money and in sending information about the separate small crops sent to the Association. We cannot offer a price until, by testing, we find the amount of silk per pound (sixteen ounces) in each lot of cocoons.

We offer this explanation to aid those whom we desire to help and encourage. And if the advice and directions given in the Instruction Book of the Association with regard to such defects be carefully followed in the next process, good results will be attained. To become a nation of silk-raisers, we have much to learn; and the Association will endeavor to issue quarterly bulletins to all correspondents to aid them in perfecting this new industry. The Association are about to enlarge the filature, which will enable them to run the cocoons off more rapidly and render more prompt returns.

The first bulletin issued will be on the subject of trees and worm-food. The Association are ready to give information, and to receive the coming crops of cocoons at such values as reeling the silk will warrant; to direct the formation of auxiliary associations, asking those interested to remember we are all working to establish for our women and children a new industry that must eventually add wealth to our country.

Mann Boudoir Cars.

The Wabash is now running the celebrated Mann Boudoir cars between Kansas City and Chicago. This is the only line running these cars in the West.

While fine hay or fine, well-broken straw makes good nests, a very good nest can be made with shavings from wood; select only the thinnest and softest, and make the nest well with them. They can be lightly sprinkled with diluted carbolic acid to keep away lice, and, being very porous, will retain the smell and effect of the acid much longer than any other material.

Although we recommend not trusting a hen with good eggs until she is willing to return to the nest after feeding, a person who is experienced in moving broody hens can tell by the hen's action when it will do to trust her, which may sometimes be safely done in a few minutes after putting the hen on the new nest, provided the slats are closed so that she cannot get away.

The Home Circle.

The Silver Mist.

I've read somewhere in story,
In some half-forgotten tale,
Of a picture on the ocean
Framed within a foggy veil—
Of a picture dim, uncertain,
With the twilight overspread,
And the sea-clouds drifting whitely
To the pale moon overhead.
And yet I can well remember,
How in fancy I could list
To the rushing of the waters,
Moaning through the silver mist.

On waves gem-tipped and flashing
With their diamond spray flung wide,
Tossed a tiny boat all lonely,
Like a shell upon the tide;
And within its frail heart resting,
As the sea-life in its cell,
A single soul was swaying
On the dark'ning billows' swell;
While methought I saw his features,
Sadly wan and white and triste,
As he strove to pierce the distance
Shrouded in the silver mist.

And the ocean-world grew colder
When the night-time chased the day,
And the sobbing sea rolled higher
Where the wild wind dashed the spray.
And forever and forever,
Far across the heaving plain,
The opal shades flew scudding
With the breath like chilly rain;
While a thousand unseen monsters
Drew closer round and hissed
Their warnings forth of danger
Hidden 'neath the silver mist.

But when the hour was darkest,
And all help seemed far away,
And the storm-tossed one looked upward,
Clasped his hands and tried to pray,
Lo! above him from the shadows
Burst a gleam of brilliant light;
Flash'd the silver mist to golden,
Splendor-flushing all the night.
And from out the halo floating,
With her holy brow star-kissed,
Bent a white-robed angel, smiling
Down upon him through the mist.

So I think on Life's wide ocean,
With our barques befogged and lost,
Ofentimes with only patience
Can we live when sorrow tossed.
Only wait, wait for the glimmer
Through the shades, to show the way
Where the angel bursts asunder
Darkness with her starry ray.
Only wait and look beyond life—
Only wait and only list
Till the good ship Hope bears downward,
Sailing through the silver mist.

—Alma E. Lewis.

Six Months out of Hell.

The editor of the *Optic*, a daily paper published at Las Vegas, New Mexico, is a bright intelligent man, young in years and full of energy, but he was addicted to drink and therefore was on the downward road, but did not know it. A friend halted him, and said—"I will give you one thousand dollars for a copy of your paper containing an editorial article written by yourself after you have abstained from the use of strong drink six months." That is to say, stop drinking; abandon the habit; at the end of six months tell us how you feel, and I will pay one thousand dollars for the story.

A few weeks ago the six months expired, and here is the article, headed as above:

The payment of the \$1,000 wager to the writer yesterday by Mr. J. W. Lynch, the liberal, public spirited and wealthy stockman, at the expiration of the first six months of total abstinence from the use of intoxicants, was the clever deed of a magnanimous man, and for an exalted purpose—the checking in his mad career downward of a young man whose friends feared that he was being engulfed in the vortex of dissipation. Under the inspiration of the moment, with all these facts in view, remembering the promise that the thousand-dollar article should appear this evening, we are led to say that when one, not necessarily the writer, who for many years has been the slave of alcoholic stimulants, abandons the fatal habit and "turns over a new leaf" in the book of life, although the "former things" do not "pass away," but still remain in the retinue of remembrance, yet so far as life's present, daily history is concerned, "all things become new." The tissues of the body do not bear stronger witness to the change of habits than do the feelings of the mind. The reformed man is changed visibly to the eyes of others, but much more is he changed to the eyes of his own self-consciousness. When a man looks back and has to confess that for half a score of years, perhaps longer, he has been pretty constantly under the influence of intoxicants, either in exhilaration or depression—how strange an aspect does the past present, and how many are the thoughts that crowd upon his saddened reflection. Not indeed that he is always thinking of the days or darkness that are gone. Reason would give way to the memory of sin and misery were it not sometimes eclipsed by kindly hope, and if the necessity of present action did not break the chain of gloomy reflections. But there are times of

solitude, twilight hours, when we sit gazing at the fire, or sleepless watches of the night, when the world's business and stir are hushed. And then it is that the past comes to us with muffled footfall, and memory chants her sad processional, and we see things, not in the false tints that excitement gave them, but in the cold gray light of truth. Unlovely is the drinker's retrospect, and the ghosts of our misdeeds are not pleasant company, but they will not for all our asking, lay quiet in their graves. The past is a "deed," signed, sealed and delivered, and no correction, elimination, or addition can be made to it, for it is securely locked in the ancient of days. Every day and month and year has made its mark. The past which is unchangeable, not less than the present, yet our own, and the undetermined future, go to make up our life and our life makes up our very self.

After the first desolating sense that days of drinking have been worse than negative, that they have infixed sharp thorns into our character and conscience, two sequences of thought, both seemingly unproductive of any good, come oftener, perhaps, to a thoughtful man whom alcohol has blighted, but who has given it up. The one is contained in the words "what might have been;" the other, "ah, what I have lost?" These two rivulets of retrospection flow parallel and not far distant from each other. Would that we had only known what belonged to our peace, and happiness, and health, and life, in the day of youth and opportunity which is gone forever. But it was hidden from us. Everything had a false color. We took the painted cheek of the courtesan for the fresh bloom of innocence and youth. The Syren's voice silenced the voice within, that now speaks but only amid broken hopes and impaired manhood. "It is too late," we say, "but, ah, what might have been!" That poor, innocent girl's love—we might have won it, if we had chosen to be worthy. That high prize of learning we might have reached, if we had persevered. That noble profession—we might have adorned it, had we let rum alone. Health, love, happiness, fame—all these "might have been," but now they are "hid from our eyes."

The memory of wasted years is our hardest punishment and too often it is this book of remembrance which we cannot close that has driven us again and again to drown despondency in the cup. Through drink we have lost the happy retrospect. The faces of lost friends reproach us, the echoes of loved ones come to us through time's atmosphere, with a mournful cadence. If memory would sleep, our material losses would be light to bear. But we cannot forget these things, nor cease to look back at them.

And we are trying. By casting away the self-sufficiency and false confidence which always in years past led us astray, we are holding on hopeful, if not certain of victory. The room in which we write may be solitary now. It used not to be so in our drinking days. Then it was convivial enough. Bummer was never many hours away from us. Sucker spent his evenings here, when he knew we were "at home," and swore eternal friendship. Leech protested that our wit like our wine was such as to "drive dull care away." Sponge called us "old boy" in such a manner as he asked us to drink and left us to pay for it—now where are they? As we have heard the piano-forte in Las Vegas ask, "Oh, where are the friends of my youth?" Hath Demas forsaken us? Has Pythias proven false? Or are we less attractive than we were? Reader, who has "been there," you say. None other can know.

But this thousand dollar article, written in sympathy with those who like ourselves are sad over the past, is getting too long, although there is a very great deal more that might be said upon the subject. We may have lost much by our "new departure" in life, but have we not also gained much for which we should be grateful? We have lost false friends, but we have gained true ones. We have lost the flow of spirits, the enchanting dreams, the unreal light, the feverish strength, the unnatural brain power that rum gave us for the hour. But have we not also lost the terrible prostration, the trembling limbs, and the shadowy horrors, the unrefreshing sleep and the dreadful awakening; the sickness and headache, the self-reproach and loathing, the suicidal thoughts and desperate resolves—in a word, the drinker's hell that was ours in periods of reaction! At these times brandy seemed powerless to cheer us. The clogged and fettered wings refused their wanted flight. Strange darkness brooded over the reason and a horrible dread was gripping at our heart. This is all gone now and many a poor deluded victim who reads these lines knows that we are describing the terrible realities of a dissipated life. When we sleep now we are no longer afraid, our slumbers are sweet, good angels are in the corridors of thought, dreamland is no longer lurid with tormenting flames, but luminous and irradiate with calm lights of heaven. Surely, this is not loss, but priceless gain.

To the true friend, the head of a family, the man who took his last drink in our presence, months ago, and hasn't placed the glass to his lips since, we would say: Let us look upon the bright side as well as upon the dark. If we have lost in material prosperity, we may have gained in the hidden treasure of the heart. If the memory of our own unhappy fruit has driven all pharisaism out of us; if we are in earnest in wishing to seek and rescue those who are on the same downward road which was familiar to our feet; if we look kindly on humanity and penetrate to the good that is in most men beneath the overcoat of evil; if we are large-

hearted toward the erring, the stricken, the sorrowful, we have indeed gained. We shall regain something of what we have lost, or it will be "made up" to us. Our very regrets will have the sweet perfume of pardon in them. We shall regain our proper manhood and taste no more the joys of a renovated youth. Above all, and this is gain worth more than all the world, we shall hear again the sweet music of the voice within whispering God's approval. This is drink more refreshing than the best Falernian Horace ever quaffed:

"One taste of this
Will bathe the drooping spirits in delight
Beyond the bliss of dreams. Be wise and taste."

Reading for Young People.

I have learned by observation that children will amuse themselves if left to themselves in some way or another and often to their destruction both mentally and physically. Why mentally? Just this: By not having proper reading matter furnished they pick up light, trashy, sensational stories that are not suitable for their young minds and which destroys a taste for good solid literature. I have seen a mother slaving at the washtub and her favorite daughter reclining in the big arm-chair devouring with eagerness the last new story. Where is the daughter of that over-indulgent mother to-day where home, its comforts and surroundings failed to satisfy that heart and brain poisoned by fiction? Mothers, if you love your daughters and would bring them happiness in after years, select good wholesome reading while they are young and pure and you have a mother's influence. Get the children interested in such reading as you will always find in the "Young Folks" of the KANSAS FARMER or *Youth's Companion*, the best young folks paper I know of. But many say it is so dear, though in the long run it is not dear. If we can amuse our children with pure reading, which is as scarce as hen's teeth, money ought to be a secondary matter.

Picking gooseberries on the creek a few days ago I poisoned my arm and hand with ivy. My remedy is copperas water, but having none in the house; as soon as I got home bathed the poisoned parts well with strong vinegar and have felt no inconvenience at all from the ivy. R. A. L.

Raisin Culture.

In answer to a correspondent we would say that raisin culture or raisin making, is a later or newer industry in California than wine making, but none the less promising or profitable. It is said that the raisin district of Malaga is embraced in a strip of country only about seventy miles long by six wide. In this small district are produced all the Muscatel raisins of Europe, amounting to about 3,000,000 boxes a year. California has a country in which equally as good raisins can be produced, of more than one thousand times the area of Malaga. With the larger product of raisin grapes to the acre in California than in Malaga, the improved methods of handling and drying and packing the fruit, California can produce raisins much cheaper and better than Malaga can, to say nothing about the freight and duty tax on the foreign article.

We are now importing into the United States about 2,000,000 boxes of raisins per annum. California has never produced more than 110,000 boxes a year. From this statement it will be seen that there is at present an annual demand for 1,890,000 boxes of California raisins in the United States. R. B. Browsers, of Woodland, Yolo county, California, one of the leading and most successful raisin producers in the State, says that he makes as high as 240 boxes of raisins per acre. Good raisins in California are worth from \$2 to \$2.50 per box. This has been the average price for five years. Now, what are the business deductions from the above facts? First that raisin culture is profitable. An acre producing 240 boxes, say at \$2 per box, equals \$480 as the product of one acre of vineyard per year. The present demand being 1,890,000 boxes in our own country, it would seem that here is an opening for a pretty large number of raisin makers in California, and room for them to operate, and good profits assured. But the market for raisins will increase in the United States at least with the increase of the population, and then we have the world as a market, with that little country Malaga as our competitor. Good raisins are produced in every county in California, from Tehama to San Diego, but the industry is a new one and only just past the experimental stage.—*Western Rural*.

A good way of using up small scraps of worsted, etc., that accumulate, is to cut in pieces about an inch square, all colors and almost all kinds of cloth can be used. String them on a stout cord by passing a needle through the center of each piece. When you have a sufficient number, fasten the strings together, coil round and round, making as large as you wish, and fasten with wrapping yarn. Then, with a pair of sharp shears, shear each side evenly. If care has been taken it will be almost as smooth as velvet, and will present a very handsome appearance.

A Record of Hot Summers.

In 627 the heat was so great in France and Germany that all springs dried up, and water became so scarce that many people died of thirst. In 678 work in the fields had to be given up; agricultural laborers persisting in their work were struck down in a few minutes, so powerful was the sun. In 993 the sun's rays were so fierce that vegetation burned up as under the action of fire. In 1000 rivers ran dry under the protracted heat; the fish were left dry in heaps, and putrified in a few hours. The stench that ensued produced the plague. Men and animals venturing in the sun in the summer of 1022 fell down dying; the throat parched to a tinder and the blood rushed to the brain. In 1132 not only did the rivers dry up but the ground cracked on every side, and became baked to the hardness of stone. The Rhine in Alsace nearly dried up. Italy was visited with terrific heat in 1139; vegetation and plants were burned up. During the battle of Bela, in 1200, there were more victims made by the sun than by weapons; men fell down in regular rows. In 1303 and 1304 the Rhine, Loire, and Seine ran dry. Scotland suffered particularly in 1625; men and beasts died in scores. The heat in several French departments during the summer of 1705 was equal to that of a glass furnace. Meat could be cooked by merely exposing it to the sun. Not a soul dared venture out between noon and 4 p. m. In 1718 the thermometer rose to 118 deg. In 1779 the heat of Bologna was so great that a number of people were stifled. There was not sufficient air for the breath, and people had to take refuge underground. In July, 1793, the heat became intolerable. Vegetables were burned up, and fruit dried upon the trees. The furniture and wood-work in dwelling-houses cracked and split up; meat went bad in an hour. The rivers ran dry in several provinces during 1811; expeditors had to be devised for the grinding of corn. In 1822 a protracted heat was accompanied by storms and earthquakes; during the drought legions of mice overran Lorraine and Alsace, committing incurable damage. In 1832 the heat brought about cholera in France; 20,000 persons fell victims to the visitation in Paris alone. In 1846 the thermometer marked 125 deg. in the sun.

Waking One's Self at Will.

An old problem of the psychologist has been revived by a letter to *La Nature*, written by a French business man who mentions that for years he has been in the habit of waking himself at any hour in the morning that he wished, simply by impressing upon his mind before going to sleep the fact that he must awake at that hour, and saying further that he seldom varies five minutes from the moment which he had assigned himself. We have a very distinct recollection of many instances in which we have ourselves tried the experiment with success, and at one time when it was necessary for a considerable period for us to wake on certain days of the week at a very early hour, to take the train to the place where our services were then needed, we had an opportunity of studying the circumstances under which this peculiar species of self-control is most easily exercised.

During this period we found no difficulty in waking regularly within about five minutes of the time necessary to enable us to reach the train comfortably, although for a portion of the time this involved getting up long before daylight; but we discovered also that in order to wake with precision, at the right moment, and to rest quietly until it arrived, it was necessary to look at our watch just before going to sleep. If we neglected this precaution we were apt to sleep uneasily, waking first an hour or more before the proper time, and allowing ourselves in consequence only short naps afterward until the minute arrived for getting up. Whatever part of our mind it might have been that took charge of waking us seemed to begin its count of the hours from the time at which we composed ourselves to sleep, and if we did not inform ourselves of this our conscious reckoning was correspondingly uncertain and the effort to wake vague, but if we took a clear note of the time in the evening we could sleep peacefully through the whole of the allotted interval, sure of being aroused at or near its expiration. Another condition of waking we found to be the occurrence of some small external event, could take effect upon our senses. A very trifling circumstance—the flutter of a leaf outside the window, the chirp of a bird or any other of the unnumbered sounds of early morning—was sufficient, if it happened at the right time, to wake us by a sort of magnifying process which at that moment gave the power of startling us by a noise which would at other times be unnoticed; but without such sensible impression we think we should not have waked. In fact, on one or two occasions we remember to have been impressed with a dim consciousness of waiting for something to happen before waking, and a moment later a trifling sound would open our senses with a little shock. To the necessity of waiting for this impression, small as it might be, we were disposed to attribute the variation of a minute or two, either way from the exact moment assigned for waking, which might otherwise be kept with exact punctuality.—*American Architect*.

An African correspondent tells of the melting away of hundreds of dwelling houses in the Sahara region, not by fire, but by heavy rains, the dwellings being of sun-baked mud.

The Young Folks.

"Mamma, Laugh—Look up at Me."

BY M. S. BECKER.

Oftentimes, when weak or weary,
Have I heard in childish glee,
Cheering words, in sweet caressing,
"Mamma, laugh—look up at me."
Spoke the dark brown eyes so kindly,
"Mamma, dear, I love you so,"
And the buoyant heart dealt sunshine,
As it wandered to and fro.

So I brushed away the sorrow,
As I met that look so true,
Childhood can not bear the shadows,
Life to them is bright and new.
Now that cheery voice is silenced,
Underneath the cold, cold snow,
And the tangles lie about me,
That I know not where to go.

Yet, when desolate and lonely,
And the light can hardly see,
Still there comes, in angel whispers,
"Mamma, laugh—look up at me."
Yes, we know our loved are sheltered
Safe from storms and varied wrongs;
And we think their happy natures
Chant in Heaven's sweeter songs.

So we look above the shadows,
To the stars beyond the sky;
Upward, toward the unknown glories,
And the greeting by-and-by:
And we joy that they are happy,
Happier than they could be here;
And we think they're pleading yonder,
"Comfort, oh, my parents dear."

"We not willingly afflicts us"
When He leaves us here alone;
But in arms of love He gathers
Those whom we had thought our own:
And "Loveth whom He chasteneth,"
Pitieth when His children cry,
Precious truths—"I will be with you,"
"I will guide thee with mine eye."

O Thou sympathizing Father!
Prove an all-sufficient friend;
Keep me working—ever faithful
Till the waiting-time shall end.
Then above life's tangled pathways
Lead me 'till Thy face I see,
Till I hear at Heaven's fair portals,
"Mamma, laugh—look up at me."
—*Christian at Work.*

A Railroad in the Andes.

[From the New York Sun.]

LINA, PERU, April 24.—Michael P. Grace, of New York, the brother and partner of Mayor Grace, has just concluded the purchase from the government of Peru, of the wonderful Orava railroad, the construction of which made Henry Meigs, the California fugitive, not only rich, but famous. This road has been counted as the eighth wonder of the world, for there is nothing in the Rocky Mountains or the Alps which compares with it as an example of engineering science or presents sublimer scenery. But neither scenic grandeur nor engineering genius alone can make a railroad pay, particularly if it goes nowhere. In this instance the money gave out when the road was only partially completed, there remaining fifty miles between the present terminus (Chicla) and the point which was aimed at—the mines of Cerro del Pasco, probably the richest and most extensive silver deposit in the world. Most of the grading and tunnels between Chicla and the mines have been completed, and it only remains to lay the ties and rails and put in the bridges to send a locomotive over the Andes into the great valley which stretches north and south between the two Cordilleras.

This Mr. Grace has agreed to do. The completion of the line to the mining regions will cost \$10,000,000, but the portion of the line already constructed and in operation, with all its rolling stock, station houses, and equipments of every sort, he gets for practically nothing, as under the condition of a ninety-nine-year lease he has the use of the railroad and all that belongs with it for nothing for the first seven years, and pays but \$25,000 per year for rental for the property during the remainder of the term. In other words, Mr. Grace gets a property which cost \$27,000,000—eighty-six miles of railroad already equipped and in operation, fifty miles of the most expensive tunnelling and grading in the world, for nothing, provided he will complete the line.

And more than this, he gets the Cerro del Pasco silver mines, which were discovered 250 years ago by the Jesuits, and have yielded hundreds of millions of dollars, even under the primitive system of working which has been applied to them by the monks and the native Indians. This Cerro del Pasco district has given Peru its fame for mineral wealth, and competent engineers assert that it contains the richest silver deposit in the world. The silver is not in fissure veins, but in an enormous mass of ore, similar to the carbonates of Leadville, yielding from \$40 to \$100 per ton, and worked at a cost of \$3 per ton. Even the tailings, which the priests and Indians have left during the two and a half centuries they have been digging away in their rude manner, can be shipped to New York at a profit, and they amount to millions of tons, with silver enough in them to pay the cost of constructing the road, and affording it a business that will pay the expense of operation.

About 10 per cent. of the Cerro del Pasco

district is now occupied by native miners, who are pegging along in the old-fashioned way, losing more silver than they win in their operations, and securing about one-quarter of the profit they could gain by the use of improved machinery. The mines are constantly flooded with water, and have to be abandoned the greater part of the year. There are also a number of old mines which were worked first by the Jesuits and then by the government, but which were long since given up and allowed to fill with water. These abandoned mines Mr. Grace agrees to pump and place in working order, and when they are cleared he has the privilege of working them to his own profit for ninety-nine years. The local miners have agreed to give him 20 per cent. of their gross product for introducing pumping machinery and operating it. The same set of pumps will serve the whole district, and the revenue which will be derived from the native miners will pay the expenses of keeping in order the mines which Mr. Grace will operate. It is estimated that \$75,000 will clean up the property and pay for the necessary machinery to do thorough work, and the profits cannot be overestimated if all that is told of the mines is true. I will not repeat the fables and traditions about these mines, of which the air is full. The El Dorado, for which the world was hunting two centuries ago, was but a shadow of the substance said to have been found here. Away in the heart of the Andes, almost beyond the reach of men, involving an enormous cost for transportation, and an expense of operation which miners of modern times would consider unprofitable, the priests and monks in past centuries have found untold tons of treasure. The one-fifth which was always set apart for the King of Spain, and of which a record was scrupulously kept by the Viceroy, reached into the millions, and the tithes which were paid to the church amounted to millions more. During the last few decades the mines have scarcely been worked, for as large a product of silver as Peru could consume was found in more convenient localities.

The railroad was begun by Mr. Meigs in 1870. Starting from the sea, it ascends the narrow valley of the once sacred Rimac, rising 5,000 feet in the first forty-six miles to a beautiful valley, where the people of Lima have found an attractive summer resort; then it follows a winding, giddy pathway along the edge of precipices and over bridges that seem suspended in the air, tunnels the Andes at an altitude of 15,045 feet—the most elevated spot in the world where a piston rod is moved by steam—and ends at Orava, 12,178 feet above the sea. Between the coast and the summit there is not an inch of down grade, and the track has been forced through the mountains by a series of sixty-three tunnels, whose aggregate length is 21,000 feet.

The great tunnel of Galera, by which the pinnacle of the Andes is pierced, will be, when completed, 3,800 feet long, and will be the highest elevation on the earth's surface where any such work has been undertaken. Besides boring the mountains of granite and blasting clefts along their sides to rest the track upon, steep cuttings and superb bridges the system of reverse tangents had to be adopted in canyons that were too narrow for a curve. Some track zigzags up the mountain side, on the switch and back-up principle, the trains taking one leap forward, and after being switched on to another track another leap forward, until the summit is won; so that often there are four or five lines of track parallel to each other, one above another, on the mountain side. Almost the entire length of the road was made by blasting. There is no earth in sight except what was carted up for use in ballasting, and the work of grading was done, not by the pick and shovel, but with the drill and hundreds of thousands of pounds of powder.

It is estimated that the construction of this road cost Peru 7,000 lives from pestilence and accident. Landslides, falling boulders, premature explosions, sarrache—a disease which attacks those who are not accustomed to the raw air of the high altitudes—fevers caused by deposits of rotten granite and other causes resulted in a frightful mortality during the seven years the road was under construction, but the project was pushed on until the funds gave out. The cost in human life was no obstacle. At several points it was necessary to lower men by ropes over the edge of precipices to drill holes in rocks and put in charges of blasting powder, and this reckless style of construction was attended by frequent fatalities.

A curious accident occurred at one point on the line, where a plumber was soldering a leak in a water pipe. A train of mules was being driven up the trail loaded with cans of powder. One of them rubbed against the plumber, who struck at the animal with his red-hot soldering iron, which in some way came in contact with the powder and caused an explosion which blew the whole train of mules, the gang of workmen, the plumber, and everybody who was by over the precipice, whose sides and bottom were strewn with fragments of men and mules for a mile.

The scenic grandeur of the Andes is presented nowhere more impressive than along the canyon of the Rimac river, which this railroad follows. The mountains are entirely bare of vegetation, and are simply monstrous masses of rock, torn and twisted, rent and shattered by the tremendous volcanic upheavals which often occur here. At the bottom of the canyon, and where it occasionally spreads out into a valley of minute dimensions, are the remains of towns and cities whose history is unknown. Here is a region which bears no resemblance to

any other picture of nature; lifted above the rest of the world as coldly and calmly silent, as impenetrable as the Arctic stars. Here was developed a civilization which left memorials of its advancement, genius and industry carved in massive stone, and written upon the everlasting hills in symbols which even the earthquakes have been unable to erase.

Here are the ruins of cities more populous than any that have existed in Peru since, evidence of industry which their destroyers were too indolent to imitate, and a skill which could cope with everything but the destructive weapons of the invaders. A survey of their remains justifies the estimates of their enormous population, which are that the people once herded in these narrow valleys were as numerous as those now spread over the United States. The struggle they had to sustain themselves is shown by the traces of their industry and patience. They built their dwellings upon the rocks, and buried their dead in caves to utilize what soil there was for agriculture. They excavated great areas in the desert until they reached moisture enough for vegetation, and then brought guano from the islands of the sea to fill those sunken gardens. They terraced every hill and mountain side, and gathered soil from the crevices in the rocks, until not an inch of surface that could grow a stalk of maize was left unproductive.

The steep mountains along the Rimac are terraced up to the very summit, the terraces being often as narrow as the steps of a stairway, and many of them are walled up with stone. They are veritable hanging gardens, and lie on such slopes that they look as if it were impossible for any one to get a foothold to cultivate them, or even for the roots of what was planted there to sustain the mighty winds which sometimes blow down the valley. It is at least, certain that the Incas did not raise pumpkins or watermelons, for they would have rolled down the sides of these farms, which look as if they were standing on end.

The irrigation system of the Incas was perfect, their ditches extending for hundreds of miles, curving around the hills, here sustained by high walls or masonry, and there cut through the living rock. They were carried over narrow valleys upon enormous embankments, and show evidences of engineering skill as great as that which lifted the Meigs railroad above the clouds into the mountains. Massive dams and reservoirs were erected to collect the floods that came from the melting snows, and the water taken to localities which are rainless.

Under these conditions, in this great struggle for existence, the Incas established and sustained a government, the first in which the equal rights of every human being were recognized, and worshipped a being whose attributes were similar to those of the Christian God. The great sea, breaking with ceaseless thunder upon the rocky coast, impressed the dweller in the desert with reverence and awe, and he who shivered in the snow-capped mountains recognized by an equal natural logic that the sun was the source of light and happiness. Hence these two objects—the sun and the sea—were personified and seated upon the thrones of the magnificent pantheons of the Incas. The race which conquered them came with dripping swords and lust for plunder. Skilled in the arts of peace but powerless in war, there was no adequate resistance, and the blood-and-gold-thirsty Pizarro rode up this valley on a mission of murder, rapine and destruction. The towns stand as he left them; roofless walls, in a silence which not even an echo will agitate. Occasionally the Spaniards build new places of residence to utilize the improvements of the Incas, but three years ago the Chilian army came down the valley and treated the Peruvians as Pizarro treated the race which he found here.

It takes a power of steam to ascend this road with its average grade of 4 per cent. but in coming down the boilers are allowed to cool, and only steam enough is kept to hold the brakes and blow the whistle. We came down part way in a hand-car at the rate of a mile in two minutes, and it was as exciting a ride as one can imagine.

Stung to Death by Wasps.

Wm. P. Thompson, a farmer living two miles from North Branch Creek, in Allegheny county, Maryland, was working in a cornfield last week when he noticed what he supposed to be bees swarming around the stump of an old oak tree standing in a fence-corner. He approached and rashly attempted to investigate them by striking the stump with his hoe. In an instant a whole nest of wasps, probably 500 or 600 strong, attacked him. They settled all over his head, and the man was soon rushing frantically to the house, screaming for help. The wasps clung to him with remarkable persistency, and when he reached his home his wife was compelled to beat them off with a broom. He had been stung in a horrible manner. There was scarcely a piece of skin as big as a penny on his head which had not been pierced by the wasps' stings. He had just had his hair cut with a clipper and the wasps found no difficulty in getting in their work all over his scalp. One of them had settled in his left eye and stung the eye-ball. In two hours Thompson's head had swollen to a monstrous size, his left eye protruding and he was a terrible spectacle. The man suffered great agony until 2 o'clock in the morning, when he expired. The most singular feature of the case is that the head has swollen considerably since death. Thompson left a wife and six children.

General Grant's Presents.

When General Grant was betrayed by Ferdinand Ward, his personal property, consisting in part of costly presents which he had received from different persons and sources, were sold, and the purchaser, Wm. H. Vanderbilt, desired to give them back to the General, which was declined, when they were offered to Mrs. Grant, who refused to accept them unless upon the condition that they at once become the property of the United States. It was so agreed, and a few days before the General's departure for the mountains, an officer was sent from Washington city to receive the things and pack them and take them to the capital. Following is a list of them:

Mexican onyx cabinet, presented to Gen. Grant by the people of Pueblo, Mexico; Aerolite, part of which passed over Mexico in 1871; bronze vases, presented to Gen. Grant by the people of Yokohama, Japan; marble bust on pedestal, presented by workmen of Philadelphia; large elephant tusks, presented by the King of Siam; small elephant tusks, presented by the Maharajah of Joharie; picture of Gen. Scott, by Page, presented by gentlemen of New York; crackleware bowls (very old) presented by Prince Kaon, of China; cloisonne jars (old), presented by Li Hung Chang; Chinese porcelain jars (old), presented by Prince Kaon, of China; Arabian Bible; Coptic Bible, presented by Lord Napier, who captured it from King Theodore, of Abyssinia; sporting rifle; sword of Donelson, presented to Gen. Grant after the fall of Fort Donelson by officers of the army and used by him to the end of the war; New York sword, voted to Gen. Grant at a New York fair; Roman mug and pitcher; silver menu and card, farewell dinner of San Francisco, Cal.; silver menu of Paris dinner; horn and silver snuff box; silver match box used by Gen. Grant; gold table, modeled after the table in Mr. McLean's house, on which Gen. R. E. Lee signed the articles of surrender, and presented to Gen. Grant by ex-Confederate soldiers; gold cigar-cases from the celestial and second Kings of Siam; gold-handled knife, presented by miners of Idaho Territory; silver trowel, used by Gen. Grant in laying the corner-stone of the Museum of Natural History, New York; knife made at Sheffield for Gen. Grant; Gen. Grant's gold pen; embroidered picture (cock and hen), presented by citizens of Japan; field-glasses used by Gen. Grant during the war; iron-headed cane made from the Rebel ram Merrimac; silver-headed cane from wood used in defense of Fort Sumpter; gold-headed cane made out of wood from old Fort Duquesne, Pennsylvania; gold-headed cane presented in token of Gen. Grant's humanity during the war; gold-headed cane used by Lafayette and presented by the ladies of Baltimore; carved wood cane from estate of Sir Walter Scott; uniform as General of the United States army; fifteen buttons cut from coats during the war by Mrs. Grant after various battles; hat ornaments used at Belmont and Fort Donelson; shoulder straps (Brigadier-General) worn by Grant at Belmont, Fort Donelson and Shiloh, and straps of Lieutenant-General cut from the coat used by Gen. Grant in the campaign against Richmond, Petersburg and Lee's army; medal (gold) from the American Congress for opening the Mississippi; gold medal from Philadelphia; forty-five medals in gold, silver and bronze; silk papers printed for Gen. Grant; collection of coins, Japanese. This is the only complete set, except the one in the Japanese Treasury. Seven of these pieces cost \$4,000. Presented by the Government of Japan. Warrant as cadet at West Point and army commissions from brevet Second Lieutenant to that of General of the United States army; papers and mementoes, comprising addresses, honorary society commissions, and resolutions of respect, as well as the freedom of cities presented abroad.

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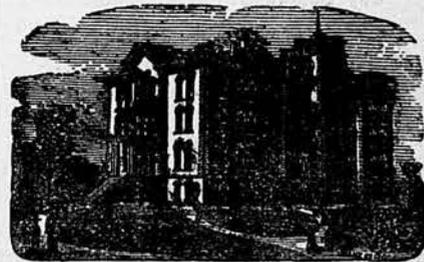
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KANSAS FARMER CO.,
Office, 273 Kansas Avenue, Topeka.

Nebraska State Fair is to be held at Lincoln, September 11 to 18.

Cholera is spreading in Spain. Deaths are numbered by hundreds every day.

Let every head of wheat be saved. As soon as cut and dry get it into stack or barn without delay.

There was a case of yellow fever at a town in Delaware last week. The patient had been taken from a ship to a hospital.

Inquiries are coming in as to dates of fairs in Kansas. As soon as we can get a correct list it will be published in the FARMER.

Emperor William, of Germany, who is now upwards of eighty years of age, is reported to be near the end of his natural life.

The editor of the FARMER will spend the "Glorious Fourth" at Oskaloosa, in Jefferson county, where he is expected to deliver an oration.

Do not trust the weather. As soon as grain is dry enough for the stack or mow, put it there. Kansas farmers cannot afford to lose any grain this year.

At a sale of yearling colts in New York city last week, eleven animals sold at an average of \$1,934, the best, a Spendthrift colt, Doubt, bringing \$6,100.

A woman and her daughter in Iowa, last week, attacked a young lady school teacher; the mother held her while the daughter whipped her brutally with a rawhide whip.

One hundred and eighty-six business failures in the United States are reported for last week. They were generally unimportant, involving small amounts of money.

By mistake we gave improper credit to an article in our edition of June 17, headed "Hydrophobia in sheep." The credit ought to have been *American Sheep Breeder and Wool Grower*.

Prof. H. C. DeMotte, president of the KANSAS FARMER company, after assisting in the great International Sunday School Union at Bismarck, spent a few days in Topeka, and is now at Denver.

Chinamen are leaving the Pacific coast and going to Eastern States where they say they are better treated. A detachment of thirty-eight started from San Francisco one day last week, bound for New York.

The Grand Army of the Republic met in national encampment at Portland, Maine, last week. Upwards of twenty thousand persons were in attendance. Reports filed show that the G. A. R. now numbers more than two hundred and sixty thousand members.

The People's Day.

Before another issue of the FARMER is made, the nation will have passed another anniversary of its birthday, and a great many things true and otherwise will have been said about it, and a great many women and a great many men will be glad it is passed, not because they are not as patriotic as other people, but because they were wearied with the labor and excitement of the day.

We are a busy people; we enjoy so much of freedom and our interests are so many and so varied, that every man seems to be going his own way. We have accustomed ourselves to great latitude in thought and expression, and hence are not always as careful and respectful as we ought to be, considering that all of us are human and therefore all of us may be more or less wrong. We have opinions and have courage to express them, although it may be that if we were called upon for the reasons of our faith, we would sometimes refer the questions to some other man. We have principles, too, as we call them, and upon these we arrange ourselves on one side or another of party and sectarian lines, where we fight battles for other people as well as for ourselves. The weapons used in that warfare are not all such as we would care to take with us to that better country to which we all desire to emigrate some day, and there show as evidences that we had been industriously working in a good cause and therefore had earned an entrance into the pearly gates. We do a great many things that might be left undone to our advantage, and the country would be quite as well off. And especially do we often err with reference to our neighbors whom we ought to love just a little, as much as we do ourselves, anyway. We grow impatient and unreasonable many times when there is no good reason for it. This is true in a marked degree in our political and religious conduct, although we are all becoming more tolerant than we used to be. In party strife, the blood warms up and the tongue loosens at both ends.

It is well, therefore, that there is one day in the year when the people can appropriately and willingly lay aside party prejudices and meet one another as citizens of a common country, moved by common impulses, to renew their fidelity to the cause of universal freedom and constitutional government. The Fourth Day of July is the People's Day. Its annual recurrence calls up historic thoughts and deeds and scenes, and arouses patriotic impulses alike in all of us. These we may express in song, in prayer or speech, and all the people join. There is no discord in our hearts while that feeling is uppermost; and the emotions are so good in themselves and brought forth in so worthy a cause that a common element in our natures operates in expression to the making of us all better.

On this, the People's Day, when we find so much to talk about that we are all glad to listen to and think of, the virtues of our fellow men, and especially of our "near neighbors" multiply and grow better in our sight; and while thinking and acting upon these better things we forget, for the time being, that we have almost perpetual quarrels with our fellows about something, and when leisure time comes, that we may think backwards, we wonder how it is that so much discord runs riot all the rest of the year and there is so much harmony among us on this day.

On great fundamentals, men do not differ much. In the Christian world, one foundation principle upholds the entire superstructure. In politics, there is one great underlying principle upon

which all good statesmanship is built, namely, the freedom of the citizen in all good works. Upon these things all thinking people are agreed, and hence it is, that on the People's Day they talk about human rights, and on that subject, away down where it begins, there is little difference of opinion among progressive people anywhere, and especially among people of the United States of America.

And then, too, there is a great deal to be talked about on this day in which our people are interested, that do not relate wholly to questions of citizenship. Our country, under the healthful influences of freedom, has made marvelous progress in all the arts and sciences, and the people have grown up to be a powerful and wealthy nation. Farmers, who are the ground-work of all good society, are in a greatly improved condition as compared with their state a hundred or fifty years ago. What they have to sell brings as good prices as they did then—in many cases better, the cost of what they have to buy has been reduced more than one-half. Every department of our varied industries has grown in importance; the laborer is better paid, and the entire people are better off. These facts may be referred to in detail and there is no danger of offending people by the recital.

Much there is, indeed, on this day to bring the people together and to entertain them when they meet. It is to be hoped that as we grow older, we will become better, and that our patriotism will grow more intense and deeper-rooted, and that our charity shall grow with it, that as future years come and go, our people may always have good things to talk about on the Fourth of July, and that they will never forget its history and its lesson.

The Wheat Outlook.

It is not good. And the failure is general all over the country. The latest estimate of the crop was made by Mr. S. W. Talmadge, of Milwaukee. He says there is no longer any question as to damage and loss to the winter wheat of this country. A falling off of 160,000,000 bushels in winter wheat from last year is a calamity unprecedented in the history of wheat raising in the United States. The present condition of spring wheat is good but there must be favorable weather until harvest to produce the amount of wheat shown in the present estimates, as they are based upon the present condition. The estimates show the probable yield of spring wheat to be 121,000,000 bushels. Winter wheat 210,000,000; total spring and winter 331,000,000 bushels. From those figures it will be seen the crop of 1885, as compared with 1884, will show a shortage in winter wheat of 160,000,000 bushels; spring wheat 22,000,000 bushels; total shortage 182,000,000. The average wheat yield of the United States for five years past is 461,000,000 bushels. The estimate shows a shortage, compared with the average five years, of 130,000,000 bushels.

James D. Fish, late bank president, and sixty-five years old, is now an inmate of the New York penitentiary, under a ten years' sentence for falsifying the bank book and stealing the bank's money. It seems that justice has not wholly lost its grip. Ferdinand Ward will soon follow, and then there will be at least two villains out of sight.

Brigham Young, Jr., and Bishop Snow, on the 27th ult., passed through El Paso on their way to the City of Mexico to negotiate for the purchase of large tracts of land in the Mexican Republic for the occupation of Mormon colonists.

Threatened Indian Outbreak.

The Cheyennes have been growing restless some months, and indications are that there is danger in their probable movements. Governor Martin, a few days ago, telegraphed the following letter to the Secretary of War.

SIR: In view of the alarming reports of a threatened outbreak of the Cheyenne Indians, I desire to call your attention to the exposed and defenseless condition of the settlers in the southern counties of this State.

Trusting confidently in the power and watchfulness of the general government to keep the Indians within the borders of the Indian Territory, a very large population has within the past two or three years settled in the new counties of Comanche, Clark, Meade and Finney, on or near the southern boundary line of Kansas. These citizens have neither arms nor military organization, and the small militia force of the State cannot be utilized as a standing army to guard against an anticipated outbreak of the Indians of the Territory.

Should the Cheyennes escape from their reservation and move northward, as they did in 1878, the destruction of life and property might exceed a thousand fold the murder and rapine attending that disastrous raid.

I am, therefore, impelled to call your attention to this condition of affairs and to request that ample precautions be taken by the military authorities of the United States to protect the citizens of Kansas against any possibility of an Indian outbreak.

I will be glad to be advised by the Honorable Secretary of War or by the commanding officer of this department concerning the situation of affairs in the Indian Territory and the precautionary measures adopted by the government to restrain the Cheyennes within the limits of the Territory, and especially to have timely notice of any outbreak that may threaten the borders or people of Kansas.

At the same time the Governor telegraphed the facts in similar form to the commanding officer at Leavenworth and to Senators Ingalls and Plumb at Washington. Saturday morning, Washington dispatches stated that Senator Ingalls called upon the President and was assured that the matter had been the subject of earnest consideration by the President and his cabinet and active measures had been taken by both the Interior and War Departments to prevent, if possible, any outbreak of Indians and to repress it promptly should one occur.

General Auger has reported to the War Department that he has sixteen companies, ten of cavalry and six of infantry, at Fort Reno, Indian Territory. The last company arrived at the Fort to-day. The general apprehended no immediate outbreak of the Cheyenne Indians. They have been informed of the proposed appointment of a commission to investigate their troubles and express a willingness to await the result.

By way of showing the state of feeling at and near the Cheyenne Agency, the daily *Eagle*, Wichita, of the 26th inst., published the following:

The daily *Eagle* is in receipt of a special from the Cheyenne Indian agency late this evening, of which a synopsis is transmitted to the Associated Press. The situation in the Agency looks critical and the officers and employes and traders are liable to be attacked by the infuriated Cheyennes at any moment. The Indians are drilling daily in regular war-like form. The arrival of the troops under Captain Sumner only seems to have stirred up the Indians, who put out extra spies in all directions. Without prompt and efficient action upon the part of the government a bloody raid and massacre will be the result. The special, which is from a reliable man at the Agency, says that the Indians are in sufficient force to butcher all the whites including the troops now stationed there. The Indians keep their ponies picketed night and day and they are well armed and have plenty of ammunition. The people at the reservation dare not attempt to reach the Kansas border. Five companies of the Fifth cavalry under Major Carpenter passed through this city by special train to-day and will be within one day's march of Reno by to-morrow morning.

A dispatch from Shelbyville, Illinois, says that hog cholera is causing great loss to the farmers of several townships in that county. One farmer lost forty head of fat hogs in the past week, and many others have the disease among their droves.

Some Texas and Indian Territory people, disgusted and out of patience with a gang of outlaws that had been doing a great deal of mischief among the people, made up their minds to put an end to the evil work, and so captured and hanged fifteen of them.

We are in receipt of a circular announcing the invention of a Bee-Way, or House Apiary, which is sold by the McLain Bee-Way and Supply Company, Aurora, Illinois. The invention has been patented. Any person desiring information concerning it will be supplied on application to the company above named.

A few weeks ago our readers were informed that a number of Persons in New York city had been killed by the falling of house walls that were built of brickbats and other equally bad material by one Buddensick, a contractor. He was arrested, tried for manslaughter, convicted, and has just been sentenced to ten years' imprisonment.

Ex-Senator Joseph E. McDonald, of Indiana, is reported as saying:

I think the present administration will be found endeavoring to formulate a policy in accordance to these general doctrines I have stated—to make the necessities of life and raw materials cheap, so as to cheapen the cost of living and give the laborer something to do and at the same time supply a reasonable revenue.

That is a charming doctrine, so pleasantly stated, and so full of promise. If the Senator and this administration or any other can do that, the people will rise up and call them blessed, provided, of course, that they will not at the same time reduce the wages of labor. And there is the rub. There is no difficulty about reducing the cost of raw material, and of making living cheap; all that can be done by removing tariff duties and let everything that is produced in other countries come to this free of tax. That will soon cheapen raw material, and it will reduce the cost of living, for it will drive thousands of new men into agriculture to compete with and still further reduce the already low prices of farm produce. But how that will aid in giving employment to labor, and in securing remunerative wages, we do not see.

How to Kill the Web-Worm.

In our last edition we suggested Paris green among other remedies to destroy this worm. Since that time we have read a way of using this particular remedy, and it may be useful to our readers in other cases, if not in this. The remedy was published in the *Wellingtonian*, and is as follows:

We have learned this morning of a plan used by one of our enterprising farmers of this locality to kill these pests. He is using Paris green, dissolving it in hot water and applying with an ordinary sprinkler. The proportion he uses is about a tablespoonful of Paris green to one-half gallon of water. Yesterday he had nine men at work in his fields with sprinkling pots, and they went over about fifty acres of corn. He has one man drive through the field with a water tank of water or barrels of water in a lumber wagon, and the rest of the men with sprinkling pots who sprinkle each hill of corn with this solution of Paris green. He puts sealing wax on the sprinkler of the can so as to close up all the holes except about a dozen in the center, thus avoiding the waste of the solution on too much of the ground around the hill and throwing the stream directly on the plant. He tells us that this plan is very successful and kills most of the worms within a half hour after it is applied and what few worms are left, appear to discontinue their work.

Texas Cattle Coming to Kansas.

There is a very general uneasiness in this State on the subject above named, and every movement of Southern cattle along our borders is watched closely. A few days ago it was reported that large numbers of Texas cattle had crossed the line or were about to do so and trouble was expected to follow any further progress. The Live Stock Sanitary Commission was notified of the facts and that body went out to investigate. The *Capital* of Thursday gives the result: "The Live Stock Sanitary Commission returned yesterday afternoon from the west, where they had been sent to examine into the alleged movement of Texas cattle through this State. The Commission, in company with the Sheriff of Finney county, reached Lakin on Tuesday evening, and met a number of gentlemen from different sections of the western part of the State, and held a consultation. They learned that about 20,000 head of cattle had crossed the Arkansas river at Lakin within the past ten days. All of these cattle, however, were from north of the thirty-fourth parallel of north latitude, and are known as Panhandle cattle. The Commission saw three herds, comprising about 6,000 head, which had crossed the river on Tuesday, all of which belonged to the Goodnight ranch, and were being driven north to put on the open market.

"During the session of the Board of Commissioners held at Lakin, Alvin Beatty, a large cattle owner living at Lakin, was appointed special inspector for the State of Kansas, and will be stationed on the southern line of the State in Seward county, where he will inspect all cattle coming from the South, and report their arrival to the Sanitary Commission.

"The Sanitary Commission decided that all means at their disposal will be used to prevent Southern Texas cattle from driving across the State of Kansas, and all cattle coming from south of the thirty-fourth parallel of north latitude will be considered as dangerous cattle unless the contrary can be satisfactorily shown.

"Panhandle cattle, or those from the North of Texas, are not capable of communicating Texas fever."

Senator Ingalls, of the Oklahoma committee, says the Oklahoma lands are not occupied by any persons, Indian or white. He also says that a majority of those interested are willing to dispose of the Cherokee strip to the government. The telegraph report states that the Senator speaks of the advantages of the Indian Territory as a farming country. It is a beautiful country to look upon with large forests of oak and other hard woods which being free from undergrowth have the aspect of well kept parks, but much of the country is mountainous and rugged. Of the 70,000 Indians inhabiting the country there is not a pauper. No person is supported at public expense and none lack a home. Only one insane person was heard of. There is said to be no occupation of the Oklahoma country at all, and as far as the cattlemen are concerned there has never been an attempted occupation. The Senator was very glad to say that in recent interviews with the President and Secretary of the Interior he discovered a vigorous determination to prevent any invasion of the rights of the Indians or any infraction of the treaty under which land was ceded in 1886. The Committee made thorough investigation into several matters into which they were told to inquire, traveling to all the principal places in the Territory among the civilized tribes and examining all the principal men with regard to leasing the

Cherokee strip. The sentiment generally was favorable, though many were of the opinion that the rates had, were fair originally, but were now two low.

Inquiries Answered.

THE WEB WORM.—A farmer inquires whether the web worm now having the floor is not the cotton worm. We think not, and we do not anticipate any further trouble from it this year. The web worm is not altogether unknown. It has been here before, but never attacked corn in quantities large enough to attract attention. It eats weeds with a relish if they are green, and enjoys it. But there is little known about its history. We would be pleased if our readers would report to us their experience and observation concerning the worm, giving dates and attending circumstances that may be pertinent for publication.

PEACH BORERS.—A correspondent asks how to keep borers out of peach trees when they are out. Here is what an experienced Delaware peach-grower says about it: "Sheathing the tree with paper, straw or cloth, anything that will prevent the embryo worm from obtaining a lodgment in the bark of the tree, has been tried with success; and if attended to in the proper time, about the middle of June, and kept on until the danger is past, about the middle of October, will prove a complete preventive." This, in substance has been given in these columns several times in the last ninety days. Scrape away the soil from the trunk of the tree about two inches, then wrap the tree two or three feet high with paper of any kind, resting the lower part on the ground, and secure by a light wrapping of string. Then draw the earth back to the tree again.

BOUNTY LANDS.—I would like to know as to the law in regard to the soldiers' land. Some old soldiers who fought in the rebellion on the Union side who are entitled to public lands in Kansas and who have not used their right to the same wish to sell to other parties. Can they do so if the parties go and live on the land? Where are the lands to be found? Can you also tell where homestead land may be found?

—None but honorably discharged soldiers are entitled to the bounty lands, and no one can lawfully transfer his right to another person. Any public land is subject to the soldier's pre-emption. There is still a good deal of public land in the western part of this State. By addressing a letter of inquiry to the Register of the land office at Garden City, the desired information may be obtained.

ORCHARD GRASS.—I wish to inquire through your valuable paper of those who have had experience in growing orchard grass, the most favorable time or season of the year for seeding the same, and also the best way of preparing the ground and putting in the seed; also the amount of seed to the acre, to insure good setting. Further, is it advisable to sow any kind of small grain with it to protect it from the sun or wind while young, and should red clover or any other kind of grass be sown with it?

—Sow in the spring as early as the ground can be put in condition good enough for planting corn. The ground ought to be plowed in the fall deep, and then loosened up a little on the surface in the spring, made very fine, the seed sown broadcast and covered with light harrow and rolled. Sow alone, and put on about two bushels to the acre. This is a good text for some of our experienced readers to write about.

I have a fine mare with a callous lump on the shoulder caused from collar; has been there for twelve months. Please prescribe proper treatment and if there is a veterinary surgeon in your city that you can recommend, please give name.

—The best thing to do in such a case is to have the collar opened at that place and a little filling removed, so as to make the surface there a little yielding, and then have a pair of pads made by a saddler to fit the shoulders under the collar, and at the part where the lump is, leave a hole of proper size to accommodate the lump, and fit the hair, or moss, or whatever is used for filling the pads, neatly, so there will not be lumps about the edge. Let the person who makes the pads see the shoulder and then work to that and the collar. If the animal is not worked the lump could be removed by cutting it deeply and producing a sore that would suppurate. But if the animal can be spared from work, the lump will not be in the way; and if work is required, the lump will stay anyway, and the pads are the best things to use unless the breast collar is used, and that won't do for heavy work. The writer of this had a case of this kind, and after he began the use of the pads he had no further trouble with the lump, but he never got rid of it entirely, for the horse was worked hard nearly every day.

We have a circular from the State Normal school at Emporia, from which we extract: "The State Normal school enrolled 605 pupils in all of the departments for the year closing June 11th. Fifty-five counties in Kansas, and twelve states and territories are represented. The average age of the class of 1885 was nearly twenty-four years, with an average teaching experience of three and one-third years. Its graduates and non-graduates are filling important positions in nearly every county in the State. Perhaps no better evidence of the high character of the work done by them can be found than this—that its graduates are receiving an average of from fifty to one hundred per cent. higher salaries than the average given for Kansas teachers. The coming year promises to be even more prosperous than the last. Those having in view the teacher's profession, should avail themselves of the liberal facilities the State supplies in the Normal school. Organization, curriculum, apparatus, methods, are all adapted to meet the wants of teachers."

THE MARKETS.

By Telegraph, June 29, 1885.

STOCK MARKETS.

New York.

BEEVES—Receipts 4,730. Market active and firm. Prime native steers at 5 40a 50 live weight, best at 6 60a 75, fat bulls 4 00a 5 20.
SHEEP—Receipts 14,200. Market dull and weak. 3 00a 4 00 for sheep and lambs.
HOGS—Receipts, 12,470. Market nominal and steady at 4 20a 4 70.

Chicago.

The Drovers' Journal reports:
CATTLE—Receipts 8,000, shipments 2,600. Market for good natives and Texans ruled stronger. Shipping steers 5 00a 6 75, stockers and feeders 3 00a 3 60.
HOGS—Receipts 3,400, shipments 4,000. Market opened 5a 10c lower but closed firm. Rough and mixed 3 90a 4 05, packing and shipping 4 05a 4 15.
SHEEP—Receipts 4,500, shipments 500. Market weakened 10a 20c lower. Natives 3 00a 4 00, Texans 2 50a 3 20, lambs per head 1 00a 2 25.
In the Liverpool cattle market to day there was a light supply of both American and Canadian and only a fairly large general supply. The market ruled 1c higher, best American cattle selling at 14c per lb., dressed weight.

St. Louis.

The Midland Journal reports:
CATTLE—Receipts 2,200, shipments 700. Market steady and firm. Good light to choice heavy shipping steers 5 00a 7 00, good butcher steers 4 60a 5 00.
HOGS—Receipts 6,500, shipments 6,800. Market lower and slow. Yorkers 4 00a 4 10, packing 3 70a 4 00, butchers' 4 10a 4 25.
SHEEP—Receipts 800, shipments 1,800. Good grades steady and wanted. Fair to good 3 25a 3 75, good to choice 3 75a 4 00, common to medium 2 25a 3 00, Texans 1 75a 3 25.

Kansas City.

CATTLE—Receipts 1,113, shipments 1,456. Exporters 5 40a 6 60, good to choice shipping 5 10a 5 35.
HOGS—Receipts 7,947, shipments 6,285. Market opened steady. Assorted 3 80a 3 90, mixed 3 70a 3 80.
SHEEP—Receipts 414, shipments 751. Market quiet. Fair to good muttons 2 60a 3 10.

PRODUCE MARKETS.

New York.

WHEAT—Receipts 95,310 bu., exports 23,531 bu. No. 2 Chicago 92 $\frac{1}{2}$ c, ungraded red 91a 08, No. 2 re June 99 $\frac{1}{2}$ a 1 01.
CORN—Kaiser. Receipts 934,400 bu., exports 99,628 bu. Ungraded 51a 54c, No. 2 June 53 $\frac{1}{2}$ a 53 $\frac{1}{2}$ c.

Chicago.

WHEAT—The wheat trade had a touch of the war fever to day, rumors of trouble in Afghanistan putting life and strength into a heavy and drooping market. In the afternoon there were more discouraging crop reports, and in the expectation of a decrease in the visible supply the feeling was again strong. Sales ranged June 86 $\frac{1}{2}$ a 88c Jul, 87 $\frac{1}{2}$ a 88 $\frac{1}{2}$ c, August 89 $\frac{1}{2}$ a 90 $\frac{1}{2}$ c, September 91 $\frac{1}{2}$ a 91 $\frac{1}{2}$ c.
CORN—Cash 47 $\frac{1}{2}$ c, June 47 $\frac{1}{2}$ a 47 $\frac{1}{2}$ c.
OATS—Ruled active and stronger for June delivery. Cash 3 1 $\frac{1}{2}$ a 3 $\frac{1}{2}$ c.
RYE—Dull No. 2, 62c.
BARLEY—Nominal.
FLAXSEED—Firm. No. 1, 1 23 $\frac{1}{2}$.

St. Louis.

WHEAT—Very active and unsettled. No. 2 red, cash 96 $\frac{1}{2}$ c, July 95 $\frac{1}{2}$ a 96 $\frac{1}{2}$ c.
CORN—Slow and lower. No. 2 mixed, cash 43 $\frac{1}{2}$ a 44 $\frac{1}{2}$ c.
OATS—Lower and lower. No. 2 mixed, cash 32 $\frac{1}{2}$ c.
RYE—Dull; 58c bid.
FLAXSEED—Steady at 1 26.

Kansas City.

WHEAT—Receipts 20,656 bu., shipments 3,105 bu., in store 679,377 bu. No. 2 red, cash 74c bid, 75c asked. July sales at 75c.
CORN—Receipts 16,170 bu., shipments 8,298 bu., in store 211,633 bu. No. 2, cash 35 $\frac{1}{2}$ c, July 36 $\frac{1}{2}$ c; August 38c bid, 39c asked; September sales at 40c.
OATS—No. 2 cash, 28 $\frac{1}{2}$ c asked.
RYE—No bids nor offerings.
BUTTER—Quotations: Creamery fancy 16c, fine dairy 12 $\frac{1}{2}$ c, medium 6a 7c, roll 10a 17c, store-packed 10a 12c.
EGGS—Weaker at 10c per dozen, candled.
CHEESE—We quote: Full cream, 13c; flats 10c; Young America, 13 $\frac{1}{2}$ c.
FLAXSEED—1 20a 1 35.

Horticulture.

About Budding.

It is about time to do the work of budding. It is a simple operation and consists merely of placing a bud from one variety on the stem or branch of another variety. If the object is to change the character of the whole tree, the budding must be done near the ground, and the old stem above the bud cut away the next year. If the object is to merely get a different kind of fruit on one or more branches, the work is done on the upper side and pretty near the inner end. The operation consists of cutting a long slit, say an inch and a quarter long and a short cut across the long one at the upper end, both deep enough to reach the wood and so that the bark may be raised without injury to either bark or wood. The cuts will look like a capital letter T without any points. The bud is taken from a healthy branch of this year's growth, by slipping a sharp knife-blade under it toward the inner part of the tree, beginning just a little above or beyond the bud, and running about three-fourths of an inch, taking a very thin slice of the wood. The bud, when removed, ought to be about three-fourths of an inch long. Cut off the upper end under the bud proper, to a neat, square shoulder; then open the incision, raising the bark carefully on both sides of the long slit, and slip the bud under the lips, dropping the bud in so that the shoulder will fit neatly against the edge of the cross cut. Tie with wool yarn, or a rag, or anything that will be a little yielding, and yet hold the bark firmly on the bud. If a little grafting wax, or other soft substance is plastered over the wound it will be servicable, but is not necessary.

July is generally the best month for budding. "The time for cutting the buds should be when they are sufficiently matured as to be rather firm and hard in texture, and they are as a rule in the best condition when the terminal bud has formed. The leaves should be immediately removed, to prevent withering. Leave about a quarter of an inch of the footstalks of the leaves, so that they may be used for handling when inserting the buds."

Stocks that are in the best condition need not have the bark raised any further than to admit the lower part of the bud, for as the bud is pushed downward it will perform the operation itself; and as a matter of fact, when the bark does not peel freely enough for this, there is no certainty of success. If for any reason there should be a failure at first, repeat the operation. The essential requisites for success in budding, says a well known authority, are first, a rapidly growing stock so that the bark will peel very freely; second, a proper time; not so early that there will be too little cambium or mucilaginous cement between the bark and wood, for the adhesion of the wood; nor so late that the bark will not peel, nor the subsequent growth sufficiently cement the bud to the stock; third, buds sufficiently mature; fourthly, a keen, flat knife for shaving off the bud that it may lay close in contact upon the wood of the stock; fifthly, the application of a ligature with moderate pressure, causing the bud to fit the stock closely.

Paris green used on plants destroys worms and dangerous insects generally. A tablespoonful of Paris green in half gallon of water and boiled, may be sprinkled on plants to good purpose. London purple is said to be better in some cases, and particularly on tree worms.

Horticultural Notes.

Look well to the grape vines. In every case where a cane is long enough, pinch off the end. That will check linear growth and stimulate the growth of laterals, at the same time produce hardiness, and it operates to strengthen the vine.

Young grape vines ought not to be allowed to bear promiscuously. Until a vine is four or five years old, it ought to be checked in fruitage every year, not stimulated. By pinching off the ends of bearing canes as soon as the number of bunches you want to remain are formed, you have the matter under perfect control. A two-year-old vine may bear two or three bunches, and as the vine grows older, the fruitage ought to be regulated so that it should be light until the vine is strong and well rooted. Say three bunches the second year, ten bunches the third year, twenty bunches the fourth year, and after that a full crop. Heavy fruiting the first few years has a tendency to weaken the vine.

Willow cuttings may be planted on the open prairie sod, and grown there successfully, if we may believe a correspondent of the *Farm, Field and Fireside*. He thus describes his method: "For a fence, scatter a heavy mulching of straw or old hay right along in a straight line, say four inches thick after it is well trodden down. Prepare your cuttings from fourteen to sixteen inches long, from one-half to one inch in thickness; sharpen them, draw a line so as to have them straight, and drive them right through the mulching, leaving only an inch or two out. The cuttings hold the mulching and rot the sod, which keeps them moist, and they will be sure to grow. In a new country where straw is plenty it is the easiest way to tend them. And mulching after they are up six feet high helps them to grow. For a wind-break or a little patch of timber, set the same way. For a fence, drive one foot apart; for timber a little farther."

A writer in *Vick's Monthly* says: "In fall I replot my roses in good rich earth, one-third well-rotted barnyard manure, in two quart common earthen jars. Cut them well back and water. Then place them in a room up stairs, with an east window, heated by a hall coal stove, never exceeding 50 degrees; every fine day leave window open. When buds commence to show themselves, give them a good drenching with warm water, first turning the dirt from the edge of the jar, and putting a teaspoonful of commercial fertilizer all round. Do not water again for three or four days. I repeat this three times during winter, and have always lovely buds, blossoms and foliage, which is beautiful in itself. Have no insects till April or May, when there are a few aphides. In June cut back again, and place in a rich border, where they blossom till I take them in. I have only lost two plants in six years; do not remember the names of the varieties, but will give the colors: white, pale yellow, golden yellow, carmine and buff, yellow tinged, with rose and pink."

Enemies to the Currant.

A writer in the *Massachusetts Plowman* says:

Just as the fruit grower begins to congratulate himself on having conquered the first and second crop of currant worms, he goes into his garden to find that a very large number of the ends of the twigs of his currant bushes are lying on the ground, and a considerable number only half broken off, but still hanging to the bushes in a wilted state. He wonders what the trouble is, and if he gives it but a passing thought, concludes that the new growth is so tender that they have been broken off by the wind. Should he stop to examine he will discover that they have

been bitten off by some insect; close watch will convince him that the work has been done by a long bodied and long winged fly, nearly the shape as to length, of a winged ant. They are very sluggish and are easily caught. If no further investigation be made, the fruit grower only laments the loss of the new growth of his bushes, but as they soon start again he concludes that the injury is not very serious, and so he turns his attention to more serious troubles, among them the worm that kills whole stalks by eating down through the heart of the stalk. This troubles him very much because he does not know how to prevent it; when he discovers the dying stalk it is too late to prevent the mischief, so year after year he is compelled to see his bushes die out, with no power to prevent it. He has not the remotest idea that the fly that cut off the ends of the twigs had anything to do with it, but the fact is, he is the identical rogue that is at the bottom of the trouble.

It is the female fly that cuts the twig partially off that she may prepare a place wherein to lay her eggs, after cutting the twig perhaps half off, she lays an egg which in a short time hatches out and begins to eat its way down in the centre of the twig, growing larger and larger as it descends, until when full grown it is large enough to very much injure, if it does not kill the stalk. When this fact is fully understood the remedy is easy and sure. When a twig is found to be eaten off, to destroy the egg, cut off another inch of the twig. It may sometimes be necessary to go over the bushes twice, but as a rule once is enough, if the cutting is not done until four or five days after the flies first appear; but if it should be necessary to go over them the second time, it can be readily seen which twigs have been cut with a knife, and which by the flies. By adopting this practice a few years it will be found that the number of flies will be greatly reduced, so that the work of cutting the twigs will be very trifling.

Rose Gardening in June.

A correspondent of the *Country Gentleman* recently prepared a good article on rose culture and the care of rose plants in midsummer, from which we take what follows:

Roses must have daily care to keep them from the attacks of the rose bugs, slugs and aphides, or green lice, which will devour them if not resisted. The last named insects are the most disgusting pests of the three, for they cover the stems of the roses so thickly that they will destroy their beauty very quickly. An hour's work in the morning or evening, however, will keep a large rose garden entirely free from these destructive insects, but if you neglect them one day, you will have cause to regret it. For the rose bugs, a hot water bath is the best remedy to be applied. Take a pail of boiling water and shake the branches infested with them over it, and large quantities can be rapidly destroyed. Do not let one escape, and in about ten days you will have rid your garden of them all.

For the slugs, a different course must be pursued, as the small white flies hide under the leaves when in their first state, and eat them into lace work; but after a while they turn into small green worms, which devour the rose buds. Pyrethrum or insect powder, scattered all over the bushes, when wet with the dew, will kill hundreds of them, but if still they come, sift air-slacked lime all over the bushes; the first rain will wash it all away.

If you prefer to water the rose bushes with a sprinkler, fill with whale-oil soap and water, you must be careful to do it so thoroughly, that it will be felt on both the under and upper side of the leaves, and a plant syringe will do the work better than the hose or watering pot. Make a solution of two pounds of whale-oil soap, dissolved in fifteen gallons of water, and add to it two quarts of fine salt or three pints of coarse salt. White hellebore or wood ashes scattered over them are equally good to destroy the pests. The aphides will succumb to any one of these above remedies, if they are thoroughly applied. Crushing them between the thumb and fingers is also an efficacious application, but not a very agreeable one to the applier.

There are two crops of the slugs every summer. The first appears in May or June, and when the larvae are fully grown, they will fall off the Lushes into the ground, where each will turn into

a small chrysalis, and in due season another crop of white flies will appear and a new supply of eggs will be laid, from which another army of slugs or worms will be developed. Therefore you must diligently destroy the first crop so that the second one cannot annoy your autumn roses. But if they come, repeat the applications faithfully, so that you will not have as large an amount of pests to fight another season.

Roses are high livers, delighting in the richest food you can procure for them, and amply repaying you for all the fertilizers and stable manure that you will heap around their roots. It seems as if, in the open border, one could hardly supply them with too much stimulant, so freely do they respond to its use, by producing large quantities of buds and flowers of great size and beauty of coloring. The soil best suited to their needs is a stiff, clayey loam, well mixed with manure, thoroughly decayed, and with some commercial fertilizer added in large quantities—dug into the ground a few inches from the main stems.

I have thirty-five or forty varieties of mosshybrid perpetuals and summer roses in my garden at this time, covered with luxuriant foliage, and filled with buds, single and in clusters. A large amount of horse manure was placed around their roots last November, and the more delicate varieties were laid down and covered with sods, which protected every little branch from the intense severity of our northern winter, which was prolonged into April the past season. When they were uncovered, by the third week of that month, they were pruned with an unsparing hand, and all the old wood was cut out. A large supply of thoroughly rotted horse manure was then dug into the ground around them. By the second week in May, guano was dug into the roots, with a trowel, and now the bushes are showing the effects of this treatment.

There are ten classes of roses now offered by rosarians and florists: Summer or Garden roses, Climbing roses, Noisettes, Moss, China or Bengal, Bourbon, Hybrid Perpetuals, Hybrid Teas, Teas, and Polyantha roses. No garden is complete without several varieties of each of these most desirable classes.

An experienced sheep-raiser and wool-grower in Texas says "the sheep for Texas should be large, with long, light wool, and that the ewes should have udders like cows; that Merinos will not do; hot weather and scab will get away with them every time. He thinks the Shropshire on the Merino will give the sheep he has in mind, as such would give a long medium wool, with eight to ten pounds to the fleece; be 'feeders,' and the mother ewes give milk more than sixty days."

Here is a sensible item: "Somebody says it is worry more than work that kills men. So it is with horses. If you work your horses and bring them in to a hasty meal in a clean, cool stable, free from the flies, they are thrifty and healthy, but if you take your hard worked horses into a hot, dirty stable, with myriads of flies to bother the life out of them when they are tired and hungry, that worry is harder than work. Reader, if you value your horses and their comfort, put up nettings to keep out the flies and keep your stables clean and cool."

As to manipulations in canning fruit, a great many glass vessels have been cracked when the hot fruit was poured in. One housekeeper that we know of holds a large spoon in the jar, one end resting on the bottom when she pours the fruit in. Another way is thus described by a correspondent: "Instead of gradually heating glass jars and jelly tumblers, use an iron rod or wire about the size of a slate pencil, seventeen or eighteen inches long, and bent into a hook or ring at one end, to answer for a handle. When your fruit is cooked and ready for the jars, insert this wire, making sure that it touches the bottom of the jar, then fill up the cold jar with boiling fruit or jelly. Do not be afraid; you will not lose as many jars as you will by putting them in cold water and gradually heating them in the old way. Imperfect jars will break either way. In twenty years I can only recall the loss of one jar."

Mica Axle Grease is composed of the very best grease and powdered mica. Powdered mica is an almost perfect lubricant of itself. Mica Axle Grease reduces friction, keeps the axle cool and preserves it against wear.

In the Dairy.

About Making Cheese.

A Kansas man wrote to the *Western Rural* for information as to cheese-making, and the editor responds as follows:

An Abilene, Kas., correspondent asks for directions for making cheese from the milk of two cows. There are certain things that are indispensable for making cheese whether it be done on a large or small scale. There must be a vessel large enough to hold the milk. While a wooden tub is best, it may be a boiler or kettle. It scarcely need be said that whatever it is it should be strictly clean. There must be means of warming. Where the operations are upon a small scale this may be done by means of the cook stove. There must be a supply of rennet, and this must be provided and soaked before operations are begun; and there must be a hoop for pressing the cheese. Whatever may be necessary or desirable in the way of utensils, may be procured of Chas. P. Willard & Co., Chicago, or any other dealer in dairy supplies. Having made these preliminary arrangements, warm the milk to about 84 degrees, being very careful not to burn it. Add enough rennet to cause the milk to curdle in fifteen minutes, and cover it to keep it from cooling. No rule can be laid down as to the quantity of rennet to be used. That must be settled by experiment or trial. It is estimated that a first-class rennet that is well soaked and rolled will curdle 2,000 quarts of milk. But rennets vary so much in strength that, as before said, no rule can be laid down. "When the curd becomes so hard as to cleave before the finger when pressed through it," insert a blade that will reach through to the bottom of the vessel, and cut it into squares about an inch square. Then cover once more and give time for the whey to separate. In fifteen or twenty minutes dip off the whey and break the curd up with the hands into pieces about the size of a hickory nut or perhaps walnut. After this is done, take water that is heated to about 150 degrees and in quantity equal to that of the whey which has been removed, and turn it into the curd, stirring it until all is equally warm, covering it again and letting it stand about twenty minutes or for such time as the curd will not stick firmly together. Then dip off the liquid again, break the curd up fine and again turn on hot water and mix the mass evenly by stirring it gently. Stir often enough to keep the pieces of curd from adhering. Keep covered and let it stand until the curd hardens; and when it squeaks between the teeth it is hard enough.

"When the curd has been stirred till it is free from whey and becomes a little cool and the large lumps broken up fine so it will all receive salt about alike, salt at the rate of one ounce of salt for each ten quarts of milk. The salt should be thoroughly mixed through the curd, and when that is done put the curd to press. When it is sufficiently stuck together so that it may be handled, remove the curd from the press and put on a new press cloth, turn it upside down, fold the cloth evenly over it and again press for twenty-four hours. After it finally comes from the press, let it stand for a couple of hours that it may dry. Then rub over it some soft grease and every day it should be turned and rubbed, for from thirty to sixty days, until it is cured." That is all there is to do for a cheese for home use. Our correspondent will not need a press for so small an amount of cheese, that is if he means to make cheese only for family use. A curd that is properly prepared will form into a very good cheese of its own weight. But it is recommended that when no pressure is used that the hoop should be made of perforated tin to allow the escape of the whey, with top and bottom of the same material. The top and bottom are made to fit like lids, and this enables the cheese-maker to turn the curd every few minutes while it is warm, thus producing smoothness on both sides. To make cheese without pressure, the curd should be put into the hoop quite warm. Cold curd cannot be made to adhere without pressure.

Waldo Brown gives the following directions for family cheese-making: "But a small outlay will be necessary for fixtures, as the wash-tub can be used for the whey, but a new, clean tub should be bought in which to set the milk. A cheese-basket, or drainer, with flaring sides and perforated bottom,

will be needed to set over a tub to drain off the whey. A hoop, in which to press the cheese, which is best made of tin; a dozen cloths, which should be a yard square and made of cheap, coarse muslin; a press, a thermometer, a wooden bowl and a chopping knife, a cheese-ladder, a curd-knife, and a few smooth, wide shelves, on which to cure the cheeses, makes up the inventory.

"The sides of the basket should be flared, so that it can be used on tubs of different sizes. The holes in the bottom should be one inch in diameter, and there should be enough of them to give quick and free escape to the whey. The hoop should be of heavy tin, and is exactly like a peck measure with the bottom out; a good size for from five to eight cows would be ten inches in diameter and eight deep. It is best to have two sizes, as the quantity of curd will often vary. A 'follower' must be made for the hoop, by which is meant a round piece of board made to fit loosely inside of it to settle and follow up the cheese as it is pressed. It should be cut from a two-inch board, and have a strip screwed on to the top across the grain of the wood to keep it from splitting. This strip, if grooved at the sides, makes a good handle by which to lift the follower out of the hoop.

"The press may be a cheap affair, and the simplest and best form is made with a lever, on which weights are hung to increase the pressure as the cheese needs it. A screw-press, however, will answer for the purpose. A common hash-knife will answer to chop the curd to get it ready for salting. A cheese-ladder consists of four pieces of wood one by one and a half inches. It is convenient for holding the strainer, and also for keeping the cloth out of the milk when the rennet is first added. A strip of tin will do for a curd-knife.

"You will need to provide rennet, and that which is a year old is considered the best. The best rennet is from a calf from one to four weeks old. It should be emptied of its contents, thoroughly salted, and dried without any washing or scraping, and when dry should be put away in a dry place where it can be kept from flies and insects. To prepare for use, soak for twenty-four hours in one gallon of warm water, rubbing and working often to get out the strength. Add as much salt as the liquor will dissolve, strain, let settle, and it is ready for use. If it be kept some time add the juice of a small lemon and about one-fourth ounce each of cloves, cinnamon and sage. Bottle it and keep it in a cool, dark place. The rennets, if dried and salted, will gain strength and can be used a second time.

"In setting the milk, the temperature should be about 96 degrees. The new milk will be nearly the right temperature, but the milk which has stood overnight must be warmed, and the better way to heat it is by setting a tin pail of boiling water into the tub. The cream may be removed from the night's milk and used for making butter. The night's milk should be heated while the cows are being milked, so that the rennet can be put in before breakfast, as it is important to get the work done during the cool of the day.

"It will require some little experience to ascertain how much of the rennet liquid to use; but if made as directed, try a tablespoonful for each three gallons of milk. If it is much over a half-hour in 'coming,' increase the quantity; if much less decrease it. The tub should be covered with a cloth, to keep it from cooling while the milk is curdling, and it should not be jarred by walking over a springy floor. When the milk has curdled, so as to appear solid, cut carefully with the curd knife into strips an inch wide, and then across, so that at the top it will look as though divided into inch squares. In many dairies a knife with horizontal blades an inch apart, like the bars of a gridiron, is used to cut the curd so as to divide it into cubes an inch square. As such a knife would cost but little, I would advise that it be procured. It could be made of tin; or a light frame, with fine wires stretched across, would answer. I only used the strips of tin for a knife, and then, after the whey began to separate, and the curd hardened a little, lifted it gently from the bottom with a ladle.

All the handling of the curd, in the early stages, must be done with great care, or the whey will be milky in appearance, showing that the cream is being washed out. As the whey begins to separate, spread the cloth over the top, and begin dipping it off as it comes through. As soon as you can dip up a half-gallon of whey, let it stand on a cloth in a dipper, as this will give about

as much pressure as is needed at this stage. Heat some of the first whey dipped to a little above one hundred degrees, and pour over the curd. By increasing the pressure, and an occasional cutting with the curd knife, and careful stirring, the curd will harden so that in about an hour from the first cutting it can be dipped into the cheese basket. You will first spread one of your cloths in the basket, and dip the curd carefully into it, and then, by gently lifting the corners and drawing them to the center, you will press the curd and drain off the whey. As the curd hardens, you will occasionally slice it both ways and increase the pressure by drawing up the corners of the cloth, and folding them over the curd, and placing a square piece of board on it and a weight—a smooth stone, of twenty or thirty pounds' weight, can be kept for the purpose. In from one to two hours after dipping up, the curd will be solid enough for the press. It should be of such consistence that it can be crumbled between the thumb and finger. It should now be chopped fine, and one ounce of salt added for each five pounds of curd, and it is ready for the press.

It is desirable that the cheese be of sufficient size, and if one has but four or five cows, the curd can be kept over till the next day, and two put together. It can be kept on ice or in a cold spring-house, by spreading it out in slices in pans. A better way, however, is for two neighbors to co-operate and put their milk together, each making a cheese on alternate days.

Place one corner of a cheese-cloth over the hoop, so that when settled to the bottom it will cover the sides and leave enough to spread over the top. The edges must be folded over nicely and the follower put on. The pressure must be gentle at first, or the cream will run out and leave the cheese poor; but it may be gradually increased, and in a few hours the cheese is ready to turn. Take the cheese from the hoop and spread a clean cheese-cloth over it and press the hoop down around the cheese. Have the cloth placed so that there will be width enough at one side to spread over the top of the cheese. Now lift the cheese and hoop together and invert it, so that what was the top of the cheese at the first pressing will be turned down. Spread the cloth over the top smoothly, and with the left hand hold the narrow edge of the cloth while, with a common table-knife, you tuck down inside of it the edges of the cloth that covers the top of the cheese. The object of this is to give a good smooth edge to the cheese and preserve a good shape. Part of the cloth will now hang outside of the hoop, while at the first pressing it was all folded under the follower. If the cheese remains in press more than twenty-four hours, it should be turned a second time, for if left too long the cloth will be likely to stick to it and tear the rind.

The Veterinarian.

[The paragraphs in this department are gathered from our exchanges.—ED. FARMER.]

BUNCH ON HORSE'S NECK.—In the early part of winter I noticed a hard bunch, about as large as a common bean, on my horse, midway between ear and shoulder. In February it began to increase in size until it extended across one side of neck, remaining so about a week, after which it went away, except the former bunch. In about four weeks more it did the same thing. At such times it is about four inches wide, and sore; otherwise the horse acts and eats as well as any horse. Please give me some information as to its cause, name and cure. [Clip hair off of and around the enlargement and apply golden blister, covering a space four inches in diameter. If this does not eradicate the difficulty, it will require dissection.]

PARALYSIS IN HOGS.—Several of my hogs are suffering with paralysis (I take it to be such—lameness across the back, and unable to get up); appetite fairly good, etc. I have very good quarters for them, and think they are properly fed. They are out either in the yard or in pasture during the day. Their feed is corn in the ear twice a day and slop—rye and swill or wheat and swill. The water here is strongly impregnated with iron, but has always been considered healthy. Will you kindly inform me the general cause of paralysis? [Strong or stimulating food, or the forcing of flesh, is supposed to be a prominent factor in the production of this kind of

paralysis. We know that the invasion of the muscles by parasites produces it.]

CAPACITY OF STOMACHS.—I have heard it stated that to feed a horse over a certain weight of grain was simply throwing food away, as the horse's stomach could only assimilate so many pounds of food. If such be the case with the horse, the same rule will apply to the ox, the sheep, and the pig. I would like to ask you to inform me on the following: (1) What is the capacity of the stomach of the different animals above named? (2) How many pounds of grain or artificial food is required for sustenance food, and how many pounds over that, are each of the animals capable of assimilating? (3) What is the lung capacity, and how much cubic area is required by an average-sized animal of each of the breeds? [The horse has the largest lungs, and their capacity is twenty-six pints; those of the ox about eighteen pints; those of the pig and sheep have been investigated. The cubic area required by a horse is 1,000 to 1,200 cubic feet; for an ox, 600 to 800 cubic feet; for a pig or sheep, from 150 to 300 cubic feet. No animal can assimilate more than a certain quantity. The same rule does not apply with the horse and ox, as regards the feeding of them. The capacity of the horse's stomach is three gallons. The capacity of that of the ox is five gallons. The horse must, from the size of his stomach, receive food in small quantities and frequently. The ox does not require to be fed so frequently, for he can take a very large meal at a time, and then employ a considerable time in remasticating it. The capacity of the pig's stomach is comparatively small—two gallons; and the pig therefore requires to be fed frequently. The capacity of the sheep's stomach is proportionate to the ox's, and it must be fed similarly. Professor Dick found that a horse not working could be kept in fair condition on twelve pounds of hay and five pounds of oats, but if a good amount of work has to be done he should receive fourteen pounds of hay and twelve pounds of oats and two pounds of beans. We know of many horses that receive twenty pounds of oats and two pounds of beans, and hay *ad lib.*, but they are used for very fast work, and are kept in prime condition. The quantities of sustenance food depends on the nature of the animal; some require very little, others a great deal. Young animals require far more than old animals; fat animals more than lean ones, and so on. Quoting from the "Book of the Farm," we find that two pecks of steamed potatoes with nine pounds of barley-meal and a little salt, given every day to a pig weighing twenty-four to twenty-eight stones will make it prime fat in nine weeks. Messrs. Lawes & Gilbert found that if a 1,400-pound ox were taken from grass and put under cover, he would gain about twenty pounds weekly by being fed daily on—crushed oil-cake, 8 lbs.; chopped clover hay, 13 lbs.; turnips, 47 lbs. The late Dr. Voelcker gives the following as a distinctly fattening sheep diet: 16 lbs. clover hay, 4 oz. linseed-cake, 312 oz. mangel-wurzel.]

Proved it on Him.

The story, or something like it, was told by Gen. Shields when he last visited Boston. While in Kentucky, he was approached by a portly, substantial looking man, who said: "I wish to give you a piece of advice. Never deny anything. Some time ago I ran for office in this section of the country, and resolved to keep quiet whatever was said about me before the election, which was to take place in about a month. The first week they accused me of being a horse-thief, but I paid no attention to it. The second week they asserted that I had been treasurer of a trust company and ran away with the funds, and I received this in silence. The third week they said I had induced my right-hand neighbor to make over his property to me temporarily, and then refused to give it up, and still I made no defense. The fourth week they came forward with a statement that I had stolen the chickens of my left-hand neighbor, a worthy old lady, and sent her to an insane asylum. This made me indignant, and I denied it in public, and I'll be darned if they didn't go to work and prove it on me." There is a moral contained in this story which some of our political candidates might lay to heart.—*Boston Courier.*

Nervous Debilitated Men

You are allowed a free trial of thirty days of the use of Dr. Dye's Celebrated Voltaic Belt with Electric Suspensory Appliances, for the speedy relief and permanent cure of Nervous Debility, loss of Vitality and Manhood, and all kindred troubles. Also, for many other diseases. Complete restoration to health, vigor and manhood guaranteed. No risk is incurred. Illustrated pamphlet, with full information, terms, etc., mailed free by addressing Voltaic Belt Co., Marshall, Mich.

The Poultry Yard.

A Poultry House.

Hens, like sheep, will not do well if too many are crowded together, and a building that will accommodate 100, especially during a winter like last must be pretty large. I have a building that is fifty feet long and twenty-five wide, and yet I do not think it would be large enough for 100. If a farmer keeps that many hens, he keeps them for profit, and unless he can get more eggs from 100 than he can from 50, there is no profit in keeping so many; and if you keep 100 and calculate they will lay any, you must give them plenty of room.

Now I will tell you how I should build a poultry house to accommodate that number. I would have my building stand east and west, so that one side would face the south. And the size I would have would be sixty feet long by twenty-five wide. I would build a foundation either of brick or cobble stone, two feet above the ground and one foot in the ground. Then on this I would put the roof, giving it one-third pitch, which would make the building ten feet three inches high in the center. There should be a door in each end, and over the door I would put in a small door for ventilation. And in the south-half of the roof put at least ten windows, one-half at peak, with the other at or near the eaves. The upper might be put in flat with the roof, and the lower would be better as dormer windows, and rise from the foundation, but this would make the cost some considerable more than to put them in with the pitch of the roof. The ends and roof should be made double, with at least a two-inch air space, and also a sheathing of tarred paper in between. Of course this makes the cost much more, but it will pay in the end; the fowls will not feel the sudden changes of temperature in winter, and unless there is long continued cold weather, the temperature of the air in the building will not go down to or much below freezing. The outside of building should be banked up all around as high as the foundation wall. To do this I would draw dirt and grade it up and make it permanent. In the center there should be a ventilator. This should extend at least four feet above the roof and two feet below into the building; it should be sixteen inches square, and over the top and about four inches above there should be roof or cover so as to keep out the snow and rain. This ventilator should be kept open all the time, and the end ventilators over the doors only opened when necessary. The ventilator in the center can be used for a chimney by running a stove pipe up through the center and having a galvanized sheet iron top above the ventilator. The doors should be built double and be made to fit tight.

Now for the inside. At each end besides the outside door, there should be a slat door on the inside. Through the center should be left a passageway four feet wide, and on each side should be put studding to support the roof. All of one side (the north side would be best) should be partitioned off into rooms. I would put in the partitions every twelve feet. This would make five rooms twelve feet long by ten wide. Two feet at the bottom of these partitions should be made tight, and above that make them open, using lath, and into each room I would have a door; a slide door is much the cheapest and best. It would be well also to partition off a small room in each corner on the other side.

The roosts should be put in these rooms on the north side of the building, and back near the side and not over two feet high. There should be two rows of perches, and at least eighteen inches apart; this will give plenty of room for all the fowls, and they will be scattered all through the building. I said I would place doors in each room, but I should leave them all open, unless for some reason I wanted to close up some of the rooms. The nests should be in the front side of these rooms, up high enough so that the hens can not look in from the ground, and so made that the hens can not roost on them conveniently. Now put in an old stove so that you can have a fire when the thermometer is down to zero and below, and get 100 Brown Leghorns and seven good cocks of the same kind. Now feed right, with plenty of meat and warm food in the morning, to be fed in troughs, the same as you would feed grain to sheep, and after eating, turn the trough over; give them whole grain at night, or rather the middle of the afternoon,

burying it in the dirt on the south-half of your poultry house (if the ground is covered with snow outside), so as to make the fowls do some scratching for exercise; but if the ground is bare I would feed them their whole grain outside. Give them fresh water every day in clean, flat or milk crocks. Last but not least, gather your thirty-five to seventy-five eggs a day, and sell them each week to your regular customers at from two to four cents apiece. Then keeping poultry will pay.—A. C. Pepon, in *Ohio Farmer*.

A Sitting House.

A sitting house may be made on a greater or lesser scale. Indeed, where a great number of fowls is kept, more than one will be necessary. The interior should be fitted up with a row of nests; in fact, a broad wooden shelf, divided into compartments a foot and a half square, covered over with a roof sloping to the front. The additional height at the back gives better ventilation to the sitting hens; and this has more to do with their health and comfort, and consequent good hatching, than most are aware of. Generally speaking, sitting places are too close and confined, showing a marked difference indeed to those selected by the hens themselves if allowed freedom of choice.

A sitting house being a necessary evil in a poultry establishment, let us make it as comfortable as possible to the poor hen during her *retraite*. Each nest must have a folding flap in front, to secure the hen from any intrusion on the part of her neighbors, and to confine her, if at all inclined to vagrancy. The flaps should be numbered and a few air-holes pierced in each; the lower panels of the nests be made to slide out and in, as after each occupancy it is advisable to have them washed. The sitting house yard differs in no respect from that described for non-incubating fowls; it must have a similar dust bath and water vessel. A flue is desirable where chickens are wished during the winter months, to be used only in very cold weather when the frost might be expected to injure the eggs.—*The Henwife*.

Gapes in Chickens.

I have seen of late many articles to the effect that gapes in chickens could not be cured, while once in a while a person has suggested something that might possibly cure it. What produces the gapes is not generally understood. But if people could stop to think and examine the cause, they would see that it can readily be cured. The gapes are produced by small worms, about one inch long, in the windpipe, with a sort of feeler about one-fourth the length of its body, which circles around the pipe and produces the hard gasping for breath which is called the gapes. Unless this worm (or worms, as I have often taken out five or six), is removed, it will surely cause death.

To get rid of them, get a half-pint bottle, or any other that is convenient, fill it with kerosene, and place it where you can get it easily. Then get a small feather from the wing of a grown fowl, strip the feather from the quill, all but a little on the small end, put it into the oil and leave it there until you have the chicken ready. Hold him in your left hand, with his head between the forefinger and thumb, press them gently together, and you have him with his bill wide open. Then take the feather, which has become well saturated with the kerosene, and being careful to insert it into the windpipe, and not the throat, push it gently down the pipe until you are sure of reaching the bottom. Twist it round once or twice and pull out quick. I have brought out three worms at a time in this way, and if any remain the chicken will soon throw them out, as the kerosene kills what remains. Do not think this too much trouble, as it takes but a minute; it is a sure cure, and will pay richly in the end. Some will say: "It is only a chicken, let him die; there are enough more." But if this doctrine is good, why not apply it to other farm stock as well? If a man has fifty cows, and one of them gets choked, let her choke, she is nothing but a cow, and there are enough left. This will not do. Save the chickens; save everything, and you will be better off in the end.—*Ec.*

THIS PAPER may be found on file at Geo. P. Rowell & Co.'s Newspaper Advertising Bureau (10 Spruce street), where advertising contracts may be made for it IN NEW YORK.

THE STRAY LIST.

HOW TO POST A STRAY.

BY AN ACT of the Legislature, approved Feb 27, 1886, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisement, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice. And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper free of cost, to every county clerk in the state to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5.00 to \$50.00 is affixed to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the FARMER for a violation of this law.

How to post a Stray, the fees fines and penalties for not posting.

Broken animals can be taken up at any time in the year. Unbroken animals can only be taken up between the 1st day of November and the 1st day of April, except when found in the lawful enclosure of the taker-up.

No persons, except citizens and householders, can take up a stray.

If an animal liable to be taken, shall come upon the premises of any person, and he fails for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same.

Any person taking up a stray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of such stray.

If such stray is not proven up at the expiration of ten days, the taker-up shall go before any Justice of the Peace of the township, and file an affidavit stating that such stray was taken up on his premises, that he did not drive nor cause it to be driven there, that he has advertised it for ten days, that the marks and brands have not been altered, also he shall give a full description of the same and its cash value. He shall also give a bond to the state of double the value of such stray.

The Justice of the Peace shall within twenty days from the time such stray was taken up, (ten days after posting) make out and return to the County Clerk, a certified copy of the description and value of such stray. If such stray shall be valued at more than ten dollars, it shall be advertised in the KANSAS FARMER in three successive numbers.

The owner of any stray, may within twelve months from the time of taking up, prove the same by evidence before any Justice of the Peace of the county, having first notified the taker up of the time when, and the Justice before whom proof will be offered. The stray shall be delivered to the owner, on the order of the Justice, and upon the payment of all charges and costs.

If the owner of a stray fails to prove ownership within twelve months after the time of taking, a complete title shall vest in the taker up. At the end of a year after a stray is taken up, the Justice of the Peace shall issue a summons to three householders to appear and appraise such stray, summons to be served by the taker up; said appraiser, or two of them shall in all respects describe and truly value said stray, and make a sworn return of the same to the Justice.

They shall also determine the cost of keeping, and the benefits the taker up may have had, and report the same on their appraisement.

In all cases where the title vests in the taker-up, he shall pay into the County Treasury, deducting all costs of taking up, posting and taking care of the stray, one-half of the remainder of the value of such stray.

Any person who shall sell or dispose of a stray, or take the same out of the state before the title shall have vested in him shall be guilty of a misdemeanor and shall forfeit double the value of such stray and be subject to a fine of twenty dollars.

Strays for week ending June 17, '85.

Brown county—G. I. Prewitt, clerk.

COLT—Taken up by A. Nellans, of Robinson tp., June 4, 1885, one bay stud colt, 1 year old past, white spot in forehead; valued at \$20.

MARE—Taken up by C. M. Truax, of Robinson tp., June 4, 1885, one claybank mare, about 10 years old, branded on left jaw with X & H, on left shoulder S. O. and T. O. on left thigh.

Rush county—L. K. Ha n, clerk.

PONY—Taken up by G. S. Smith, of Illinois tp., May 23, 1885, one black or brown mare pony, 15 years old, blemish on left hind leg, branded P. on left shoulder; valued at \$30.

Cowley county—J. S. Hunt, clerk.

PONY—Taken up by A. N. Gordon, of Silverdale tp., June 1, 1885, one black mare pony, 14 hands high, indelible brand on left hip and another on left shoulder and brand similar to V on left jaw, star in forehead, snip on nose, left hind foot white; valued at \$40.

Crawford County—Geo. E. Cole, clerk.

PONY—Taken up by D. A. Fowler, of Walnut tp., May 23, 1885, one bay mare pony, about 13 hands high, white in face, right eye glass-colored, a lump on left side of nose, branded D. C. on left shoulder and H. on right.

Anderson county—A. D. McFadden, clerk.

MARE—Taken up by J. P. McClure, of Monroe tp., one iron-gray mare, 6 years old, left hind foot white, some white in face and wart mark on left side of neck; valued at \$40.

Decatur county—R. A. Reasoner, clerk.

MARE—Taken up by N. J. Bradley, of Olive tp. (Oberlin P. O.), May 27, 1885, one bay mare, branded on left hip with capital A, with half circle on top, about 12 years old; valued at \$30.

Davis county—P. V. Trovinger, Clerk.

COW—Taken up by Harper King, of Jackson tp., May 5, 1885, one red cow, little white, about 3 years old; valued at \$15.

Strays for week ending June 24, '85

Norton county—A. H. Harmonson, clerk.

MARE—Taken up by Myron Follett, of Modell tp., May 25, 1885, one black mare, 12 years old, branded B up and B down on left shoulder, branded 3 and J with O on top end of letter on left hip; valued at \$30.

COLT—By same, one light bay male colt, 1 year old, left hind foot white; valued at \$20.

COLT—By same, one strawberry-roan male colt, 1 year old; valued at \$20.

PONY—Taken up by H. V. Love, of Modell tp., June 1, 1885, one light sorrel mare pony, 3 years old, has a hard lump under left eye, branded A S on left shoulder, brand on left hip supposed to be G L upside down and a bar on right hip; valued at \$12.

Sumner county—Wm. H. Berry, clerk.

HORSE—Taken up by Henry Wilson, of Walton tp., May 23, 1885, one sorrel horse, 14 years old, 14½ hands high, white face, three white feet, branded B S on right shoulder; valued at \$15.

MARE—Taken up by J. A. Reeve, of Conway tp., May 20, 1885, one bay-roan mare, 12 years old, star in forehead, collar-marks on shoulder, saddle and harness marks on the back; valued at \$35.

Morris county—A. Moser, Jr., clerk.

PONY—Taken up by A. G. Pickett, of Valley tp., May 9, 1885, one dark bay or brown mare pony, 14½ hands high, small white spot over left eye, brand on

left hip and letter S on left rump, about 4 or 5 years old; valued at \$30.

Kingman county—Chas. Rickman, clerk.
MULE—Taken up by Eliasa Powell, of Belmont tp., June 10, 1885, one dark brown mare mule, branded with a circle and 7; valued at \$40.

Pratt county—J. W. Naron, clerk.

COW—Taken up by Chas. S. Rooks, of Gove tp. (Laundale P. O.), June 4, 1885, one red cow, indelible brands; valued at \$15.

Wabaunsee county—H. G. Licht, clerk.

HORSE—Taken up by Geo. F. Martin, of Kaw tp., June 1, 1885, one bay horse, 15 years old, 6 feet high, black mane and tail; valued at \$25.

Harper county—Ernest S. Rice, clerk.

MARE—Taken up by S. H. Carrher, of Ruella tp., June 1, 1885, one bay mare, hind feet partly white and rope mark on left hind leg; valued at \$100.

Franklin county—L. Altman, clerk.

MARE—Taken up by D. M. Conner, of Richmond tp., May 14, 1885, one sorrel mare, 4 years old, all in left ear, has a ring-bone on left hind foot, both hind feet white, has collar marks; valued at \$50.

Republic county—Y. E. Parks, clerk.

COW—Taken up by Geo. A. Tenpenine, of Richland tp., May 16, 1885, one brindle cow, about 4 years old, branded with a letter R on right haunch.

CAIF—By same, one sucking bull calf, light red, branded on right haunch with letter B; both animals valued at \$30.

Decatur county—E. A. Reasoner, clerk.

COW—Taken up by Christian Graves, of Bassettville tp. (Oberlin P. O.), one red cow with white spots on and under flanks and white spot in face, ears frozen out, 6 years old; valued at \$30.

Strays for week ending July 1, '85.

Butler county—James Fisher, clerk.

MARE—Taken up by J. B. Lee, of Little Walnut tp., one bay mare, 4 years old, about 16 hands high, hind feet white, small white strip on end of nose.

HORSE—By same, one bay gelding, about 15 hands high; both have harness marks and leather head-halters.

Harvey county—J. C. Johnston, clerk.

HEIFER—Taken up by Alex Kerr, of Walton tp., May 6, 1885, one 2-year-old white heifer, hole in right ear; valued at \$20.

Brown county—G. I. Prewitt, clerk.

MARE—Taken up by Wallace Earhart, of Hiawatha tp., June 18, 1885, one dark bay mare, about 14 hands high, about 18 years old, branded on neck G. W., has lump on under side of neck; valued at \$50.

Wabaunsee county—H. G. Licht, clerk.

MARE—Taken up by Ira Hodgson, of Mission Creek tp. (Mission Creek P. O.), June 9, 1885, one bay mare, 15 hands high, 3 years old, some white on three feet, short tail, smooth-shod all around, no marks or brands; valued at \$75.

Linn county—J. H. Madden, clerk.

HEIFER—Taken up by I. Clanton, of Sheridan tp., November 8, 1884, one roan yearling heifer, swallow-fork in left ear, crop off right ear and bush of tail off.

Bourbon county—E. J. Chapin, clerk.

MARE—Taken up by J. D. Cony, of Pawnee tp., June 15, 1885, one sorrel mare, supposed to be about 14 years old, white face and left hind foot white, had on saddle and bridle and piece of rope around neck; valued at \$45.

Jewell county—Jno. J. Dalton, clerk.

MARE—Taken up by H. B. Helfenstein, of Limestone tp., May 21, 1885, one light dun mare, 14 hands high, horseshoe with letter O turned backward on left shoulder; valued at \$60.

Cloud county—L. W. Houston, clerk.

COW—Taken up by Thomas Olson, of Lyon tp., one red cow, 3 years old, branded 1 on left hip; valued at \$20.

PONY—Taken up by James J. Ward, of Nelson tp., one light cream-colored mare pony, about 6 years old, branded on left flank and left shoulder with what is supposed to be a Mexican brand; valued at \$16.

Crawford county—Geo. E. Cole, clerk.

HEIFER—Taken up by H. E. Williams, of Washington tp., June 4, 1885, one white heifer, 2 years old, branded on right side with letter I; valued at \$15.50.

HEIFER—By same, one red heifer, 2 years old, branded on right side with letter I, ring in left ear; valued at \$12.50.

HEIFER—By same, one white heifer, 2 years old, branded on right side with letter I, ring in left ear; valued at \$20.

A PRIZE Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address TRUE & CO., Augusta, Maine.

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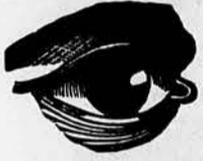
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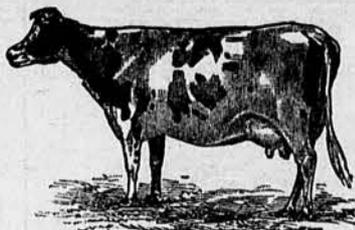
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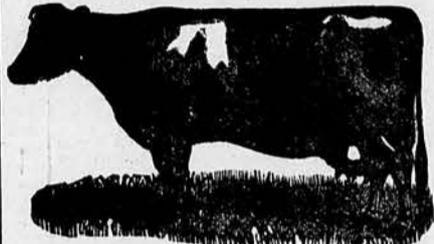
Over thirty yearly records made in this herd average 14,212 lbs. 5 ozs.; average age of cows four-and-a-half years. In 1881 our entire herd of mature cows averaged 14,164 lbs. 15 ozs. In 1882 our entire herd of eight three year-olds averaged 12,388 lbs. 9 ozs. April 1, 1884, ten cows in this herd had made records from 14,000 to 18,000 lbs. each, averaging 15,608 lbs. 6 3-10 ozs. For the year ending June, 1884, five mature cows averaged 15,621 lbs. 1 2-5 ozs. Seven heifers of the Netherland Family, five of them two years old and two three years old, averaged 11,556 lbs. 1 2-5 ozs.

BUTTER RECORDS.

Nine cows averaged 17 lbs. 5 1-2 ozs. per week. Eight heifers, three years old, averaged 13 lbs. 4 3 4 ozs. per week. Eleven heifers, two years old and younger, averaged 10 lbs. 3 ozs. per week. The entire original imported Netherland Family of six cows (two being but three years old) averaged 17 lbs. 6 1 6 ozs. per week. When writing always mention the KANSAS FARMER.

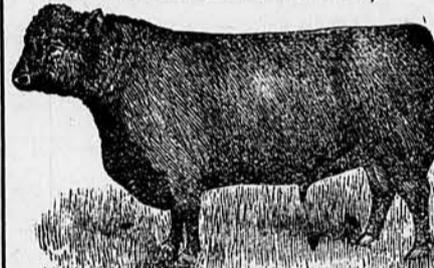
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Breeder and Importer of GALLOWAY CATTLE,

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My herd numbers over one hundred head, consisting of the best and purest strains of blood. It is composed of animals bred by the most noted breeders of Scotland—the Duke of Buccleuch, the Earl of Galloway, Thos. Biggar & Sons, Cunningham, Graham, and others.

I have thirty head of young bulls, fit for service, sired by the noted bull MacLeod of Drumlanrig; also thirty high-grade females of different ages that I will sell reasonably. Time given to suit purchaser, if desired.

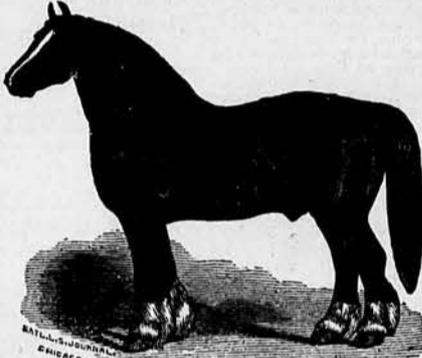
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A YOUNG SOW,
Bred to our crack Boars;
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A YOUNG BOAR
Pig;
If you want
A YOUNG SOW
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If you want
to place an order for
A SPRING PIG;

POLAND-CHINA SWINE.

If you want
A SETTING OF
Plymouth Rock Eggs, at \$1.50;
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SHORT-HORN BULL,
From \$100 to \$125.
Write to
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OVER ONE HUNDRED CLYDESDALE, ENGLISH DRAFT AND PERCHERON NORMAN

Stallions and Mares arrived in August, '84.



Another importation just received, ages range from two to four years old. Our stock won fifteen premiums at the Iowa State Fair of 1884; also sweepstakes on Clydesdale stallions and sweepstakes on Percheron-Norman stallions. 300 High-Grade Mares, in foal to our most noted horses, for sale.

Advantages offered to customers at our ranch: Many years' experience in importing and breeding. Immense collections, variety of breeds, enabling comparison of merits. The best of everything. A world-wide reputation for fair and honorable dealings. Close proximity to all the through railroad lines. Low prices consequent to the extent of the business. Low rates of transportation and general facilities. Visitors welcome at our establishment.

Ranch 2 miles west of Keota, Keokuk Co., Iowa, on the C. R. I. & P. R. R.; 15 miles west of Washington, Ia. **SINGMASTER & SONS, Keota, Keokuk Co., Iowa.**

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Send for Catalogue to **T. C. VAIL, Bursar,** or **BISHOP P. VAIL, President,** Topeka, Kansas.

FALL TERM--Begins September 9th, 1885.

Plenty of grass should be given fowls in confinement, in order to keep them in good healthy condition.

The slave population of the empire of Brazil is estimated at 1,177,022, of whom 623,274 are males and 553,748 females.

The sheep business, comprising both the wool and mutton produce, is one of the greatest industries in the United States.

It is claimed that if milk is brought just to the boiling point, then poured immediately into cans and sealed air-tight, it will keep for an indefinite period.

In hot weather all the unconsumed food should be frequently swept away from the chicken coops, as it soon sours and acts like poison if taken into the crop.

Scotch farmers hold that cut straw is better for the dairy when newly-threshed, and therefore they thresh each day enough fodder for the next day's consumption.

Potash on grapevines has been tried with great success, especially on light soils. It is said to promote the thrift of the vines and largely increase the yield of the crop.

At the annual sheep-shearing in Vermont the heaviest ram's fleece was twenty-eight pounds thirteen ounces, and the heaviest ewe's fleece twenty-one pounds eight ounces.

There's a monster delusion that lives in the mind

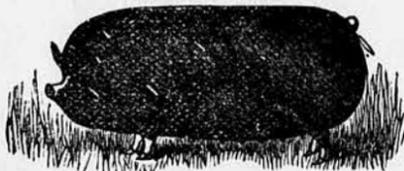
And it rests on the basis of gold,
That a lofty ambition of pomp, and of kind,
All the joys of the world can enfold.
To be true to the righteous, that lives in the deed.
To be true is to practice the Christ-crowning creed.

BERKSHIRE HOGS.

My herd now numbers about Forty Breeding Sows and Four Boars, including representatives of the best families of the day, and also prize-winners at the leading shows of this country, Canada and England. I have now in use in my herd sows that won in England in 1883, 1882 and 1881, and descendants of noted prize-winners previous to that time. The principal boar in use in my herd at present is "Duke of Monmouth" 11861, who won in 1883 the first prize at four leading shows in England, including first at the Royal Show, and also first prize at two leading shows in Canada. He thus won six continuous first prizes without being beaten, a like record I believe never attained by any other boar. I paid \$400 for "Duke of Monmouth." He is a splendid breeder, an animal of great constitution and comes from the same family as my old boar, "Lord Liverpool" 221, for whom I paid \$700, and who is now almost eleven years old and still alive. I have now a splendid lot of pigs from three to six months old, the bulk of which are got by "Duke of Monmouth." I would also spare a few of my sows, young or old, when in pig, and part of my breeding boars. I do not advertise prices as low as the lowest, for I cannot afford to sell as low as those who bought a cheaper class of stock to start with, but my prices are reasonable and within the reach of all who know the value of first-class stock. My herd of Berkshires show as much size as hogs of any breed, and I am sure I can show more quality, activity, constitution and size than is combined in any other breed of hogs. Almost if not every prominent herd of Berkshires in the West contains representatives from my herd, and this alone, considered in connection with the many prizes I have won for ten years past at our largest shows, proves beyond a doubt the quality of stock I am producing from year to year. No breeder of any kind of hogs in the United States or Canada has for several years past bought and retained in his herd so many valuable animals at an equal cost as I have. I have issued a new catalogue this season containing the pedigrees in full of my herd and a limited description of each animal, together with a complete list of prizes won for several years past. This catalogue I will mail free to all who feel interested enough to write for it. I am also breeding High-grade Short-horn Cattle and Merino Sheep. Have now about 100 good young rams for sale. I have reduced rates for shipping. All parties visiting from a distance will be met at the train, if notice is given in time. For prices or any further information, address

N. H. GENTRY,
Sedalia, Mo.

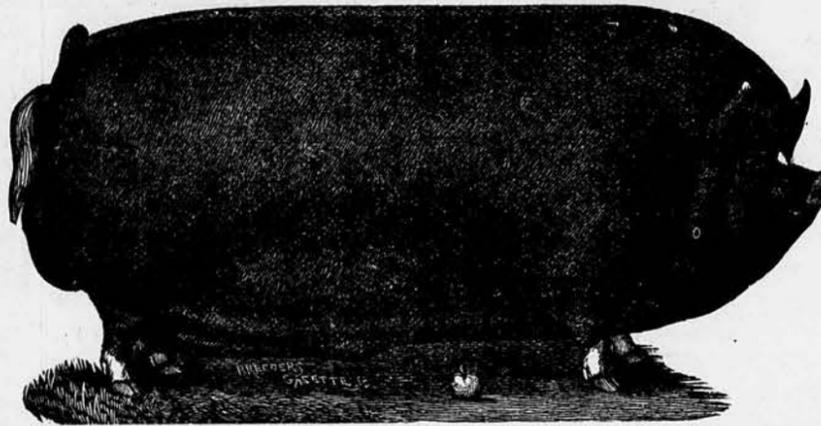
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—OF—
Pure-bred Berkshire Swine.



I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars, headed by the splendid prize-winner Plantagenet 2919, winner of five first prizes and gold medal at the leading shows in Canada in 1881. I am now prepared to fill orders for pigs of either sex not akin, or for matured animals. Prices reasonable. Satisfaction guaranteed. Send for catalogue and price list, free.

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Ottawa, Kansas.

Manhattan Herd of Berkshires



SOVEREIGN DUKE 3819.—(From Life, by Lou Burk.)

SOVEREIGN DUKE 3819, at head of famous Manhattan Herd. Among many other honors, elsewhere, this splendid sire won five blue ribbons during two successive years at the great St. Louis fair, including sweepstakes as best boar of any age or breed, each year,—a record never attained by any other boar. At the St. Louis and other leading fairs of 1882, the Manhattan Herd sustained its well-earned prize-winning reputation of former years by winning a majority, over all competitors, of the premiums competed for, being 13 sweepstakes and 55 prizes for that year. Until the present time I have been unable to supply the demand from some fourteen States and Territories for my swine, but I now have about 40 very choice young Boars and Sows old enough to use, that I will sell at prices to suit the times. A case of Cholera has never occurred in my Herd, which has come through the past severe winter in very thrifty condition. Twelve different families of Sows and five noted Boars in use. Satisfaction guaranteed. Send for Catalogue to

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BERKSHIRES
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COMPRISING the choicest strains of blood bred to perfection, including ten different families known to fame, such as the Sallie Sweet Seventeen, Cassanara and Gipsy families. At the head of my herd stands

EARL OF CARLISLE 10459,

A son of Imp. Royal Carlisle 3433 and Imp. Fashion, and Duke of Wellington 12392, winner of second prize at St. Louis Fair in 1884, under one year old. My pigs this spring are very fine, from five different boars. I never have had a case of disease in my herd of any kind. Have some choice Boars now ready for service, also one young SHORT HORN BULL—fine individual and fashionably bred. I would always prefer parties to

Come and See My Stock Before Purchasing,
But orders to me will receive my own personal attention and will be filled with care, for I will not send out stock that I would be ashamed to keep myself. Catalogues will be ready soon. Correspondence solicited. Come and see or address

RIVERSIDE HERDS
POLAND and BERKSHIRE SWINE.

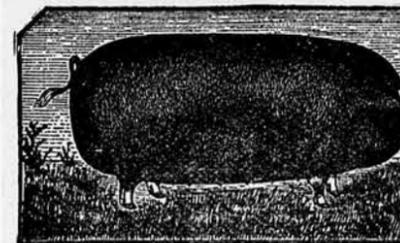


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Established in 1868.

Having been a breeder of Poland China Swine in Kansas for seventeen years, it is with pride as well as pleasure that I announce to the people of the New West that I am offering the finest lot of Pigs that I have ever seen offered, representing the best strains of the breeds, and thoroughbred. I will fill orders of either sex and any age at reasonable figures. All stock warranted to give satisfaction. Come and see my stock or write, and if not as represented, I will pay your expenses. Orders promptly filled.

J. V. RANDOLPH, Emporia, Kansas.

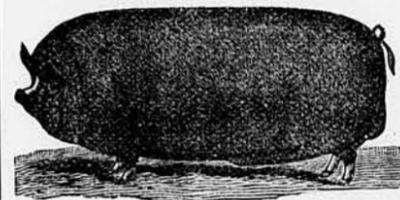


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HOLSTEIN CATTLE and
POLAND-CHINA PIGS.

We have on hand 150 head of fine pigs for sale now and for spring trade. Also a fine yearling Holstein bull and a few grade Holstein cows for sale. Splendid milkers. We guarantee satisfaction. All correspondence answered. Inspection invited.

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PURE-BRED
Berkshire and Small Yorkshire
SWINE.



We are breeding 25 of the best selected sows of the above named swine to be found in the country, direct descendants from Imported Sires and Dams. We are prepared to fill orders for either breed, of both sexes, at the very lowest prices.

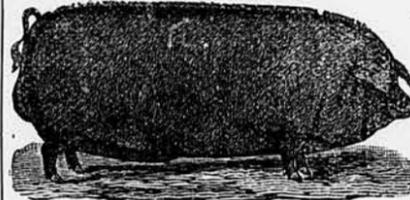
We have tried Small Yorkshires thoroughly, and are satisfied that they cannot be excelled as a profitable hog to raise. They are very docile and mature rapidly. Send for prices and catalogue to

WM. BOOTH & SON,
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Chester White, Berkshire and Poland-China Pigs, fine Setter Dogs, Scotch Collies, Fox Hounds and Beagles, Sheep and Poultry, bred and for sale by **W. GIBBONS & Co.,** West Chester, Chester Co., Pa. Send stamp for Circular and Price List.

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HOGS.



We have for sale a fine lot of Poland-China and Berkshire Pigs, from 2 to 6 months old. Ours is the Largest herd of pure-bred Swine in the State, and the very best strains of blood of each breed. If you want any of our stock write us and describe what you want. We have been in the business many years, and have sold many hogs in this and in other States, and with universal satisfaction to our patrons. Our hogs are fine in form and style, of large stock, quick growth, good bone, hardy and of wonderful vitality. Our Poland-Chinas are recorded in the American Poland-China Record.

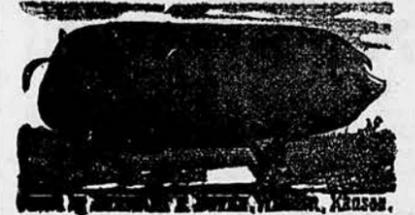
RANDOLPH & RANDOLPH,
EMPORIA, LYON Co., KANSAS.

EMPIRE BREEDING FARM,



G. M. EMBICK, M. D., Brookville, Ill. 18 Holstein-Friesian Bulls, 100 Victoria Pigs for sale at living rates; now is the time to procure choice stock. 30 varieties of Fancy Poultry. Write for what you want. **JAMES FAGER, Manager.**

Acme Herd of Poland-Chinas



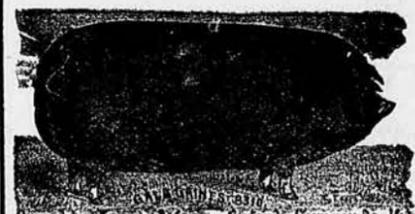
We are having a splendid lot of pigs for this season's trade, bred by "Challenge 4939" and "Kentucky King 2661." Orders taken now. Pedigrees gilt-edge and stock first-class. We claim that our "Challenge 4939" is the best boar in Kansas, "for money, marbles or chalk." **STEWART & BOYLE,** WICHITA, KANSAS.

Dr. Thomas Blackwood,



Breeder of **POLAND-CHINA SWINE.** My Poland-China herd numbers over 75 head. My stock is first-class, all registered, and guaranteed just as represented. Choice breeding stock not akin, of both sexes, for sale at all times at reasonable prices. All correspondence promptly answered. For full particulars and prices, address,

THOMAS BLACKWOOD,
Clay Center, Kansas.



Owned by **ISAAC WOOD, Oxford, Sumner Co., Kas.**

ISAAC WOOD, Oxford, Kas.—PIONEER— The sweepstakes herd of the Southwest for 23 consecutive years. Comprising the blood of all the popular strains of the day. Six years a specialty. Pigs furnished not of kin. Quality of stock and pedigree first class. Prices low, and favorable rates by express to all points. Pigs of different ages ready to ship, and orders taken for future delivery. Satisfaction guaranteed. For history of herd, see Vol. IV, page 31; Vol. V, page 47, and Vol. VI, page 37, Ohio P.-C. Record.



RANKIN BALDRIDGE,
Parsons, Kansas,

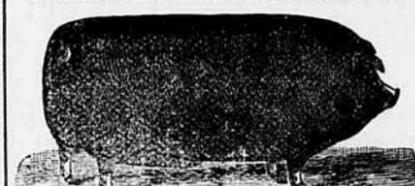
Breeder of Pure Poland-China Hogs. This herd is remarkable for purity, symmetry, and are good breeders. Black Jim, a prize-winner, bred by B. F. Dorsey, heads the herd. Stock recorded in Central Poland-China Record. Correspondence invited.

THOROUGHbred, POLAND-CHINAS



As produced and bred by **A. C. MOORE & SONS, Canton, Ill.** The best herd in the world. We have made a specialty of this breed for 28 years. We are the largest breeders of Thoroughbred Poland-Chinas in the world. Shipped over 700 pigs in 1883 and could not supply the demand. We are raising 1,000 pigs for this season's trade. We have 16 sows and 10 males we are breeding from. Our breeders are all recorded in American P.-C. Record. Pig all eligible to record. Photo cost of 43 breeders free. *Swine Journal* 25 cts. in 2 cent stamps. Come and see our stock; if not as represented we will pay your expenses. Special rates by express.

MEADOW BROOK HERD



OF POLAND-CHINA SWINE.

Breeding Stock recorded in American and Ohio Records. Tom Duffield 1875 A. P.-C. R., at head of herd. Always space with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered.

JELLEY & FILLEY, Proprietors,
KINGMAN, KANSAS.

How Balloons are Floated.

To understand how the balloon rises, you must know that it is filled with something lighter than the air, so that it must rise, as a light cork rises to the top of the heavier water, at the same time that a stone, and some kinds of very heavy wood will sink. As hot air is lighter than the common kind, a toy balloon may be made of a paper, in a hollow globe form, having a weight, to steady it, with a torch to heat the air, hanging below the opening in the lower part, the warm air filling it, causing it to rise, remaining till the torch goes out, the contained air becoming as cold as that outside. The common balloon is made of silk, ropes, etc., filled with hydrogen gas, about fifteen times lighter than air, so confined that it cannot escape. If large enough, several men go up in it, taking in also bags of sand, which they can throw out (a little at a time, and not the whole bag, the reason for which I will allow my young reader to guess, if there are men and boys just under them), this being done when they rise so high that the hydrogen and men become just as heavy as the same volume of air, at that height, the air growing lighter as we ascend.

The reason that the balloon seems to move against the wind is because the upper wind does not always blow in the same direction as that near the earth. It sometimes occurs that there are various currents of the wind, so that two clouds seem to meet, though one may be much higher than the other, both moved by different currents. Unless there is some machinery controlling the balloon, it will move with the wind.

But, how can the men in the balloon come down just when they may wish? They might jump out, coming down in a very much shorter time than it takes to go up. But a safer way is to open a valve made for that purpose, allowing a part of the hydrogen gas to escape, regulating the escape as they think best, descending slowly or more rapidly, having the weight of the balloon and its size in air about the same. If they see there is danger of dropping into the water, or in some bad place, they will stop the escape of the gas, and if they wish to rise a little higher, to get into a current of wind that will bring them over to a better spot, they throw out a part of their remaining sand, dropping when they think it safe, though I should think it safer and wiser to remain on the surface of the earth, traveling on foot, or by railroad!—Western Plowman.

Aim not too high, at things beyond thy reach,
Nor give the rein to reckless thought or speech.
Is it not better all thy life to bide
Lord of thyself, than all the earth beside?

Thus, if high Fortune far from thee take wing,
Why shouldst thou envy councillor or king?
Purple or homespun—wherefore make ado
What coat may cover, if the heart be true?

Then, if at last thou gather wealth at will,
Thou most shalt honor Him who grants it still;
Since who best doth poverty endure,
Should prove, when rich, best brother to the poor.

The soil within the field was hot and dry,
The corn had long for water cried in vain;
With wistful gaze I watched the cloudless sky,
When all at once the south wind seemed to sigh,
"The driest day is just before the rain."

Oh, ye to whom misfortune grief imparts,
Despair not yet nor fretfully complain;
But bravely check the rising tear that starts,
And let this thought revive your drooping hearts,
"The driest day is just before the rain."
—Albert Bigelow Paine.



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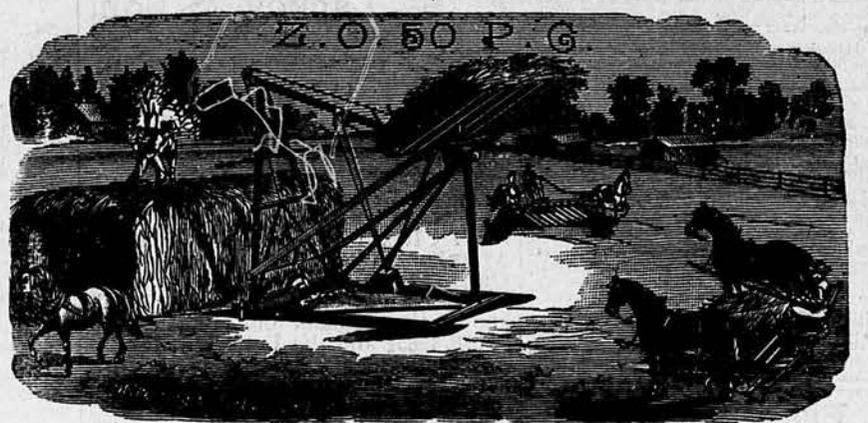
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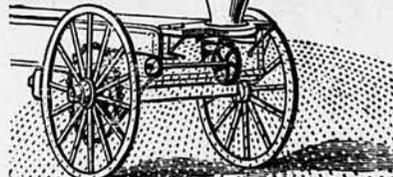
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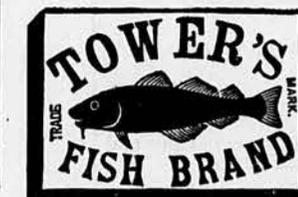
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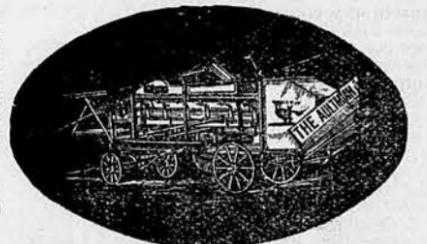
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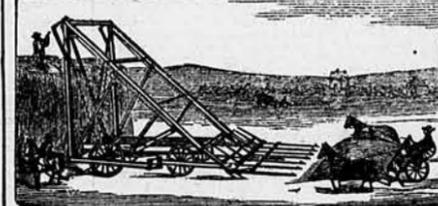
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