

KANSAS FARMER

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Established 1863. \$1 a Year

KANSAS FARMER.

Established in 1863.

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E. B. COWGILL.....President
J. B. McAFEE.....Associate Editor
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Display advertising, 15 cents per line, agate (fourteen lines to the inch). Continuous orders, run of the paper, \$1.54 per inch per week.
Special reading notices, 25 cents per line.
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KANSAS FARMER CO.,
116 West Sixth Ave., Topeka, Kans.

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The first two days of this week gave Kansas a taste of real winter. The thermometer registered several degrees below zero. Whether the coal trust took another cinch in its belt is not stated.

The annual meeting of the Illinois Stock-breeders' Association was addressed January 27 by Mr. H. A. Heath, advertising manager of the KANSAS FARMER on "Promoting the Interests of Breeders of Fine Stock."

How much the tax bills of Kansas had to do with the present political activity will probably not be reported. Certain it is that the "plain people," the "substantial citizens," the "conservative elements" are all taking unusual interest in politics. This is well.

Senator Burton, of Kansas, has been indicted by a federal grand jury at St. Louis charged with having accepted a bribe. The Senator's explanation is that he was employed as attorney for the president of a concern popularly designated as a get-rich-quick concern. Its purpose was to swindle people out of their money. Mr. Burton's explanation is about as disreputable for a United States Senator as would be a plea of guilty to the charge of bribery.

BLOCKS OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

Special to Our Old Subscribers Only.

Any of our old subscribers who will send us two NEW SUBSCRIPTIONS at the introductory rate of fifty cents each, during January, 1904, will receive for the trouble one copy of the KANSAS FARMER'S New Wall Atlas, descriptions of which have appeared in these columns from time to time; or we will send any one of the following publications as the old subscribers may choose, viz., "Woman's Magazine," "Western Swine Breeder," "Vicks' Family Magazine," "Blooded Stock," "Poultry Gazette," "Dairy and Creamery," or "Wool Markets and Sheep."

THE KANSAS FARMER TWENTIETH CENTURY SPECIALS.

Some three years ago the KANSAS FARMER began the publication, as an original feature, of a series of Twentieth Century Specials, which met with such popular favor that we now find them indispensable. Many of our subscribers claim that a single copy of any one of the special editions is worth the subscription price of the KANSAS FARMER for a whole year. We now

have in contemplation during the next few weeks two or three of these specials.

On February 4, we will issue our breeders' special, which will contain the proceedings of the fourteenth annual meeting of the Kansas Improved Stock-breeders' Association, the official report of the Kansas State Poultry Show, and a special report of the annual meeting of the National Live Stock Association, held at Portland, Oregon.

On February 11, the KANSAS FARMER has been selected to publish the official proceedings of the Central Shorthorn Breeders' Association for the annual meeting to be held at St. Joseph, February 2 and 3. Extra copies of this edition will be sent to every Shorthorn breeder in the United States to be preserved for reference by them.

Our annual Dairy Special will be issued about February 18, and will contain the only complete publication of the proceedings of the Kansas State Dairy Association besides considerable especially prepared matter relating to dairy husbandry. A sufficient number of extra copies of each of these editions will be printed to accommodate the special demand for them. The great value of these Twentieth Century Specials to advertisers is owing to the fact that they are carefully preserved for reference throughout the year by those who receive them.

"THE CARE OF ANIMALS."

The most useful book for the owner of stock that has appeared in recent years is Dr. N. S. Mayo's "Care of Animals." It is a volume of 459 pages, written in plain English and illustrated sufficiently to enable the stock-keeper to understand what is meant. The book is divided into eighteen chapters. These are devoted to the following subjects: I.—General Advice—Feeding and Watering, Exercise, Protection, Personal Attention. II.—Care of Animals in Stables and Yards. III.—Care of Pets. IV.—The Horse—Judging and Handling. V.—Lameness and Shoeing. VI.—Indication of Diseases of Animals. VII.—Treating Sick Animals. VIII.—Surgical Cases. IX.—Breeding and Veterinary Obstetrics. X.—Diseases and Injuries of the Bones, Limbs, and Joints. XI.—Diseases of the Alimentary Tract and of the Digestive Function. XII.—Diseases of the Respiratory System. XIII.—Diseases of the Brain and Nervous System. XIV.—Diseases Affecting the Skin and Eye. XV.—Parasites. XVI.—Contagious and Infectious Diseases. XVII.—Miscellaneous Diseases. XVIII.—Recipes and Brief Advice.

In examining the book the editor has been impressed with the practical value of every chapter. It is difficult to say which is likely to be used most. The last chapter, besides containing brief directions for treatment of disorders, gives the number of the page on which full discussion of the subject will be found. The ailments are arranged alphabetically in this chapter. To illustrate the ready usefulness of the book, suppose an animal has black-leg. Under this title in Chapter XVIII, we read, "Remove the well animals from the infected quarters or pasture

and vaccinate them. Purge the sick and give them exercise. Stimulants and laxative foods should be given.—Page 362." In this chapter many of the veterinary medicines are named and the dose of each stated, and in most cases are stated the diseases for which the medicines are useful.

The eminently practical character of the book can best be illustrated by a quotation. For this purpose we select from Chapter IV the directions for

EXAMINING A HORSE.

"In examining the horse in the stable, do not disturb him at first, but watch him closely for a few moments; he will be likely soon to show any stable vices that he may possess. Among vices to be looked for is 'weaving,' a habit some horses have a moving head or body from side to side, often for an hour at a time, especially when not eating. Cribbing and wind-sucking are vices which should be carefully looked for. Kicking in the stall and crowding an attendant against the sides of the stall are vices. Some horses have the bad habit of kicking at the side of the stall. Persistent pawing is also to be looked for. The horse should be made to 'stand over' by gentle pressure against the hip, when he will frequently show signs of chorea or stringhalt. A common symptom of this disease is the apparent inability of the horse to lift the foot of the affected leg—the foot is seemingly glued to the floor. After a considerable effort, the horse gets the foot loose, lifts it high and moves over with a kind of straddling hop. These symptoms are not shown when the horse is made to jump suddenly by a cut of the whip or a slap of the hand; therefore such actions about a horse should be looked upon with suspicion. It should also be noticed whether the horse stands squarely on his feet, or 'points' a foot to get relief from lameness or soreness in the part. Halter-pulling is another vice which it is difficult to detect. A sudden movement about the horse's head, which startles him, will usually cause him to fly back on the halter, if he possesses that vice. Horses strongly tied by ropes or similar arrangements about the head should be regarded with suspicion.

"After the horse has been examined in the stall, he should be led out on level ground where the light is good, and every part of the body should be examined for defects and disease. It is generally a good plan to begin at one nostril and to go over the whole side of the animal; then, returning to the opposite nostril, to examine the other side. The nostril should be examined for any sign of glanders, or other suspicious discharges. The mucous membranes lining the nostril should be a healthy rose-pink color, free from ulcers, scars, or disagreeable odor. Any sign of a recent cleaning of the nostril, dull color, or an irritated condition of the mucous membrane should be regarded with suspicion. The mouth should be examined as to age and freedom from decayed, split, ulcerated or irregular teeth. The saliva should be free from any disagreeable odor. The tongue should be normal, held in position, and free from scars. A scarred

tongue is indicative of the use of a harsh bit to control him, and is always to be carefully considered. The incisor teeth should be examined for parrot mouth and signs of cribbing, the latter being shown by the edges of the teeth being worn away, so that they do not come close together. The side of the face should be examined for running sores or enlargements that might come from diseased teeth. The lower jaw is to be examined for the same condition, and, in addition, for an opening or fistula of Steno's duct, which carries the saliva from the large gland below the ear and pours it into the mouth. This duct winds under the lower jaw at the front edge of the large muscle, and when opened discharges a clear, watery fluid, especially when the horse is eating. The glands in the hollow between the lower jaws should also be carefully examined as to their size, whether tender to the touch or grown fast to the adjoining tissues. Enlarged, adherent glands here are a symptom of glanders.

"The eye should be clear and bright and free from specks, cloudiness, or a well-defined white ring around the outside of the colored iris. By closing the eye with the hand and excluding the light for a moment, the pupil will be dilated to its utmost capacity; when the hand is removed and the light strikes the eye, the pupil should rapidly contract to its normal size. This shows that the eye is sensitive to light. Small, irregular masses of dark coloring material, commonly called 'soot balls,' are usually seen at the edge of the pupil in a horse's eye, and are often regarded with suspicion by those not familiar with the appearance of the eye. They are normal, and of no importance. The eye should also be examined for any signs of inflammation or abnormal discharges from the inner corner. Persistent discharges from the eye usually scald the skin and cause the hair to be shed in this region.

"The throat should be examined for any thickness or enlargement, especially of the glands which form a goiter. The top of the head and neck should be examined for poll-evil, for swellings of any kind, and to determine whether or not the horse will allow a bridle collar to be put on readily. The mane should be thrown over and the side of the neck examined for fistulae or running sores, tumors, or swellings of any kind. Brands should also be looked for here. The letters I. C. on the neck indicate that the animal has been inspected and condemned in service in the United States Army for unsoundness, vices, or inability to stand gunfire.

"After going over the neck, the withers should be examined for fistulae, and the back for tumors, galls, or 'sitfasts.' The shoulder, also, should be examined for tumors, galls, collar-boils, and sweeney, the last a wasting of the muscles on the outside of the shoulder-blade. The elbow should be examined for capped elbow, or shoe-boil. The knee should be examined for bony enlargements, wind-puffs, and scars on the front. Scars in this region indicate that the horse is a stumbler. Look just below the knee on the inside for speedy cuts, scars, or bunches, due to the hitting of the opposite foot. Sprints should also be felt for, and looked for on the inside of the fore leg, and bony bunches on the outside. The front of the cannon bone should be smooth and free from bunches and scars. The back tendons should be smooth; if contracted, they give the knee a 'sprung' appearance, as the horse stands squarely. Parallel marks or scars resulting from 'firing' should be looked for. Above the fetlock the leg should be examined for wind-puffs on either side, just in front of the tendons. The fetlock and pastern joints should be examined for ring-bones, bunches or scars. Small, puffy enlargements over the large nerves which pass down toward the back of the fetlock and along the edge of the tendons, below the fetlock indicate the injection of cocaine, which is done to disguise lameness temporarily. Scars in these places on both sides of the leg indicate that the horse has been 'nerved.' Just at the top of the hoof, on either side, the lateral cartilages should be examined to

see that they have not ossified, forming side bones.

"The foot should be of good size and shape, free from rings of horny growth, the wall not concave. The heels should not be contracted. The wall should be carefully examined for sand-cracks, quarter-cracks and seedy-toe, the last a softening and degeneration of the wall at the toe of the foot. The bottom of the foot should be examined for corns, the cleft in the frog for thrush, and the sole for bulging.

"After finishing the fore leg, the examiner should go carefully over the horse's side and belly, looking for any tumors, sores, hernia, or ruptures. In the male, the penis and sheath should be examined for tumors or disease. It should be noted whether the hair on the belly in front of the sheath is normal in appearance, as some horses do not protrude the penis in passing urine and the skin in front of the sheath is irritated so that the hair is shed. The scrotum in males should always be examined for tumors, and geldings must be scrutinized to be sure they are not ridglings. In examining the hind legs of a strange horse, it is always well to take precautions to prevent being kicked, by having an assistant hold up one fore foot.

"The muscles of the hip should be examined for scars, the stifle joint for any enlargement or soreness that would indicate stifle. A thorough examination should be made of the hock joint, because of the number and importance of the defects that may occur in this region. The back of the hock joint should be examined for capped hock, curb and scars which may indicate that the animal is a kicker. Just in front of the point of the hock, look for thoroughpin. The hock joint proper is to be examined for spavin, both bone-spavin and bog-spavin, also for any enlargements or any irregularities of movement. Below the hock, look for wind-puffs, ring-bones, scratches, and diseases of the foot. After completing the examination of one side, go over the opposite side with equal care.

"After going over the whole horse, the examiner should carefully compare corresponding members, as to their symmetry and form. The two hips should be compared to see that one is not 'knocked down' or 'hipped,' and that the muscles are equally developed. The tail should be carried squarely; it should be handled and a line or rope drawn under it to prove that the horse is not vicious in this regard. The nostrils, hips, eyes, and ears should be compared, and any signs of paralysis or drooping of the parts noted.

"After examining, manipulating, and comparing the parts of the animal, he should be thoroughly tested in his paces. He should be driven, or led, with plenty of rope, to and from the examiner, and then moved by him at a good, free trot, when any signs of lameness or peculiarities of movement should be carefully looked for. Turning the horse shortly to the right or to the left, so as to bring the weight alternately on the right and left legs, will usually increase the signs of lameness. The horse should also be tested as to his ability and willingness to back a load. In testing for the wind, the horse should be allowed a full drink of water, and then should be ridden or driven rapidly for some distance and brought to a sudden stop, close to the examiner, who will look for any abnormal sounds or movements in breathing. A 'wind-broken' horse can be detected by the peculiar roaring or whistling made as the air is taken in. In heaves, there is usually difficult breathing, with a peculiar bellows-like motion of the flank. By pinching the animal's throat, the peculiar and characteristic grunting cough will be given. The horse should also be tested to determine whether he eats and drinks properly.

"The ability to detect unsoundness can be largely increased by practice and close observation; and yet some diseases and vices can not be detected by an ordinary examination, and it is only after a person becomes familiar with the animal that these will be observed."

Written by the veterinarian of the Kansas State Agricultural College and veterinary editor of the KANSAS FARMER, the book is published by the Macmillan Company, New York. We have not been advised of the price but have written the publishers for price and discount. We expect to be able to furnish it at such a figure that every owner of stock can have a copy.

THE NEW AGRICULTURAL "YEAST."

Find enclosed an article that I clipped from the Youth's Companion. I would like a little more information on this subject, a little fuller description, and the process of obtaining a quantity of the substance; also what name does it go by? R. A. WILSON. Ford County.

Following is the Youth's Companion article:

A GREAT AGRICULTURAL DISCOVERY.

"Four-fifths of every breath of air which the lungs inhale is pure nitrogen. It is one of the commonest of the elements. And yet, says a writer in Harper's Monthly, it is the one thing for the lack of which wheat-fields, cotton-fields, and corn-fields are abandoned as 'worn out' because it is the most expensive plant-food for man to supply to the soil, and one which most plants are unable to absorb in its pure state from the air. To remedy this, the Department of Agriculture at Washington is preparing to distribute among farmers a substance resembling compressed yeast, which will raise, not bread, but crops; for when applied to certain plants it will enable them to take up abundant nitrogen from the atmosphere. The 'yeast' is really a mass of germs, which bid fair to become most efficient gardeners.

"It has long been known that clover and other leguminous crops flourish in 'worn-out' soil, and when plowed into it partially restore the fertility of it. Studying this phenomenon, scientists have found that in such a soil the plants have nodules, little bunches, or swellings, on their roots, which they do not have when grown elsewhere. These nodules are formed by bacteria called radiocola.

"Professor Nobbe, a German investigator, found that lupines which had the nodules would grow in soil devoid of nitrogen. Without the nodules the lupines would not grow. He obtained some of the radiocola from the nodules and propagated them in gelatine till he had many millions of the germs.

"He then put into three jars equal quantities of sterilized sand containing no nitrogen whatever. In each jar he planted beans. The first he fertilized with all the usual plant-foods except nitrogen. The second he supplied with the same food and saltpeter, a form of nitrogen easily absorbed by plants. The third he fed like the first, and in addition inoculated the sand with his radiocola.

"The result was extremely interesting. The beans all came up, and for a few days grew alike. Then the first lot, having no nitrogen, turned yellow and died. The second continued to grow in normal fashion. But the third, although it got no nitrogen in the soil, flourished far beyond its neighbor, and developed a luxuriant and healthy growth, showing that the radiocola had enabled it to draw its nitrogen from the air.

"Professor Nobbe carried his experiments much further. He showed that while in neutral soil radiocola are all alike, once they have associated themselves with a given plant, as clover, they become very nearly useless for other plants, such as beans and lupines. Accordingly he has labored to produce highly specialized bacteria for each crop—gardeners germs trained to grow their specialty.

"Having done this, his next move was to place them in the farmers' hands. He grew them by millions, and packed them in bottles of gelatine. All that the farmer needed to do was to dilute the gelatine with warm water, mix it with the seed and a little soil, partially dry the mixture and sow it. The germs did the rest.

"There was much opposition to the

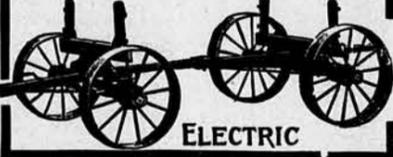
Wise Man's Wagon.

The man who has had experience in running a wagon knows that it is the wheels that determine the life of the wagon itself. Our

ELECTRIC STEEL WHEELS

have given a new lease of life to thousands of old wagons. They can be had in any desired height, and any width of tire up to 8 inches. With a set of these wheels you can in a few minutes have either a high or a low down wagon. The Electric Handy Wagon is made by skilled workmen, of best selected material—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. Here is the wagon that will save money for you, as it lasts almost forever. Our catalog describing the uses of these wheels and wagons sent free. Write for it.

ELECTRIC WHEEL CO., BOX 46 QUINCY, ILLINOIS.



ELECTRIC

new 'fertilizer,' and one old farmer who did not believe in it planted in a big field a lot of the inoculated seed in a big letter "N," Professor Nobbe having named the gelatine compound "Nitragen." The farmer was amazed and convinced when above all his other beans that year there stood out the letter "N" in luxuriant and healthy plants.

"Professor Nobbe's glass jars are inconvenient to handle, so the United States Department of Agriculture, following up his experiments, has hit upon the 'compressed yeast-cake plan' as simple and satisfactory. It is now about ready to distribute them to farmers whose lands need renewing, especially in regions barren of radiocola."

Several articles of similar import to this have appeared in prominent papers. It is officially announced in the 1903 report of the Secretary of Agriculture—just received—that thoroughly satisfactory methods of cultivating, distributing, and using these nitrogen-gathering organisms for all important crops have been perfected and that during the past season the value of these bacteria has been demonstrated in extensive field-tests. It is further announced that the Department of Agriculture is now prepared to furnish in reasonable quantities, organisms for all the principal leguminous crops.

To secure the materials for promoting the growth of any leguminous crop—alfalfa, clover, peas, beans, etc.—write to Hon. James Wilson, Secretary of Agriculture, Washington, D. C., stating that a quantity of the new bacterial fertilizer is desired, and state for what crop and on what kind of soil it is to be used. The Department makes no charge for the bacteria nor for its transportation.

VALUABLE CATTLE BURNED.

A barn fire at Sunny Slope Farm near Emporia last week destroyed 82 head of Mr. Stannard's fine Herefords, including some of the most famous animals in America. The loss is estimated at \$20,000, partially covered by insurance. The Sunny Slope ranch is owned by C. A. Stannard, one of the foremost breeders of Hereford cattle in the country, and was formerly the property of C. S. Cross.

Barn No. 5 was an unpretentious-looking story-and-a-half building. The fire is believed to have caught from a tank heater in the building, and was not discovered until after the structure had collapsed, and long after every animal confined in it was dead. The animals burned included about forty bulls from 20 to 22 months old and five young heifers. The remainder were the best breeding cows on the ranch. None of the bulls burned was included in the famous Sunny Slope show herd, but all were valuable animals. The cows, however, were among the best of the breed the country has produced.

Mr. Stannard says that at the present condition of the pure-bred cattle market the animals burned were worth fully \$20,000, but that the loss to him as a breeder was much greater than this because some of the cows killed were simply priceless because of their records as producers. Among these

Continued on page 88.

State Horticultural Society

Papers Read at the Thirty-seventh Annual Meeting, Held at Topeka, December 29, 30, and 31, 1903.

Handling Fruits.

C. E. HILDRETH, ALAMONT.

To handle fruits successfully some preparation is necessary, and much of thinking and planning. Erect a suitable building of stone or brick, with hollow walls, one and a half or two stories high, thus making the lower room much cooler in summer and warmer in winter.

A much larger building is usually needed, provided with tables, slatted shelving on one or both sides of the room, and a thermometer.

A low and even temperature with good ventilation is needed in summer. The windows and doors should have double shutters so as to close during the extreme heat of the day and the cold of winter.

Buyers and sellers can get in touch with each other by taking the "Packer," published at Kansas City and Chicago.

The fruit-raiser would do well to locate near a town where the home market would consume the fruit he raises for sale without the necessity of paying freight, express, or commission charges.

Gather fruit after the dew or moisture is off. If for home use, let it be fully ripe; it will be much larger and of better flavor. In gathering strawberries, pick only good and attractive berries, with short stems remaining on.

If for shipping, gather before too ripe. The same rules apply to blackberries, raspberries, gooseberries, and cherries. Grapes should be placed in eight- or ten-pound baskets.

Peaches should be placed in crates or in small baskets and these in larger crates. Only good, uniform fruit, ripe but not too soft, should be gathered.

Apples should be gathered before too ripe, and packed as fast as gathered, making three grades, firsts, seconds, and culls. Use barrels or bushel boxes, placing headers in each end or side.

Commercial Gardening.

A. CHANDLER, RANDOLPH, MO.

My theme is a comprehensive one. I will note first a few of the successes and the many failures. The year has been an eventful one, with many "ups and downs" to the gardener; still, he did not lose heart. The season opened favorably. The planting of garden crops in both the Missouri and Kaw Valleys was large.

Prices of all kinds of garden stuff

tilted upwards. The upland gardener reaped a harvest that broke the record of previous years.

Now for a few notes from the markets of the past year. Spinach, horseradish, and pie-plant are much sought after in the early spring months. Asparagus is growing both in demand and popularity; the minimum price per dozen bunches was 25 cents; maximum, \$1.25.

The increased demand for tomatoes is in proportion to their extended use, and many are the plans devised to place them in the early market. We note that some growers use 150 pounds nitrate of soda per acre, and tie the vines to stakes to facilitate their early maturity.

In commercial importance the potato has the lead; good prices have been maintained during the year. A large per cent of the early planting was a total loss. A few growers planted late from seed kept in cold storage.

Early corn is a great delicacy and is much sought after. The first in market is always high in price, selling at 25 to 35 cents per dozen ears. The best varieties are Early Minnesota, Country Gentleman, and Stowell's Evergreen.

Cabbage culture claimed much attention in flooded districts. Much of the land is all the richer for the overflow and was in fine tilth for late cabbage. Kaw Valley gardeners raised a fine crop and it was disposed of to advantage.

The proper storing and curing of this crop is the key to success with it. The melon crop was not a good one. It is very difficult to grow Rocky Fords owing to a destructive mite for which no adequate remedy has as yet been found.

Some specialists grow celery successfully. This crop needs more care than most gardeners are willing to bestow upon it. I think we need more specialists; many of us try too many crops.

In summing up the year's work, and in spite of many failures and discouragements, we have much to be thankful for. Late-planted corn never grew so rapidly. Late gardens yielded bountifully. A kind and compensating Providence relieved much of the distress that was apparent in the earlier part of the year.

New Fruits and Nomenclature.

FRANK HOLSINGER, ROSEDALE.

Through the skilful practice and handling of fruits by our intelligent cultivators we are enabled to enjoy them. As we look at the types from which our luscious fruits have been derived, the patient workings of him who is thus engaged and the marvelous successes attained, we stand in awe at man's achievement.

The original apple, a sour, worthless crab, has been developed into the luscious Grimes' Golden and a thousand other varieties, with the acid eliminated, and instead, containing flavors tempting to the most fastidious taste.

The almond, through the fruit-growers' patient and untiring energy, eliminates its bitterness and dry, skinny coat and becomes the luscious pulp of the Champion and a thousand other types that furnish nectar for all.

The pear, too, has been transformed by those never-ending evolutions, dropping its thorns and yielding that tempting little morsel, the "Seckel," of divinely luscious constituency.

Thus we find man continually improving varieties. When fruits are raised from seeds they usually show a tendency to degenerate to primal conditions, and yet it is a fact that in the chance seedlings we sometimes find

the superior of the parent. When, however, we determine the value of these seedlings, they are propagated by the ingeniousness of man, in grafting, budding, etc., thereby perpetuating to future generations a desirable variety.

I am not one of those who believe that a variety once established can ever be changed. The laws of nature being immutable, a variety once established remains for all time. But then you ask, how about hybridization, plant variation, cross-breeding, and kindred subjects? We leave these to the scientists.

In the whole range of cares and pleasures of horticulture there is nothing more truly interesting than is the propagation of new varieties. This, however, is a slow process. You may plant seeds by the thousands, care for them until in bearing without producing a single new variety. It is indeed a lottery, yet the patient, hopeful laborer is more than recompensed for the effort. Nothing can give the pomologist greater pleasure than the production of a fruit of real merit.

The season just passed has not been a propitious one in either the production of new varieties or in the development of older sorts. There are, however, quite a number of new fruits originating in Arkansas and Missouri that I esteem worthy of planting, such as Black Ben Davis, Apple of Commerce, Delicious, Senator, Ingraham, Nixon, King David, etc. But why go back into the past for the name of a fruit? A name should mean something.

Of summer apples, Wealthy is a great acquisition. Its size, early bearing quality and market value make it indispensable.

Delicious, Senator, and Ingraham are among winter varieties; Wealthy among those of late summer.

Among peaches there are a host of new seedlings as yet not sufficiently disseminated to speak of their general adaptability to a large section. We can, however, recommend Bell of Georgia, a white seedling of Elberta, of equal size of Elberta, a splendid shipper, of white flesh and good quality. Hiley is another Elberta seedling that fills the bill according to the great peach-grower, J. H. Hale. Greensboro has been keeping step with the procession and I would recommend it as the best of earlies. I might add that I have seen as fine seedlings from my seedling Salways the past season as we could wish.

The plum possibly more than any other fruit has given the greatest improvement. Luther Burbank has performed a wonderful development in this fruit. I think the Gold should lead the list. Waugh, Red June, Burbank, Orient, and a number of other are of high promise.

Among pears, the Keiffer stands out preeminently because of its freedom from blight. Many sorts lately introduced fail in this particular. The introduction of a pear with the delicate flavor of the Seckel and size and keeping quality of the Keiffer, with its freedom from blight is a consummation devoutly to be wished. Many are working along these lines. Happy will be the man who accomplishes it.

Of cherries, none of the new things have met our expectation.

Peach Trees 1 yr. from bud to 4c. Sample 2 to 3 ft. by mail or of larger sizes by express 25c. Also Plum, Apple, Pear, etc. R. S. JOHNSTON, Box 17, Stockley, Del.

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In grapes, Campbell's Early is strongly recommended by many of our best vineyardists, as the best early.

In the berry fruits, especially the strawberries, there are many which promise well. In raspberries, there has never been any that equaled the Cumberland in all respects. In the growth of cane, freedom from anthracnose, size, color, productiveness, and quality it surpasses them all. Among blackberries, the Kenoyer, originated by our friend near Independence, Kans., is a berry of great promise. It is early, a prodigious bearer, and good color, with good shipping qualities.

New Fruits and Nomenclature.

B. F. SMITH, LAWRENCE.

The progressive fruit-grower is continually on the outlook for something new in fruit-production. While he holds on to some of the old standards for safety, he believes that in the great abundance of life and nature, fruits of all kinds may be brought to a higher standard. As we grow in the knowledge of fruit, our ideals move upward. Hence should the ideal fruit be discovered, progress in fruit-production would cease; yet we should have an ideal apple, peach, pear, cherry, and one among each of the small fruits.

In the 29th verse of the first chapter of Genesis our Creator said: "Behold, I have given you every herb bearing seed and every tree in which is the fruit of a tree yielding seed; to you it shall be for meat." Now from the original seed of fruit given to man in the beginning have been evolved all the fruits that we so much enjoy to-day. We have no record of the people in ancient times making any progress in orchard fruits. They had grapes, figs, and olives in the promised land, but there is no record of apples, peaches, pears, cherries, plums, apricots, or any of the berry fruits. Neither is there much notice of fruit-culture or advancement being made in more modern times. So the writer feels safe in asserting that more progress has been made in fruit-culture and new-fruit discoveries the past seventy-five or one hundred years, than had been made in all the years from the beginning of the Christian era to the year 1800. There never was a time when fruit was being used for "meat" as it is to-day in our country. Since so much progress has been made in the past one hundred years, there is no doubt but that there are greater things in store for progressive fruitmen in this, the twentieth century.

With every new year come new fruits, offered by originators for trial tests. Most of them are worthy of trial and should be thoroughly tested by fruitmen all over the land to find their value and where they will succeed best. It is through many trials and much tribulation that fruitmen in the past one hundred years discovered the valuable fruits we now grow.

Owing to the short time in the trial tests of the small fruits, there is more activity in their dissemination than with the tree fruits. While we have a great many good apples, the writer has faith to believe that there are yet better apples in the hidden resources of creation. We are coworkers with the great Master Creator. So let us cross-fertilize and plant and grow seedlings from the best varieties of apples. Every fruitman should set aside an acre or more land for tree-fruit experiment, especially with apples and peaches.

The new berry fruits tested on our soil this year were the Parson's Beauty, McKinley, August Luther, Dunlap, Cumberland, Southerland, Miller, Texas, Hero, Kansas. Dunlap, Parsons, and Luther gave the most satisfactory results. These will doubtless take high rank among those recommended for commercial purposes. McKinley is late but of medium size and poor in taste. The Cumberland, Texas, and Miller were injured by the May frost. They will be held for further trial. The Hero is an Arkansas seedling of fair size and color but not sufficiently productive. The Kansas was not in the least damaged by frost but berries were not up to even a fair standard in size. Its plant growth is strong and hardy.

The New King red raspberry is an improvement on most of the older ones. The bush is healthy, hardy, and of fair size. Its fruit is about the size of the Miller, but in color a shade darker. One good point in its favor is in its long fruiting season, continuing over three weeks.

The Kenoyer is without any doubt the best blackberry that has been introduced for several years.

The new strawberries that will show us their size and value in 1904 on my soil are the Challenge, Uncle Jim, Nichols, Granville, Sykes, and Suggs; the latter two are of Kansas origin. The plant growth of these is strong and indicative of large fruitage in 1904.

NOMENCLATURE.

Not much attention has been paid to the suggestion of the American Pomological Society about shorter names for new fruits and a striking out of a part of the long names of the older fruits. Originators or disseminators of new strawberries seem (from the double names they use) to think that the double name gives their berries a better introduction to the fruitmen, which is certainly a mistake. Several new strawberries have been introduced the past two years with double names. These are Nichol's Granville, Parson's Beauty, August Luther, Senator Dunlap, and Uncle Jim. As one of your committee on nomenclature, the writer would suggest that our society drop Granville from the name Nichol's Granville. In Parson's Beauty, drop Beauty and retain Parsons. Then use Luther for August Luther and Dunlap for Senator Dunlap. What do we berry-growers care for an uncle in the name of a strawberry? Let us drop the uncle and hold on to the homely name of Jim. Then we have Nichols, Dunlap, Parsons, Luther, and Jim. The value there is in a fruit of any sort will soon make the name familiar to the fruitmen.

Our society is opposed, also, to naming any new fruits after famous men of our times. When one is so named it is a sure sign that it can not stand on its own merits.

Let originators attach their surname or that of some neighboring friend or the name of a town or State. I have not noticed any double names being wedded to any new apples of recent introduction. We might divorce Ben from Davis. There is nothing in Ben indicative of taste, size, or color of this famous apple. Apples like the Grimes' Golden may be excused for carrying a double name as Golden indicates a beautiful yellow color.

Now, before closing this paper I would suggest that the next really good and valuable commercial apple (introduced from the West) be called for our honored president, Wellhouse. We have a Smokehouse apple, and a good Wellhouse apple would not be out of place.

Experimental Horticulture.

ALBERT DICKENS, MANHATTAN.

Experimental horticulture in Kansas in the year of grace one thousand nine hundred and three has found fully as many thorns in its path as has commercial horticulture.

All men who have any inclination toward horticulture have as one of their strong characteristics undying hope and faith to remove mountains of difficulties.

Like the commercial horticulturist, who, when the peach-crop is killed even unto death for the 'nth and final time of the season, he is certain that it is only a part of nature's great plan to fix up his trees in proper shape for next year's immense crop, when he feels sure Missouri, Michigan, Georgia, and Delaware, and in all probability California will be out of luck and short on peaches.

Like this more worldly brother, the experimenter is not utterly cast down by his failures. When that fond hope of the oldest inhabitant, a perfect fruit year, was changed in a night to the appalling prospect of a short ration of sauce, the hopes and work of the experimenter, who had worked overtime with his emasculating kit and muslin sacks, taking advantage of a season when all trees blossomed to try to add to the page of the known a few more

facts concerning the mysteries of pollination and fecundation; when all this work was brought to nothing by the blasts of Boreas, his disappointment was as great as his commercial brother's, though perhaps not measured by the same standard of value.

When the second crop of grape-shoots and the splendid recovery of the berry-beds were literally laid low by a furious hail-storm the outlook was not improved. The experimenters note book contains a fine array of fair white pages where data of last season's crop might have been. "Hard luck," and all other exclamatory phrases were useless, and were followed by a silence of mingled wonder, horror, and dismay, when the rains descended and the floods came, and orchard-plats that were being carefully watched for results of culture tests were covered by a generous mulch of from six to sixty inches of sand; while the block which had been given summer pruning and was being watched in the hope of getting further light on the dark places of fruit-bud formation, went down the river.

Some of the notes that have a brighter aspect were those confirming last year's success in applying sodium nitrate to crops of lettuce and celery. Grown on ground that has been heavily and frequently manured, the difference was more marked in quality than in increase of yield.

The celery grown with the nitrate applied was noticeably tenderer and better flavored with as light an application as 200 pounds per acre. Four hundred pounds per acre produced as good results as heavier applications. In every case the application gave a profit in increased yield.

The behavior of the young persimmon-trees has been pleasing. Trees of the named varieties, Hicks, Early Bearing, Daniel Boone, Golden Gem, and Shoto have all made vigorous growth. Daniel Boone, Hicks, and Early Bearing bore light crops in 1903, on trees set in 1900. Early Bearing had borne a few fruits in 1902. The fruit-buds formed too late to be injured by freeze. The strongest growth has been made by Munson's American and Honey Seedlings. These trees are seedlings from stock selected by Mr. Munson, and were set in 1900, being then one year old from seed.

Of the twenty-five trees set, ten have borne fruit, four have borne sterile blossoms, and eleven have not yet indicated their sex character. Seed of native Kansas fruits has in nearly every case grown without difficulty when planted in fall or stratified in sand until spring. Working the named varieties upon seedling roots has not been very satisfactory. From the limited number worked it would be unfair to draw conclusions, but grafting has so far been more successful than budding, and a cleft graft on two-year stocks, two to four feet from the ground has given best results. As with all top working, in our climate considerable care is required in protecting and tying to prevent injury by the wind.

So far as tested, the Japanese varieties are not hardy with us. The trees have invariably been killed to the ground in open ground, and when laid down and well protected have been very seriously injured, living but a few seasons.

The introduction of the Japanese persimmons seems to have stimulated interest in our native species; and while the probable importance of the American persimmon as a market crop may be a matter for discussion, the statement that it deserves more attention than it has ever received will not be disputed.

The fruit has been the innocent cause of so many jokes, that by some the whole subject may be regarded as such; but a good specimen of the fruit is a very pleasant reality and it is a legitimate object for experimental horticulture.

A very general term that—experimental horticulture. Pomona is not so steady in her ways and so regular in her distribution of her favors as to be regarded as "set in her ways."

It seems to me that this work can not all be left to official hands or committee reports, without loss to the

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Mr. Farmer

If Mr. Salzer, whose lifetime has been spent in improving and increasing the yields of farm crops, can prove to your entire satisfaction, that where you now grow 40 bu. of Oats, Salzer's sorts will give you 100; where you take off 50 bu. of Corn, Salzer's sorts will make it 120, and on Barley doubles, on Wheat triples your yield, and on Potatoes gives 736 bu. per acre, as found below, would you then try Salzer's Seeds? Well, Sir, we can prove and convince you positively if you will read Salzer's catalog.

Salzer's New National Oats.

Greatest Oats of the century. Salzer's Oats has the endorsement of the U. S. Dept. of Agriculture as the very best out of over 400 sorts tried by them. Ever, other sort must take the back seat.

127 Bu. per Acre. S. Hyde, Ashland Co., O., says: "Your National Oats yielded for me at the rate of 127 bu. per acre."

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Now Mr. Farmer

Your land is just as good, and you are sure to get as good a farmer, will you not beat this Oat record in 1904?

Speltz or Emmer,

80 Bu. per Acre. Wonderful Speltz, marvelous Speltz, profitable Speltz, the farmer's firm friend, flourishing everywhere and yielding 80 bu. of grain and 4 tons of splendid straw hay per acre besides.

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Was named because 50 acres in 1902 produced the beautiful home built and paid for a beautiful home. See Salzer's catalog. It is the biggest eared early and heaviest yielding Yellow Dent Corn we know.

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The Editor of the Rural New Yorker proclaims to the world that Salzer's Early Wisconsin Potato yielded for him 736 bu. per acre, and we have several sorts that will beat that record.

Farmer, Attention! Fall of 1904 Potatoes may be worth 60c a bu., then 10 acres at 736 bu. per acre would mean \$4,416.00 and you can pocket that money. If you plant Salzer's Potatoes.

For 10 cents in Stamps and the name of this paper, we will send you a lot of farm seed samples, including some of the above, fully worth \$10.00 to get a start, together with our mammoth 140 page illustrated catalog, well worth \$100.00 to each and every wide awake gardener and farmer. All this we send for but 10c in postage stamps.

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members of the craft at large. After a general principle is established, there are minor details numerous enough and interesting enough to attract every one who has any liking for nature's work.

The effects of the various common fertilizers upon the various crops in various soils offers problems sufficiently difficult to please the most exacting. The changes effected by cultivation offer other attractions; almost every acre in our land produces some wild flower worthy of notice. Many of our Kansas wild flowers are suited to grace any collection and some of them at least take kindly to cultivation.

The various branches of experimental horticulture are the surest means of enlisting the interest and attention of the young people in agricultural science in general and horticulture in particular.

The possibilities of the mustard-seed furnished the Great Teacher a text for a sermon, and the wonders of the germination of seeds serves now to start our boys and girls to wondering, to thinking, and the educational process is well begun. The differences in the germination of the kernel of corn and the bean may lead to the whole realm of research in natural science. A close acquaintance with the life history of a single species of tree, from acorn to oak sapling, for example, means that the observer has learned to learn, a thing that many never achieve.

A few buds well-set open all the old, unanswered questions of the reciprocal relations of stocks and scions. A knowledge of fruit varieties is a continual satisfaction and pleasure, and a branch which no man ever yet completed.

The language of the flowers is fascinating beyond comparison and one of which every one has at least learned the A, B, C.

A general knowledge of these most beautiful of nature's creations can not but make for good in every life. A special, thorough knowledge of even a few flowers will give almost endless pleasure and furnish an abundance of good bright thoughts to replace every sordid thought and care.

You may well cleave to our long-tried sure things to exchange for the almighty dollar, but no less surely may you find rest and recreation in some branch of experimental horticulture.

Trading Fruit for Money.

PROF. F. A. WAUGH, HORTICULTURALIST, MASSACHUSETTS AGRICULTURAL COLLEGE, AMHURST, MASS.

The missionaries to the heathen draw remarkably small salaries. I am told that their chief compensation is in the satisfaction they feel at the results of their labors. Even a horse-jockey gets some fun out of his business. He enjoys driving a good horse. There is an exhilaration about it which is worth more to him than the money he wins. Of all lines of work in the world, however, there is not any one, as you and I believe, which yields more downright honest satisfaction than fruit-growing. There is no line of work yet discovered that can make a man better contented with himself. There is so much more joy and satisfaction in it that it makes common labor seem like drudgery.

And yet the fact remains that you and I and Judge Wellhouse are not growing fruit for the fun of it.

Fruit-growing is one of the most healthful occupations in the world. The outdoor life with its moderate exercise is good for a man, or for a woman either. A fruit diet tends to longevity. Look at the old war-horses of this society. Suppose they had been brought up on a diet of fat pork, jonny-cake, black coffee, tobacco and red whiskey, how many of them do you think would be here to-day? My friend Lazenby here can tell you all about the advantages of a fruit diet and can give you a hundred pages of the most villainous statistics to prove it.

And yet the fact remains that you and I and Judge Wellhouse are not growing fruit for our health.

No, we are chiefly in it for money. We do not mind the healthful features and we frequently pat ourselves on the

back for the good we do, but for the most part we are growing apples, plums, and peaches for the sake of the almighty dollar. It seems sordid and unpatriotic to say so; but we have to do it to support our families.

In this pursuit of an honest livelihood we have found that a knowledge of fruits and fruit-growing is not by itself enough. The best fruit-growers are sometimes unsuccessful in marketing their products at a profit. It requires a good deal of special knowledge nowadays to get fruit into the market to the best advantage. In order to realize the high-prices while incurring the least expense one must study long and hard.

This art and science of fruit-marketing have grown up quite recently. Just the other day, in trying to get the historical view of this subject, I went over all the books and magazines published in America fifty years ago. I consulted all the early volumes of the proceedings of the American Pomological Society. I read Hovey's Magazine. I went through Downing's Horticulturist. I dug up the early volumes of the Country Gentleman. Yet, while in all these there was abundant discussion of new varieties of fruits, there was absolutely not one line on fruit-marketing. There was not even one word about apple-barrels, about peach-crates, about grape-baskets, nor anywhere even a column of misleading city quotations furnished to the country papers by the city commissionmen.

Yet I have attended some of the largest horticultural meetings in the last two or three years where fruit-marketing has been enthusiastically discussed by the best men in America and where the business of growing fruit has been almost entirely disregarded.

A moment ago I spoke of fruit-marketing as an art and a science. It is both. It is an art because man learns it by experience. It is a science because the whole business is underlain by principles as fundamental and immutable as the foundation principles of psychology or electrical engineering.

As a general suggestion, which I consider of some importance, it might be said that the science of fruit-marketing—that is its fundamental principles—need to be carefully studied by practical fruitmen. Commonly these men acquire experience rapidly enough. It is hardly possible to ship a dozen crates of peaches or to peddle out half a bushel of plums without getting a fine return in experience. Very often experience is about all there is to it. But very few fruit-growers have thought widely and carefully regarding the underlying principles.

Even a casual look at the fruit-marketing business as it has grown up in this country in the last decade will show that the development has been strongly one-sided. All the energy of fruit-growers and shippers seems to have gone in one direction. This has been in the direction of the production and sale of large quantities and few varieties. The competition has been constantly narrowed. One variety after another has been rejected as unprofitable or as unsatisfactory to the fruit-handlers. Moreover every effort has been made to make the business uniform in other particulars, as in the size and marking of barrels and other packages. While this effort for uniformity is a good and proper thing within bounds, it presents the very objectionable feature already mentioned, i. e. that it throws the business all into one channel, thus constantly narrowing competition.

What we want now is a larger field, not a smaller one. We need to find new avenues into which to direct our business, new ways of doing things, new markets, new customers, new ideas all around. Indeed I feel sure that the next great movement in our American fruit trade will be characterized by diversification quite as plainly as our last great movement has been toward uniformity.

These two principles, unification and diversification, everywhere and always exert their complementary influence on every line of business. Sometimes

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ADVANCE FENCE is made throughout of the best quality of galvanized steel wire, by skilled workmen, with the most perfect machinery that modern invention has been able to produce. This unique method of construction gives us an entirely interwoven fence without cut wires or loose ends and furnishes the greatest amount of strength from the

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Towers' Surface Cultivator

J. D. Tower & Sons Co.—We use on our several seed farms more than fifty of your Surface Cultivators during the growing season and we consider them one of the best on the market. The Tower Cultivator has been very successful. We recommend them to the up-to-date farmer.

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Send for Treatise on Corn Culture, free.

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200 Sold 1896

1903 5,300 Sold

one prevails and sometimes the other. Neither one, however, can finally displace the other. However much we may be attached to the one, we must never forget that the other is still entitled to a hearing.

This seems to me to be one of the most promising opportunities for every fruit-grower to increase the profitability of his business. While he ought not to be any less of a specialist he still ought to seek something out of the main line. There are a good many things that are more profitable at the present time than growing quantities of low grade Ben Davis apples and selling them off the trees to the first buyer who comes along.

Indeed there are many other fruits besides the apple which can be grown at a profit. There is hardly one in fact which, on a certain scale, will not yield a greater profit than standard apples if grown and marketed in the right way. Within the last few years I have seen remarkable returns from quinces. I know of many instances where men have made a good thing out of plums. In certain localities, even peaches, with all their risks, have brought more money in a series of years than apples have. Understand me, I don't say that these unusual fruits will always pay better than apples; but they certainly do present an inviting opportunity to some men.

Even though our fruit-growing is still to be confined to apples, the diversification of varieties within limits can be made profitable in some cases. My observation in the apple-growing regions of North America leads me to believe that there is a strong tendency at present in the direction of growing more varieties. For years the advice has been constantly to grow fewer and fewer kinds, but we have reached the limit in this direction. Even in the great wholesale markets there is easy going for good apples of other varieties than Ben Davis and Baldwin. Then the constantly increasing number of fruit-growers who manage to reach special markets more or less directly have found ready sale for almost all good varieties. In fact the latest and most reliable reports which I have had from Kansas are to the effect that planters as a whole are confining themselves less closely to Ben Davis and Missouri Pippin, but are putting in more or less such sorts as York Imperial, Grimes and Jonathan.

There must come also a greater diversification in markets. During the last few years practically the whole of the movable apple-crop has been crowded into a dozen or fifteen large cities. New York has been the centre toward which all the great shipments of apples have been attracted. Boston, Buffalo, Chicago and St. Louis in only a less degree have been the recipients of all shippable apples for miles around. Of course to a certain extent these cities have acted merely as distributing points, the fruit being reshipped to many cities and villages for consumption. Nevertheless it has been proved that these markets have been overloaded in comparison with those of other smaller but more hospitable cities.

Even if it did not mean a comparative congestion of one market at the expense of another it would be poor business, on the face of it, to ship Kansas apples to New York, reship them to New Orleans and then to Baton Rouge, the way it is now constantly being done. We must find a more direct means of distributing the apple-crop. We must reach new markets. There are thousands of small cities and villages in almost every state of the Union, even in the apple-growing states, where good apples are a rarity and where they cost more than they do in New York and Chicago. I remember well that as long as I lived on the old farm in McPherson County we used to sell all the apples we could spare in the local market at prices commonly from 50 per cent. to 200 per cent. better than they could possibly have brought in Kansas City or London. Moreover the market would doubtless have taken

ten times as many had we been able to supply them. In fact I feel sure that there are hundreds of local markets right here in the Sunflower State which would pay a man a good living if he would develop them.

We need diversification also in the matter of packages. This matter has been discussed so much of late that it seems unnecessary to dwell on it here. There is a great deal of interest, however, particularly in the use of boxes for apples, and I ought to stop long enough to say that we have tested the matter quite to our satisfaction. For the last two years we have shipped apples in boxes with uniform satisfaction. Also they have brought more than the same fruit in barrels. Sometimes, indeed, they have brought twice as much. The box which we use is one made in New York. Its inside dimensions are 10 by 11 by 20 inches. This gives a capacity of 2,200 cubic inches or just 50 cubic inches more than a stroke bushel.

The ends are made of 3/4-inch stuff, top, bottom and sides of 1/2-inch stuff. These boxes cost 15.00 a hundred "knocked down." In our neighborhood where apple-barrels have frequently sold as high as 40 cents apiece, this year the box is almost as cheap as the barrel, even as regards first cost.

So diversification can be profitably introduced even into the wholesale business by finding new methods of marketing. A number of years ago a man in Clay Centre made the discovery that sending fruit on consignment to commission houses in Kansas City was unsatisfactory business. It was a great discovery. It was so great, in fact, that it reached around to all his neighbors. Other men in other parts of Kansas found it out; and I have been told by a man in Maryland and one in Quebec that even in those remote sections, shipping to commissionmen is not considered a perfectly sure way of getting rich. The difficulties and disappointments of this way of handling fruit have been so great, in fact, that men have made very great efforts to break away. Some of them have found other more or less satisfactory ways of selling fruit. Some of them reach their customers more directly. Two rather novel ideas in this line have recently appeared in the business of which I think I can speak without danger of finding the subject threadbare.

In the first case I was greatly struck by seeing in such magazines as Harper's Weekly, Scribners, etc., advertisements of apples for sale. Certain growers or packers therein offered favorite varieties direct to consumers. Any man who wanted a nice bushel-box of Rhode Island Greenings or Westfield Seeknorfurther had only to remit \$3.00 and the box would be presently delivered by express. This strikes me as a pious idea—a real apple-pious idea. There is every reason why good apples should be advertised as much as breakfast foods. There is just as good a market for them and just as good a margin of profit in handling them. This is one way of reaching customers advantageously and without the intervention of the commissionman.

Another scheme which has been successfully tried by some fruit-growers in the Eastern States during the last two or three years has been that of consigning on joint account, as it is called. In this way of handling the business, a grower turns over his crop to a city dealer, preferably one who has adequate storage, receiving a stipulated amount of cash down. The apples are then sold at the markets justly and at the end of the season a settlement is made between consignor and consignee. According to custom at this settlement the amount originally paid the grower is deducted from the net proceeds and the balance is divided equally between the shipper and the seller. It will be seen that it requires some judgment to handle this method successfully and that it could not be used by everybody. Nevertheless it has proved highly satisfactory in certain cases of which I have personal knowledge.

Finally I must remind you that

while I have been preaching diversification, all the while I am far from saying that our present markets are over-supplied or that we can go no further on old lines. We have the European market still before us. Although Europe has taken approximately two and one-half million barrels, from us this year, considerably more than ever before, that trade has hardly begun. Out of these two and one-half million barrels all but about 370,000 have gone to England and Scotland. Germany has taken the other 370,000. This is not even a beginning for Germany. That country could easily use as many apples as England. Then we have France, Italy, Russia and all the other European countries still to invade. It is perfectly possible to put apples into every one of these countries at a profit; and the time will come before very many years when we will do it.

Even the home markets in the large cities, where I have complained of comparative congestion, have not by any means reached the limit of consumption. Every customer who now eats one apple could just as well eat two, and thousands of families who practically go without can be taught to use apples freely. Moreover they will be taught to do it. If Ben Davis apples (or still better, Jonathan, Grimes and Winesap) were advertised like Force and Shredded Wheat Biscuit, the whole State of Kansas could not grow fruit enough to supply the demand even if every farm in the State were planted clean out to the public highway.

The Geography and Architecture of the Louisiana Purchase Exposition in Its Relation to the Kansas Building and the Horticultural.

SECRETARY WM. H. BARNES, TOPEKA.

The objects of this paper are to familiarize you with the Kansas Building and the Horticultural Building, their appearance, location, and surroundings. It is not improper to liken the general location of the buildings to an immense landscape horseshoe, with toe pointing north, placing the eight main buildings in a double row across the toe. If we pass up to the left we arrive among the larger group of State buildings. If we pass up to the right we arrive at the Agricultural Building and, passing its 1,600 feet of length, and an open space of, say, 300 feet, we come to the Horticultural Building. The Kansas Building being near the upper end of the left limb, and the Horticultural Building being near the upper end of the right limb, causes these two buildings in which are our closer interests to be as widely separated as possible. It is uphill either way, as the main buildings are upon the lowest plane. The shortest cut between the Kansas and the Horticultural is directly from one limb of this horseshoe to the other, passing through what was unimproved woodland when I passed through it; but will be improved and made convenient by the time of opening. Take this for a bearing, that in a direct line west from the Kansas home you will find the Horticultural.

The distance must be over a half a mile and to go around must require about one and one-half miles of travel. The Kansas Building faces east upon a board avenue. There is also a broad avenue along the north side which intersects but does not cross the former. Opposite this intersection, facing west, is the Pennsylvania Building, north of that is the Ohio, Missouri, and some others; south of the Pennsylvania is the Arizona, and across the avenue north of the Kansas is the New York, a very long building facing east. Near it but farther west is the Oklahoma Building. The avenue on which the Kansas faces forks almost at that point and one fork runs on either side of the Iowa, which is thus south and east of the Kansas; the Connecticut is south of the Iowa, and across an avenue are the New Jersey, the Rhode Island, and several others.

The wide avenue on which the Kansas and many noble State buildings face, runs north, down grade, until stopped or headed off by a United States Gov-

WIRE FENCE at Wholesale. A 4-inch stock fence \$9 per rod. Send for price list and FREE catalogue of Wire Fence and full line of Fence Supplies. W. H. MASON & CO., Box 62 Leesburg, Ohio.

YOU SIR can clear \$2.00 to \$5.00 PER DAY selling IDEAL PUMP EQUALIZERS. They make hardest working pumps work easy. Windmills run in slightest wind. FIT ALL PUMPS. Meticulous work. FULLY WARRANTED. Exclusive territory. Write PUMP EQUALIZER CO., Dept. 6, Waco, Texas.

HORSE SWEEP MILL
With Horse Power Attachment. Grinds corn with shocks, head buff, wheat, oats and all other grains. Self feeding. Covered 7 to 8 ft. Light draft. Great Capacity. (Also make plans sweep and mill 10 sizes.) W. H. P. Sawyer Co., South Bend, Ind.

A HOT PROPOSITION!
To introduce our Self-Bearing Steel Forges, Malleable Iron Vices and Blacksmith Tools for farmers' use we will make special prices. Ship on approval. Prepay the freight. Write today for special offer. We'll save you money. Diplomas from Iowa, Nebraska and Kansas State Fairs. C. W. Harper Mfg. Co., Box 108, Marshalltown, Iowa.

PAGE

CONUNDRUM.
What ought to be the difference between one yard and two yards? Page 18 in Garden Fence. PAGE WOVEN WIRE FENCE CO., Adrian, Michigan.

Build your own fence better & cheaper than market. This machine weaves the stay wires after the strands are stretched on posts to proper tension. Send for Catalogue. Prices on soft galvanized and Coiled Spring Wire on request. **STERLING FENCE MACHINE CO.,** Sec. 4, Union Stock Yards, Chicago.

\$10.00 Sweep Feed Grinder. \$14.00 Galvanized Steel Wind Mill.
We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list. **CURRIE WIND MILL CO.,** Topeka, Kansas.

THE OLD RELIABLE
ANTI-FRICTION FOUR-BURR MOOUL MILLS. No gearing, no friction. Thousands in use. 4-horse mill grinds 60 to 80 bushels per hour; 2-horse mill grinds 30 to 50 bushels per hour. We make full line of FEED MILLS, best sold, including famous Iowa Grinder No. 2 for \$12.50. Send for Catalogue. Made and sold by **IOWA GRINDERS & STRAWER WORKS, WATERLOO, IOWA.**

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WELL DRILLING MACHINERY.
PORTABLE and drill any depth, by steam or horse power. 42 DIFFERENT STYLES. We challenge competition. Send for Free Illustrated Catalogue No. 33. **KELLY & TANEYHILL CO.,** 33 Chestnut St., Waterloo, Iowa.

THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY in America. We have been making it for 20 years. Do not buy until you see our new Illustrated Catalogue No. 41. Send for it. It is FREE. **F. C. AUSTIN MFG. CO., CHICAGO.**

WELL DRILLING MACHINES
Over 70 sizes and styles for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engine or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog. **WILLIAMS BROS., Ithaca, N. Y.**

THE AMERICAN WIND ENGINE.
The Greatest Pumping Wheel On Earth. Specially designed for Irrigators and Ranchmen. Hardened self oiling, ball and roller bearings; governors automatically. Patented long-pump stroke. Also installers of a compressed air water system for hotels and private houses, giving country homes city water service. Write for circular. **AMERICAN WIND ENGINE COMPANY, Topeka, Kans.** Mention Kansas Farmer.

Go Below
for pure water. Use the National Well Drilling Machine, equipped with automatic well pumping device. For drilling for water, oil, gas or mineral. All sizes for all depths. Address **National Drill & Mfg. Co.,** DEPT. K Pullman Bldg. Chicago, Illinois.

ernment building; Missouri's elegant and costly building being the last on the east side. Illinois was first assigned the location now occupied by Pennsylvania; but changed to a point near the center of the grounds. Distance seems to be little cared for excepting by tired limbs. The whole exhibition is on such a gigantic scale that he must have tireless pinions who can take it all in in two weeks; better not go at all than to go thinking you will have "done it" and be at home in a week.

The Kansas Building will not strike you favorably at first look. It is too low or squatly for its location. Iowa and New York are so stately, Iowa is of especially ambitious height; and the towers and domes within sight cause Kansas to look low. But the Kansas Building is exceedingly handsome and very homelike. It is long north and south, with wide central entrance on the east, and on the north and south ends are very wide piazzas covered by equally large balconies above, making four large outside rooms, suiting Kansas' out-door, fresh-air ideas. Inside, the eastern or front vestibule has a vaulted blue ceiling, from which project 105 (one for each county) electric stars. Stairs on either hand take you to the upper floor—so you go up "to the stars" as you have surely come "through tribulation" to get there and will thus have a practical demonstration of our State motto.

Entering the building you find a spacious central hall with passage left and right to the piazzas. On this floor are, beside this general hall, a parlor for ladies, with nursery, retiring room, and toilet; a gentlemen's parlor, smoking room and toilet, a postoffice, a baggage room, rooms for the supervisor's family, the matron, and the commissioners. On the upper floor is a gallery surrounding an oval opening of large size, and surrounded by eleven bath-, toilet-, and bed-rooms. The central hall and gallery are lighted from above by lantern (upper side) lights. The building is ornamented inside and out and has numerous flag-staffs as have all others. It is homelike. You can have your mail come there; you can rest there; or meet there friends by appointment or accident; you can check your grip or overcoat; get a drink of ice water; register your name and look over the register for friends. I advise every Kansan to register there at earliest moment possible and add his St. Louis lodgings address, and it would be a convenience if the date of proposed departure were added. If you are in St. Louis, going to the grounds, and desire to go to the Kansas Building first, take a trolley car that will drop you at the Oakland Avenue gate—at present the Chateau Avenue line. If you desire to go to the Horticultural Building first, take Clayton trolley to gate on Skinner road. Horticultural is between Agricultural and the live-stock exhibit—all at the west side, Philippines being still farther west. The Horticultural pavilion is too gigantic to be described in words that will enlighten you. The main or central building covers four acres, all for fruit. An east wing, almost entirely of glass, is twenty steps lower, and at the head of these steps is a wide platform for spectators, where they can overlook the entire display of flowering and ornamental plants. The west wing is also down twenty steps and of similar size, but I understand will be given up largely to horticultural mechanics, the latest inventions and helps. The main building covering, as remarked, four acres, is surrounded by a wide inner gallery for promenade and spectators. Kansas has secured for its horticultural display about 1,800 feet of space. Kansas, as the center of the Union, and a successful, rustling, vigorous chunk of the Louisiana Purchase, should be prominent. Kansas as a neighbor and supporter of Missouri should do all she can to show that this is no longer the great American desert, but the fruit-garden of the continent.

Statements of the length of thread in a silkworm's cocoon vary from a few hundred yards to eleven miles. Mr. L. O. Howard has found the lengths to range from 880 to 1,120 yards.



Horticulture.

Rabbit-trap.

EDITOR KANSAS FARMER:—In your issue of January 14, is an article by Geo. A. Blair, of Mulvane, in which he states that he uses Wellhouse rabbit traps. I would like to ask what they are like. Are they home-made or can one buy them ready-made? My method of protecting young trees is to take a bunch of old newspapers and a ball of twine and wrap them with paper. A person can wrap all the young trees in an ordinary orchard in from one to three hours; of course this plan would not be suited to large orchards.

Elk County. GEO. W. SMITH.

For the benefit of our correspondent we republish the following, which appeared in the January 31, 1901, KANSAS FARMER:

"The Wellhouse trap is a box made of 6-inch fencing, old boards preferred. It is 22 inches long. The front end is closed only by a wire door, which is hung from the top and opens inward. A cleat across the bottom prevents the door from opening outward. In setting the trap the door is fastened open by a fence-wire, which is attached loosely along the under side of the top board of the trap. This trigger wire is bent downwards near the rear end of the trap and formed into a loop or a figure 8, so that as the rabbit crowds into the rear end of the box he is sure to push against this wire and thus move it backwards, releasing the door, which falls and makes him a prisoner.

The cottontail is generally looking for some dark hole in which to hide as a protection from enemies and cold, and this trap easily suits his mind. About three of these traps are used to the acre. They are not bated in any way. They may be placed in rows with the open ends in one direction in one row and in the opposite direction in the next row, so that when the boy goes to get the rabbits he can see into one row while going one way and into the next row while returning.

For jack rabbits, greyhounds and the gun are perhaps the best remedy.

Better Than a Rabbit-trap.

EDITOR KANSAS FARMER:—I have a treatment for rabbits that will beat forty rabbit-traps. Take equal parts of sulfur and wood-ashes and mix by putting through a sieve. Then stir in buttermilk till of the consistency of paste, or about as thick as whitewash. With a small brush wash the tree-trunks as high as you can reach, the higher the better. It is also a good protection against the borers. Wash the trees the first of November, and if well done it will last a year. This is worth more than all the rabbit-traps Mr. Wellhouse ever made.

Reno County. D. BRUMITT.

Remedy for Cabbage-worms.

EDITOR KANSAS FARMER:—There have been many inquiries for a remedy for cabbage-worms. When the miller or moth appears, sprinkle flour over the heads of cabbage in the evening when the dew is falling. Repeat if it rains soon, or when millers appear again. They usually appear three or four times. We have tried this for many years and it has never failed. Do not use shorts; it will rot the cabbage.

Saline County. HOUSEKEEPER.

Trees and Plants.

On another page will be found the advertisement of the Phoenix Nursery Company, 1274 Park St., Bloomington, Illinois. This nursery is now in its 52d year of existence, and has been for over 27 years under the same proprietorship and management, and we can assure all our read-

HANCOCK DISC PLOWS

THE PLOW EVERYBODY IS TALKING ABOUT

Genuine Hancock
Disc Sulky and Gang

Lightest Draft Plow in the World

Changes the Old Method of Plowing as the Twine Binder Did the Old Method of Harvesting.

We dare not tell you half the facts. We want you to see it in the field. Sent on trial. Not one cent in advance. We guarantee to do fifty per cent more work with the same team and do it better than any other Disc or Mould-Board Plow on earth. Will plow hard, dry ground where no other plow will work. We furnish hundreds of letters from farmers that it will plow almost anything either wet or dry. We want you to see it in the field, and will pay you to hold an exhibition where we have no agents. We are exclusive manufacturers for two-thirds of the United States of the Genuine Hancock Disc Plow, the only plow branded or advertised as "Hancock." Beware of cheap imitations that look like our plow but which lack the essential features (covered by our patents) that make the Hancock Disc Plow the wonder of the age and the ONLY SUCCESSFUL DISC PLOW ON EARTH. Imitation is the sincerest flattery, but do not be deceived by imitations. See that the name "HANCOCK" is on the plow. Write now and get ready for Spring work. Circulars and hundreds of testimonials from prominent farmers furnished on application. We do not ask you to take our word for it.

HANCOCK DISC PLOW CO., Exclusive Manufacturers, 114 Langdon St., ALTON, ILL.

GOOD SEEDS MAKE GOOD GARDENS

Seeds that give perfect satisfaction in every State and Territory of the U. S., and Foreign countries must be THE BEST. That's our record for last year, a hard year on crops and a year which tried the quality of seeds to the limit.

OUR CATALOGUE IS FREE—SEND FOR IT.

The illustration shows a prize ear of corn, Kansas State Fair, 1903. 13 inches long; 18 rows and 1080 grains, raised from Zimmerman's seed. See Catalog.

ZIMMERMAN SEED CO., 804 W. 12th St., Topeka, Kan.

ers who may send to this company for trees and plants that they will be treated honorably and fairly in all dealings they may have with them. The fact that this company has been in existence so long is a guarantee that their stock has given satisfaction. During all these years they have sent out millions of trees and plants to all parts of the country. There are thousands upon thousands of orchards and gardens over the country bearing fruit from the trees and plants sent out by this company. There are also endless numbers of lawns and parks which trees from this company are beautifying today, and which speak for themselves as to the quality and class of trees and plants sent out by the Phoenix company. Please mention this paper when writing them.

On Trial.

One of the most frequent arguments that retail dealers have been using against mail-order houses is that the purchaser can not see what he buys from them. It must be conceded that this argument has some merit in certain cases, but is entirely overcome by many mail-order houses in various lines who are selling their goods on trial. But this method of doing business can only be adopted by houses who give good value to their customers so that very little, or none of the goods are returned. No house can or will do this unless they have perfect confidence in their goods.

A recent addition to the ranks of those doing business by this method is the Advance Fence Co., of 2937 Old Street, Peoria, Ill. They are pioneers in the mail-order business in woven wire fence, and have been doing a large and rapidly increasing business for quite a number of years. Their offer is to sell their fence to farmers on 30 days' trial. If at the end of 30 days the purchaser is not perfectly satisfied, he has the privilege of returning the fence at the manufacturer's expense, and the full amount of money paid will be refunded to him. This offer must certainly be of interest to anyone who is at all to be interested in woven wire fence. This company pays freight on orders for 40 rods or more to any railroad station in the United States.

One of the distinctive features about Advance Fence is its continuous stay wire. The stay wires are not cut at the top or bottom as in other woven fences, or as some fences which have the stay wire cut at each intersection with the horizontal strands. In Advance Fence the stay wire is continuous, that is, it is first twisted into the top selvage (which is a two-strand cable), for one foot; then it runs down across the fence and is tightly wound twice around each of the horizontal strands, and then it is twisted for one foot into the bottom selvage (also a two-strand cable), after which it again runs upward across the horizontal strands and is wound around them as before described. Thus the stay wire keeps running up and down across the fence continuously which leaves no cut ends to become unfastened. Another feature is the way the horizontal strands are drawn out of line by the stay wires being wound around them, thus forming a

OUR APPLE

Tells you about the IDEAL APPLE and DEATON PLUM, the greatest fruits of the age. It tells you why we can sell apple trees, 5 to 6 feet at 10c, 4 to 5 feet 8c, Cherry trees 15c and 25c, other stock equally as low. Send for it. DO IT TO-DAY. Midland Nursery Co., Des Moines, Iowa.

Don't Blind on the Track,

Can't jump off, don't break the fork pulley. trips easily—Bright marks of the

Louden Hay Carrier

A complete line and the only one that can be depended on for perfect working. We make a specialty of all hay tools, as Carriers, Steel Tracks, Switches, Pulleys, Hay Rack Fixtures, Feed and Litter Carriers. Our patent Flexible Barn Door Hanger is the best in the world. Save money by sending for our complete catalog of the above and other hardware specialties. It describes farm appliances that are adapted and that work. Mailed free for the asking.

LOUDEN MACHINERY COMPANY,
54 Broadway, Fairfield, Ia.

Eureka Indestructible Fence Posts.

Cheaper than wood. Made by the farmer where used. Composed of cement, sand, and cable-wire. Great inducements to agents to work territory. State and county rights for sale. For information write B. F. STULTZ, 208 E. Crawford St., Elkhart.

NO MORE BLIND HORSES.
For Specific Ophthalmia, Moon Blindness, and other Sore Eyes, Barry Co., Iowa City, Ia. have a sure cure

slight kink or bend which effectively prevents the slipping of stay wires and also provides amply for expansion and contraction caused by change in temperature.

Those parched, dry, arid plains of Montana, Colorado, Arizona, Idaho and other dry lands respond quickly and give a big yield when planted to Salzer's speltz, Hanna barley macaroni wheat, 60-day early oats, billion dollar grass and Bromus Inermis. The above seem to flourish and laugh at drouths and arid soils. JUST SEND 10c IN STAMPS and this notice to John A. Salzer Seed Co., La Crosse, Wis., for their big catalogue, and farm-seed samples. F. P.

When writing advertisers, please mention this paper.

DON'T BUY GASOLINE ENGINES Until you have investigated "THE MASTER WORKMAN."

A two-cylinder gasoline engine, superior to all one-cylinder engines. Costs less to buy and less to run. Quicker and easier started; has a wider sphere of usefulness. Has no vibration; can be mounted on any light wagon as a portable. Weights less than half of one-cylinder engines. Give size of engine required. Especially adapted for irrigation in connection with our centrifugal force pumps. (Sizes 2, 2½, 4, 5, 8, 10, 12 and 16 horsepower.) Please mention this paper. Send for catalogue. **THE TEMPLE PUMP CO., Meagher and 15th Streets, CHICAGO, ILL.**

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

January 29, 1904—J. S. Goodrich, Goodrich, Kans., Galwaya.
 February 1, 1904—Poland-Chinas, Thompson Bros., Marysville, Kans.
 February 2, 1904—Poland-Chinas at Waldo, Kans.; F. A. Dawley.
 February 2 to 5, 1904—Percherons, Shorthorns, Herefords, and Poland-Chinas, at Wichita, Kans., J. C. Robison, Towanda, Kans., Manager.
 February 2, 1904—Duroc-Jersey swine at Humboldt, Neb. Wm. Brandow, Manager.
 February 2 and 3, 1904—Benton Gabbert and others, Herefords, at Kansas City, Mo.
 February 3, 1904—Jno. O. Hunt, Maryville, Kans., Duroc-Jersey sows.
 February 4, 1904—Swine-breeders combination sale, Washington, Kans., Poland-Chinas.
 February 4, 1904—C. E. Pratt, Frankfort, Kans., Duroc-Jersey sows.
 February 5, 1904—J. B. Davis Fairview Kans. Duroc-Jersey sows.
 February 10, 1904—Shorthorn combination sale, Ottawa, Kans.
 February 11, 1904—Poland-China breeders' combination sale, Ottawa, Kans.
 Feb. 16, 1904—E. E. Axline, Oak Grove, Mo., Poland-China brood-sow sale.
 February 16-17, 1904—W. H. Cottingham & Sons, McPherson, Poland-Chinas, Shorthorns and Percheron-horses.
 February 17, 1904—Combination sale of Angus cattle at Kansas City, Berry Lucas, Manager, Hamilton, Mo.
 February 18, 1904—Standard-bred road horses by S. S. Spangler, Milan, Mo.
 February 20, 1904—S. A. Spriggs, Westphalia, Kans., Percheron and Coach horses, Jacks and Jennets.
 February 23, 1904—Duroc-Jerseys, A. F. Johnson, Osceola, Neb.
 February 23 and 24, 1904—Hereford Breeders' combination sale, Kansas City.
 February 24, 1904—Duroc-Jerseys, E. J. Brown Osceola, Neb.
 February 25, 1904—Duroc-Jerseys, Nels. Holm, Osceola, Neb.
 February 26, 1904—Kirkpatrick & Bollin, Leavenworth, Poland-Chinas.
 February 26, 1904—Duroc-Jerseys, C. G. Johnson, Osceola, Neb.
 March 1, 1904—L. M. Monsees & Sons, Smithton Mo., Jacks saddle and roadster horses.
 March 5-4, 1904—Combination Hereford and Shorthorn sale at Caldwell, Kans., Chas. M. Johnson, Sec. March 8, 1904—F. M. Gifford, Manhattan, Kans., Shorthorns.
 March 9, 1904—Herefords at Ottawa, Kans., James A. Funkhouser and Wm. Ackley.
 March 15 and 16—Aberdeen Angus Combination Sale, South Omaha, Chas. Escher Jr., Manager.
 March 24-24, 1904—Combination Hereford sale at Kansas City, Benton Gabbert, Dearborn, Mo., and others.
 April 6 and 7, 1904—Scott & March, Belton, Mo., Herefords.
 April 7, 1904—Central Missouri Shorthorn Breeders' Association, Moberly, Mo., E. H. Hurt, Sec.
 April 8, 1904—Breeders' combination sale at Macou, Mo., Herefords, S. L. Brock, Secretary.
 April 24 and 25—Aberdeen-Angus Combination Sale, Des Moines, Iowa, Chas. Escher Jr., Manager.
 May 24 and 25—Aberdeen-Angus Combination Sale, South Omaha, Chas. Escher Jr., Manager.

Coming Events.

Will secretaries, or those having the management of coming events, oblige the Kansas Farmer by sending dates?
 Farmers' Institute, Randolph, January 30. J. J. Weisendanger, Secretary.
 Poultry show, Agricultural College, Manhattan, February 1, 2, 3. Secretary, G. C. Wheeler.
 Central Shorthorn Breeders' Association, St. Joseph, Mo., February 2 and 3. Secretary, B. O. Cowan.
 Farmers' Institute, Rome, Sumner Co., February 4, 5. Geo. Davis, Secretary.
 Farmers' Institute, Gardner, February 4, 5. F. W. Dave, Secretary.
 Farmers' Institute, Rome, Feb. 4, 5. D. M. Adams, secretary.
 Farmers' Institute, Bellville, Feb. 10, 11. C. F. Daggett, secretary.
 Farmers' Institute, Hanover, Feb. 12. James Pontius, secretary.
 Farmers' Institute, Holton, Feb. 17, 18. J. H. Miller, secretary.
 Farmers' Institute, Waverly, Feb. 19, 20. J. M. Christie, secretary.
 Farmers' Institute, Arkansas City, Feb. 24, 25. C. M. Baird, secretary.

The Modern Sheep.

ALVIN J. REED, KANSAS STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

To the farmer of Kansas, in fact to every one in this State who is interested in agriculture or is in any way connected with it, I wish to say that there is a valuable book published by the Kansas State Board of Agriculture. The title is "The Modern Sheep." It is the report of the Board of Agriculture and contains data concerning the sheep. It is mostly written and compiled by our ablest writer and worker, Hon. F. D. Coburn, whose ability portrays in a most graphic manner, the use, the abuse, and value of the sheep. The various breeds of sheep are described and discussed, and also judging is considered to quite an extent. The judging is of a practical nature, enabling one to tell a good sheep from a bad one.

The care, the feeding, the breeding, and almost everything a sheep-raiser could ask for in the way of information is discussed. It is valuable not only to the sheep-raiser but to every progressive farmer in the State.

The book is not solely devoted to the sheep, but there are various contributors from all over our fair State, discussing such subjects as will interest the farmer, his wife, his sons and daughters. There is one article in particular that should reach every home in the State, and that is by Mrs. C. F.

Wildier, of Manhattan. The article in itself is truly a consolation.

Of the 264 pages in the book, 108 are devoted to the various subjects of agriculture, and to the discussions before the State Board of Agriculture, January, 1899. This book has been in print since 1899 and I had not realized its value until now. I was hunting in the college library for a book that would assist me in my class-work and this is the one I found. Any person desiring this book may have the same by addressing Hon. F. D. Coburn, Topeka, Kans. Ask for "The Report of the Kansas State Board of Agriculture for the quarter ending March, 1899." As far as I know there are enough of these books for all who will ask for them.

Four Days' Combination Sale at Wichita, Kans., February 2, 3, 4, 5, 1904.

The combination sale of fine stock in Wichita, Kans., on the above dates is going to be the largest sale of this kind ever held west of the Mississippi river. There will be some of the finest horses, cattle and hogs that ever entered the sale ring. The sale will commence on Tuesday, February 2, and will continue four days. On February 2 there will be sold 50 head of Percheron stallions and mares, besides a few Shires. These horses will be consigned by J. W. & J. C. Robison, of Towanda; Snyder Bros., of Winfield; Chas. L. Covell, of Wellington; and Henry Avery & Son, of Wakefield, Kans. Among the number are numerous prize-winners at the recent Missouri and Kansas State Fairs, also at the recent Amer-



Owned by S. S. Spangler, Milan, Mo., and included in his sale of 40 Standard-bred and saddle horses on Thursday, February 18.

ican Royal at Kansas City, Mo. All the mares consigned by J. W. & J. C. Robison are bred to their noted stallion Casino, who was a prize-winner at the above fairs, and needs no introduction to the readers of this paper. Those desiring special mention consigned by the Robisons are, Eulalia and Imp. Candeur, winner of first prizes, in the 2- and 3-year-old classes; also the Grand Champion \$100 gold medal at the recent American Royal.

Snyder Bros., of Winfield, are consigning, among others, the best mare that they have ever put in a sale. This is the 7-year-old Mahala, by Brillando. She has done her share of work on the farm since she was a 3-year-old, and two of her yearling colts sold for \$850. She will be sold in foul to Imported Elegant. They will also sell a number of other mares, and three excellent Percheron stallions, one of which is now 3 years old and should mature to 2,200 pounds. They also consign an extra good 3-year-old Shire horse.

February 3 will occur the sale of Shorthorns consigned by T. K. Tomson & Sons, of Dover; J. F. Stodder, of Burden; and J. W. & J. C. Robison, of Towanda, Kans. The herds of Mr. Tomson and Mr. Stodder have both been prominent among the prize-winners at the American Royal Shows at Kansas City. The females on the sale are bred to such noted bulls as Gallant Knight, Imp. Ayesbury Duke, Aldrie Viscount and Lord Thistle.

On February 4 the whitefaces will be sold. These are consigned by Robert H. Hazlett, W. L. Bass and J. Condell, of El Dorado, Kans. The Hazlett herd, which have been exhibited with success at the Royal shows of 1902 and 1903 and winning their share of the prizes, go into the ring without need of introduction. The herd of Mr. Condell were also prize-winners at the leading district fairs this year. The females consigned by Mr. Hazlett will be bred to such bulls as Protocol 2d, Dale Duplicate, and Major Beau Real. Among the number consigned by the other parties are some extra well-bred ones and good individuals.

The Poland-Chinas to be sold the last day of the sale are from the most noted herds in the Sunflower State. Snyder Bros., Winfield; Elm Beach Farm, Wichita; and H. E. Lunt, of Burden, Kans., have all been prominent among the prize-winners at the State and district fairs in Kansas. The blood carried in these herds is the most fashionable to be found

anywhere. This is the third annual combination sale held at Wichita by the above breeders, the others being the most successful sales ever held in the West. All the railroads in Kansas and Oklahoma have granted reduced rates on account of this sale. Parties wishing catalogues can obtain the same by writing to any of the consignors, or by addressing J. C. Robison, Towanda, Kans. When writing, please state that you saw the add in this paper, and state if catalogue of day's sale is wanted.

Hazlett's Herefords at Wichita.

In the combination sales to be held at Wichita, Kans., the first week in February, about 20 head of the Herefords will be consigned by Mr. R. H. Hazlett, of El Dorado, Kans. Mr. Hazlett's herd is one of the very best in the Sunflower State, having been built up with care and judgment. Mr. Hazlett's idea in his breeding operations was to produce the best, or as near to it as possible, and he did not hesitate in paying long prices for the right kind of individuals. His cattle have always received the best of care, and they have been given every inducement to grow into all their breeding warranted. The consignment to the Wichita sale will afford Southwestern breeders an opportunity of selecting from this great herd that should not be overlooked. Ten bulls and ten cows and heifers make up the consignment. Of the bulls three are sons of Major Beau Real, one is by Masterpiece out of a cow by The Grove 3d. One is by Liquidator, one by Douglas, he by Lamp-lighter, and one by Protocol 2d. One of the best bred ones is Orto, sired by Douglas by Lamp-lighter, and whose dam was by Bernadotte 2d 71834, a son of Roseland 51840. The dam of Protocol 2d was a strongly bred Hesiod and Lord Wilton cow. Very few herds can boast of the blood lines to be found in this herd, and we believe that Kansas Farmer readers who are interested in pure-bred Herefords will give this sale their close attention. Catalogues can be had from Mr.

Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure
 The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular.
 THE LAWRENCE-WILLIAMS CO., Cleveland, O.

Illinois and Iowa State fairs of 1903. High-roller, a show pig by Woodbury; Sunflower Perfection, by Perfection Likeness; and Queen's Best, a grandson of L's Perfection. The sale will be under cover and will not be postponed on account of weather. Breeders in attendance will be entertained at the Maxwell House. Remember the date is February 2, the place is Osborne, Kans., and the entire offering about the best thing that ever came out of the West.

Kansas City's Next Hereford Sale.

An important Hereford sale will be held at the fine-stock sale pavilion at Kansas City, February 23 and 24. The sale will be managed by Mr. C. A. Stannard, of Emporia, Kans., and the 110 head to be sold at that time will be contributed by various breeders as follows: Jones Bros., Comiskey, Kans., 18; Dr. J. E. Logan, Kansas City, 15; Gudge & Simpson, Independence, Mo., 30; Frank Rockefeller, Belvidere, Kans., 20; R. H. Hazlett, El Dorado, Kans., 2; W. B. Waddell, Lexington, Mo., 7; Steward & Hutcheon, Greenwood, Mo., 8; J. W. Wampler & Son, Brazilton, Kans., 2; Mrs. C. S. Cross, Emporia, Kans., 3; and C. A. Stannard, Emporia, Kans., 5. This sale will include some of the very best cattle of the breed to be offered in this section this season. Each contributor has declared his intention of offering only top stuff and will present it in excellent condition. Kansas Farmer readers should bear this sale in mind, and arrange to attend. Further particulars will appear in later issues.

Iams' Algerian (52673).

Our illustration on page 96 is from the largest importing establishment in Nebraska, that of Frank Iams, St. Paul, Neb., where you can see over 100 head of first-class stallions of finish, quality, and the most fashionably bred ones in America. Iams' Algerian (52673) is 2 years old, black, and weighs 1,980 pounds. He is one of the "wide-as-a-wagon" drafters, with two good ends and a middle, and one of the very best drafters that I have ever seen in any country. He is simply perfection in every line. He is one of the most extraordinary fast-moving draft-stallions I have ever seen. There are very few coaches that he can not step over the top of them. Yet with all of his high spirit, he is one of the nicest dispositioned horses that has ever been in our establishment. He is perfectly safe for a 10-year-old boy to handle. He is the kind, if you have as "herd-headers," that you will not be compelled to send his get out to be sold by slick salesmen at any old price but that will be good enough quality that you can sell them at home for fancy prices; neither will you be compelled to have an annual sale to get rid of a lot of rubbish that can not positively be sold at private treaty. This is a model of the stallions that you will find in Iams' importing barns. Many of them are much better than the cuts in his catalogue represents, as the photographs were taken three months ago, and the horses are now 200 pounds heavier than at that time. Iams guarantees his horses as good and most cases better than the catalogue shows them.

Owing to bad crops in France and Belgium this year Iams was able to buy first-class horses cheaper than ever before, and shipped a special train of 100 stallions August 23, 1903. Owing to his knowledge of the country and people and his ample facilities of buying in the old country without the aid of an interpreter or buyer, and without having two to ten men to divide profits with, and selling all his own horses at his home barns himself, he is able to sell these first-class stallions at \$1,000 and \$1,500 (a few higher), and he guarantees them better than others are selling to stock companies at \$2,000 to \$5,000. If you do not find this so, he guarantees you \$25 per day for your trouble, you to be the judge. He pays freight of horse to your station, gives breeding guarantee of 60 per cent, gives reference of every bank in his town, of which is the best, guarantees to show you more stallions than can be seen at all other barns in Nebraska. If you are a business man, and know what you want, and can pay cash, or give bankable note, and visit Iams' importing barns you will surely buy a stallion before you leave, as he sells them, and they are the kind you will wish to buy. Write him for his 1904 catalogue giving over 50 illustrations of horses now in his barns. It is the greatest catalogue ever issued by any horseman in America. Read it and it will save you \$1,000 on each horse you may wish to buy, and will give you ideas of the kind that you should buy. Iams' this week's sales: A 2-year-old, 1,910-pound black Percheron, to J. M. Banta, Jollette, Montana.

To E. C. Stettman, Iowa City, Iowa, the greatest 3-year-old Percheron stallion, Albram, weighing 2,100 pounds the day he was shipped out. Mr. Stettman remarked after he had bought the horse that he could not be duplicated in Nebraska, Iowa, Illinois, or Ohio at any price.

To Wm. and Ed. Danckwert, Lakeside, Minn., the 4-year-old stallion, Sulton, weight even 2,000 pounds, the real way down "wide-as-a-wagon" kind of draft-stallions, or, in fact, the real Dutchman's horse.

These sales were made to these men after they had looked around at many of

Hazlett or from any of the consignors mentioned in the display advertisement in this paper.

The American Percheron Horse-breeders' Meeting.

The annual meeting of the American Percheron Horse-breeders' and Importers' Association met at the Great Northern Hotel in Chicago last week and transacted routine business. The report of Secretary Stueblefeld shows the association to be in a most prosperous condition with a rapidly increasing membership. One of the most important matters under consideration at this meeting was the fairs and shows of 1904. Plans for extensive exhibits were made for the coming year and some important committees were appointed to act for the association during its vacation.

It will be noted that H. W. Avery, of Wakefield, Kans., the oldest Percheron breeder in the West, was given a prominent place on two of the most important committees. The secretary's report also shows that the Kansas State Agricultural College is a member of the association. The meeting decided in favor of the three judge system and appointed James G. Boyd, A. P. Nave and C. N. Jones as committee on Judges and Judging at Fairs and Expositions. Other committees were appointed as follows: Pedigrees, J. M. Fletcher, A. P. Nave, G. W. Patterson. Percheron sale at St. Louis, H. W. Avery, H. F. Heagemister, G. W. Patterson. Railroad Transportation to Fairs and Expositions, James D. Boyd, H. A. Briggs, J. L. De Lancey. Percheron Show at St. Louis, H. G. McMillan, W. S. Dunham, H. W. Avery.

The F. A. Dawley Poland-China Sale.

At Osborne, Kans., on February 2, 1904, Mr. F. A. Dawley, of Waldo, Kans., will sell a draft of 50 tried brood-sows and gilts of the most fashionable breeding from his splendid herd of 175 head. The offering will consist of daughters and grand daughters of such noted animals as Corrector 28466, Perfect I Know 9172, Perfection Likeness 28537, Ideal Sunshine 44645, Unique 22468, Anderson Model 43611, Chief Perfection 2d 21701, L's Perfection 57475, and others. The entire offering will be due to farrow to the phenomenal herd-header Woodbury 72052, and to Perfection Profit, son of the sweepstake winner at

the different importing barns and they bought these horses of fairs, simply because they could buy better horses and save at least \$1,000 in their purchase price.

Holdeman Poland-China Sale.

On Wednesday, January 20, Mr. H. N. Holdeman, Girard, Kans., held his first annual sale of Poland-China swine. A good attendance was had and the sale proved a very successful one. Nearly three-fourths of the entire consignment was purchased by breeders from outside the county in which the sale was held. Prof. D. H. Otis, superintendent of the Deming Ranch, Oswego, Kans., secured one choice young male and nine equally good females at a very moderate price, and for use in their breeding operations on the ranch. The top of the sale was brought by Nettie S. by Kansas Black Chief 25898, out of Kansas Empress 65313, by Young Empire 23703. She went to E. McDaniel, of Parsons, Kans., for \$54. The next in price was Sister Perfection 74981, by Black Perfection 27124, out of a Missouri Black Chief sow, who went to W. R. Crowther, of Golden City, Mo., for \$52. Mr. Holdeman's personal offering consisted of about 50 head, which averaged about \$24. J. W. Wampler & Son, Brazilton, consigned 4 head, averaging \$26, and A. H. Andrews, of Girard, consigned 5 head, which averaged \$22.50. In addition to those already named, the purchasers were as follows: W. L. Bowser, Girard; Marshall Bros., Burden; A. L. Whiting, Girard; Ed. R. Dorsey, Girard; Frank Zimmerman, Centerville; E. E. Axline, Oak Grove, Mo.; W. A. McDonald, Girard; D. A. Otis, Oswego; Thomas Tipton, Girard; Frank Hoover, Columbus; R. H. Wheeler, Lawrence; R. D. Ross, Carthage, Mo.; L. C. Caldwell, Moran, Kans.; B. A. Smith, Columbus; A. Hicks, Girard; F. Russell, Pittsburg; James Anders, Girard; L. LeRoy, Girard; S. E. Beach, Marshall, Mo.; G. A. Taylor, Girard; S. R. Depew, Girard; I. A. Goff, Girard; M. Culbertson, Girard; M. C. Coon, Girard; Ross Bros., Carthage, Mo.; Samuel Arbaugh, Girard; R. W. Preston, Walnut.

Gossip About Stock.

See W. W. Vansant & Sons' seed-corn catalogue. Write for it to-day. They have a fine stock of seed for planters. See ad.

Home-bred and imported Percheron stallions are for sale in large numbers at M. L. Ayres' establishment at Shenandoah, Iowa; also some big wide-out Belgians. Write Mr. Ayres and be sociable.

A. L. Sullivan, manager of the Lincoln Imp. Horse Company, invites horsemen who want to buy the tops in big young Percheron and German Coach stallions, to come and see the horses at their palatial barns at Lincoln, Neb. Read the advertisement.

C. H. Searle, Edgar, Neb., the well-known breeder of Duroc-Jersey swine, writes: "Our stock is doing fine this winter, and we now have for sale some very fine fall pigs. If anyone is needing anything in this line we should be glad to hear from them."

The Buchanan Stock Farm of Sedalia, Mo., reports good sales of their Duroc-Jersey hogs in Kansas. In one shipment to be made next week they will send four young brood sows to Kansas. Two go to J. H. Walton, of Baldwin, one to N. T. Bride, of Parker, and one to Jno. B. Burkhead, of Kossuth.

See change in the W. W. Vansant & Sons' seed-corn advertisement. The Vansant seed is all grown on the Vansant farm by Vansant & Sons, at Farragut, Iowa. It is well matured and cured seed of thoroughly tested varieties, both white and yellow. They ship in the ear or shelled, as you order. Secure new catalogue.

On January 14, C. H. Gardner, of Blandensville, Ill., sold a draft of 57 head from his baby-beef herd of Aberdeen-Angus cattle, which will please all who are interested in the breeding of black doddies. The 57 head sold for \$17,120; average, \$300.40. The 42 females brought \$11,700; average, \$278.50. The 15 bulls brought \$5,420; average, \$361.

Twining, Mich., Nov. 27, 1903. Dr. B. J. Kendall Co., Enosburg Falls, Vt. Gentlemen: About two months ago I bought some of your Prof. Flint's Powders for horses. I have used a dozen different stock foods, but two pounds, one dollar's worth, of yours, is better than a barrel of all others. Very truly yours, W. J. WADEMAN.

The annual meeting of the stockholders of the Standard Poland-China Record Association will be held at the court-house, in the city of Maryville, Mo., on Wednesday, February 3, 1904, at 9 o'clock a. m., for the purpose of electing seven directors, amending the articles of association and by-laws, and for the transaction of such other business as may come before said meeting. Geo. F. Woodworth, Secretary.

Remember the great Duroc-Jersey sale to be held at Concordia, Kans., February 6, 1904. The sale will begin at 10.30 a. m. and will consist of fifty royal Duroc-Jersey bred sows and gilts. Of these five are tried brood sows, five are fall yearlings, and forty are spring gilts. This is one of the best offerings that will be made in Kansas this year. Write to W. F. Garrett, Portis, Kans., for catalogue and be sure to be present at Concordia on February 6.

On December 30, last, Mr. Wm. James, of Clarence, Iowa, held a dispersion sale of his Red Polled cattle. Owing to the fact that this was a dispersion sale; that at least one-third of the animals offered were spring calves, sold separate from their dames, and also to the fact that the entire offering was thin in flesh, the average was low. The bulls averaged about \$50, the females \$76.40 and the total 48 head averaged \$70. Only 10 head brought more than \$100 each.

The book, "Feeding for Profit," gives a sensible and honest explanation of both sides of the stock-food feeding-question.

It explains what the animal system has to do in changing grain feed into beef, pork or mutton. Every stock-owner should have a copy and can get one FREE by dropping a card to the Rex Stock Food Co., Dept 9, Omaha, Neb., as they are supplying stockmen with these books. Mention this paper when writing them and you will get a copy FREE.

S. H. Lenhart, owner of the Plimpton Stock Farm herds of Shorthorns and Poland-Chinas, Hope, Kans., who is advertising in the Kansas Farmer, writes: "Your paper is giving entire satisfaction as an advertising medium, bringing me excellent inquiries and numerous sales. I still have a number of bred sows and gilts and some unbred and a few young males sired by Royal Perfection. The Shorthorn calves I am offering are of good quality and a snap for ready buyers. One 8 months old weighs 700 pounds. I propose to ship out nothing but the best, as I am in the business to stay."

There is always a best in everything. If you want the very best in seed-corn and the largest variety, you should send to J. B. Armstrong & Sons, Shenandoah, Ia., for their Seed Corn Catalogue. The information it contains about planting and raising field-corn is worth \$50 to any corn-raiser. Mr. Armstrong, senior, has spent the last thirty-five years in breeding and improving seed-corn. He knows it as the schoolmaster knows his figures. If your seed-corn comes from J. B. Armstrong & Sons, Shenandoah, it is true to name and will grow if given half a chance. You should get in your orders early as such seed-corn as Armstrong sells will not last long this year.

E. B. Wait, of Altoona, Wilson County, Kansas, among other choice Poland-Chinas which he has for sale, offers two especially fine April boars. It will be remembered that Mr. Wait won four ribbons all inside the money at the American Royal of 1902 on two boar pigs which were

the head of the firm who owns the Glendale Shorthorns, has found it necessary because of falling health to resign his care of the herd entirely to his son. The Glendale Shorthorns have been recognized as one of the six best herds in the State of Kansas, and an opportunity to buy this imported bull, we think, will not be neglected by Shorthorn breeders.

Charles S. Hatfield, secretary, writes the Kansas Farmer the following report of their meeting: "At the annual meeting of the American Polled Jersey Cattle Company, held at Cedarville, Ohio, on January 20, President H. M. Coe, Clifton, Ohio; Secretary Chas. S. Hatfield, R. R. 4, Springfield, Ohio; and Treasurer J. S. Brown, Cedarville, Ohio, were reelected and J. E. Johnson, Yellow Springs, Ohio, was elected vice-president. H. L. Nash, Xenia, Ohio, and John P. Confer, Yellow Springs, Ohio, were elected to the board of directors to serve for three years. The official reports of the officers and reports of members present show an increase of membership and a steady solid growth of Polled Jersey interest throughout the county."

Ed. R. Dorsey, of Girard, Kans., is the owner of a half-brother of Cresceus, in Bonney McGregor, 2:13 1-4. This great horse trotted his first contest on September 25, 1884, where he made a record of 2:34, and after five years of racing at Lexington, Ky., closed his racing career in 1889 by winning a mark of 2:13 1-4 and the race in a high-wheel sulky. He has a record of thirty race heats won below 2:30. One of his sons is Planet 2:04 1-4, and he has many others that have shown speed in the ring. Mr. Dorsey also owns Lord Lytton 987 (Cleveland Bay Stud book), who has the proud distinction of never having lost a prize in any horse show where he has been exhibited. He has retired from the show ring to give place to his great son, Lytton 2d. Kansas has produced some of the greatest horses

sows and are bred to such boars as Chief Perfection 20609, by the great prize-winner, Van's Perfection 11571, Boss 10th 20637, Thickset 24471, and Keno 23139. These gilts are priced at very reasonable figures. Mr. Chandler also has sixty head of September pigs, among which is a litter from Hunt's Model 34052, a full sister to Bessie H 26250, the sow that won first and sweepstakes at the Nebraska State Fair of 1903. Mr. Chandler says he never had hogs do better than his are doing at this time, and out of such a large number the buyer could certainly please himself. Remember that the bred gilts can be at a very reasonable figure for their quality and breeding while the September pigs are actually cheap.

Iowa stockmen held a meeting in Des Moines last week and organized the Corn Belt Meat Producers' Association. The plan of this association is to organize the meat producers of Iowa, Kansas, Minnesota, South Dakota, Nebraska, Missouri, Illinois and Wisconsin, and to erect independent packing houses. Resolutions were adopted, asking the enactment of a National law prohibiting the reduction of prices in certain territories for the purpose of destroying competition; also instructing the board of directors to investigate the cost of erecting packing plants, and the conditions under which they can be established at Chicago, Des Moines, or elsewhere. Officers were elected as follows: President, S. F. Spangler, Aurora; secretary, J. J. Ryan, Fort Dodge; treasurer, C. Goodnow, Wall Lake. Directors, J. R. Hughes, Mt. Pleasant; David LeGard, Muscatine; G. W. Spangler, Winthrop; C. J. Wheeland, Arlington; A. L. Ames, Buckingham; J. H. Cary, West Grove; P. S. Bann, Elmira; V. D. W. Jackson, Villisca; G. F. Manderson, Vail; Joseph Thompson, Jefferson.

During the meeting of the National Association of Wool Manufacturers last



EULALIE 30494.

Winner of first prize at Missouri and Kansas State Fairs and American Royal, 1903. Half-sister to Brenna, first prize yearling filly at International 1902. Owned by J. W. & J. C. Robison, Towanda, Kans.

not so large or so growthy as these he now offers for sale. These young boars are very large and very heavy boned. He has won his reputation as a breeder by his Chief Tecumseh 2d, Black U. S. Wilkes, Free Trade, Corwin, and Short Stop families, and he always has something good for sale. These April boars are extra good and will be a plum for the purchaser. See his card on page 100.

S. A. Spriggs, Westphalia, Kans., will hold his third annual sale of Black Mammoth and Imported Spanish jacks and jennets, Percheron stallions and mares and Coach stallions on February 20. There will be about thirty head in all and a choice lot is promised. At his sale last year Mr. J. M. McConnell, of North Topeka, Kans., bought one of the choicest young stallions that was offered. He writes as follows "I like the horse first rate. He has developed finely and made a fine season for me. Although some of the mares were washed away in the flood others will be ready to foal shortly and we can then tell what he has done."

"The Kansas Farmer grows better every year," says E. R. Woodworth & Son, in renewing their subscription. They also say they are just strating a herd of Shorthorn cattle and wish to know whether the Kansas Farmer will have a report of the meeting of the Standard Shorthorn Breeders' Association, which is to be held at St. Joseph, February 2 and 3. The Kansas Farmer has been selected to publish the official proceedings of that meeting, which will appear in our issue of February 11, 1904. Shorthorn breeders will take due notice and govern themselves accordingly. Get your subscriptions and advertising orders started before that date is the advice we offer. "A word to the wise is sufficient."

Dr. O. O. Wolf, of Ottawa, Kans., informs us that he will place Scotland Charm 127264, their great imported herd header, in the Shorthorn combination sale to be held at Forest Park sale pavilion, Ottawa, Kans., on February 10, next. This statement will create an interest in this sale that would not otherwise be possible. The offering of this great bull is made simply because Mr. C. F. Wolf,

in speed, show and draft breeds that exist in the world.

Charles E. Bartlett, Columbus, Kans., manufactures a lump-jaw cure that cures. Not only is this true, but it has proved of value in case of fistula and poll evil. The most remarkable feature in the properties of this remedy is that it very frequently cures with but one application. Among those who have recently effected cures in their herds by the use of but one application of this remedy are several men whose names we give for the sake of reference. The cases were all lump jaw, except as noted. They are as follows: J. B. Pickler, Independence, Kans.; J. E. Martin, Waverly; C. E. Rasher, Crawford, Neb.; J. O. Mann, Bagdad, Ky.; J. A. Kuseman, Osborne, Mo.; W. S. Sneed, Sedalia, Mo.; W. N. Chard, Kimball, Kans.; and S. R. George, Jet, Okla., who cured poll evil of a mare with one application. Mr. Bartlett's advertisement is on page 92, and a card to him will bring abundant information.

Another great series of Duroc-Jersey brood-sow sales will be held as per announcement on page 103. All of the breeders who sell in this series are well known, and the stock they offer will be of the best, especial attention is called to the offering of John O. Hunt, Maryville, Kans., who includes his great show sow, Bessie H. 26250, who took first prize in class and the sweepstakes at the Nebraska State Fair of 1903. There will be also included a number of her family. The boars used are Eclipse by Improver 2d, who won first prize and sweepstakes at Nebraska State Fair, and the American Royal of 1903; Bishop's Choice, a brother to the first and second prize-winners of last fall at Lincoln, Neb.; Hunt's Model, brother of the third prize-winner in class at Lincoln. Mr. Hunt's sale will be held under cover with free lunch at noon and free transportation from both Maryville and Blue Rapids. Remember the date is Wednesday, February 3, 1904.

J. F. Chandler, owner of the Rockdale Herd of Duroc-Jersey swine at Frankfort, Kans., has forty head of choice bred gilts sired by Hercules 13359 by Higgin's Model 30251, and by Royal Victor 16291, by Yukon Chief 5045. They are out of extra good

week, its president, Mr. C. H. Harding, of Boston, while advocating the provisions of the Grosvenor Bill to tax shoddy, protested against some of its provisions. It seems that the bill provides that mohair from Angora goats is considered as shoddy. This was protested against most vigorously. It was also stated in the meeting that the bill as now worded will allow a great deal of valuable and useful wool products to be classed as shoddy, while a great deal of real shoddy can pass as pure wool. Another serious objection raised was that the provision to have a live-stock and agricultural census taken by the government entirely omits wool from the list of particulars. Other objections were raised in the way of difficulties to be encountered in the tax laws of the several States. Some States do not tax sheep at all. Another difficulty is the difference in time of returning tax-lists. Some States require them to be returned January, some in March, and some in May. These difficulties constitute the chief objection to the Grosvenor Bill.

Dietrich & Spaulding, the big Poland-China breeders at Richmond, Kans., have won a great reputation for the quality of their hogs and the consignment they make to the Ottawa combination sale will be of such quality as will maintain their reputation and add to it. The catalogue containing full information in regard to the offerings in this sale may be had by addressing J. R. Killough, Ottawa, Kans., but we desire to call special attention to the boars that are used in Dietrich & Spaulding's herd. In U. C. Perfection they have the best boar they have ever owned, which means that he is one of the best that ever came to Kansas. In addition they have D's Ideal Sunshine and Chief Ideal 2d. They have some wonderful sows in their herd, among whom may be mentioned Sensation Queen by Missouri's Black Chief out of Turley's Model by Chief I Am. She is the most careful mother they have ever had on the farm and is now bred to U. C. Perfection. Another great sow is Black Chief's Fancy by Missouri Black Chief and out of W. B. Jewel. The herd-boar, Chief Ideal 2, is by Chief Ideal bred by Lytle, and out of an L's Tecumseh sow. He is a boar of great length and back and

out of litter of fourteen. He is very prolific and his get have both bone and finish.

Parties who think \$3,000 is too much to pay for a stallion (and there are a good many such), should by all means attend the great sale of Percherons at Wichita on February 2, where 25 head of stallions and as many mares will be sold at your own price. Henry Avery & Son, of Wakefield, Kans., who have been continuously breeding Percherons for almost 30 years, will have a consignment of 6 stallions that are all good individuals and very choice breeding, nearly all of them are grandsons of the Great Brilliant 3d 1118 (2919), and as might be inferred from this breeding, good colors. All but one are blacks and weigh from 1,750 to 1,850 pounds. They are a very desirable age all coming either 3 or 4, and all but one were bred by the above firm, so the purchaser can depend that he is getting good fresh young stuff, already acclimated and ready for a good season's business, and every one will be guaranteed a breeder. A careful buyer will readily appreciate that there is a vast difference in buying this kind of stock and that which has been "peddled," "scalped," or indiscriminately bought for sale purposes.

There is no other kind of live-stock so profitable as draft-horses, and we do not know when another such an opportunity will be at our door as the Wichita sale, with its 50 head of good ones. Don't forget the date and the reduced railroad rates to this sale.

T. K. Tomson & Sons, Dover, Kans., owners of the Elderlawm herd of Shorthorns, will consign 10 head of their cattle to the great Wichita combination sale to be held on February 2, 3, 4, 5. The offering will consist of two cows, two 2-year-old heifers, five yearling heifers and two 10-months-old bulls. Two of the cows will have calves at foot and the whole consignment is from Scotch bulls of high individual merit, two of them being by Imported Thistletop, two by Sir Charming 4th and one each by Gallant Knight, Imported Tillycarlarn, Advance Guard, 201st Duke of Wildwood, Lavender Glosster and Alice's Prince. The families represented are Barrington, Actress, Lady Elizabeth, Matilda, etc. They are all in good thrifty condition and are of the sort that do well wherever they may be taken. Most of the females are bred to Gallant Knight and the two calves at foot were sired by him. Parties in need of a herd bull will take interest in the young bull, Lena's Prince, a son of Alice's Prince, out of a Casey Mixture cow. He was a member of the Tomson show herd last fall and won first in his class at the American Royal. Among the females of special note is Susan 2d, who will have a bull calf at foot. She is by Imported Thistletop and is bred to Gallant Knight. Her calf now at foot should make a herd-header.

There will be a combination sale of Aberdeen-Angus cattle at the sale pavilion, Kansas City, Mo., on February 17, that ought to command the attention of all lovers of the breed, and the gentlemen who are consigning to the sale are all breeders of reputation and they assure the public that there will be nothing but animals of merit consigned, and when we say that the offerings are from such herds as W. J. Turpin, Carrollton, Mo.; J. H. Rea & Son, Carrollton, Mo.; E. E. Axline, Oak Grove, Mo.; Berry Lucas, Hamilton, Mo.; and R. S. Williams, Liberty, Mo., you can depend on something choice. There will be the 44 head in the sale, 24 cows and heifers and 20 bulls. The families represented are of the very best of the breed. We have seen the most of the offering and they are of a high order of merit. A few of the females the owners would prefer to keep, but as they intend making this sale annually they know they can not afford to offer anything but choice animals. They do not expect high prices, but they want to sell animals that will be a good advertisement for their farms wherever they may go, and do the buyer good. We advise all interested to send to Mr. Berry Lucas, Hamilton, Mo., for catalogue and read the introduction carefully, as it is common sense and facts all through. Attend the sale and get some of the bargains, as you can be pleased as to age, quality and size. Mention this paper.

In the combination Poland-China sale to be held at Washington, Kans., on February 4 next, will be offered choice animals from eight different herds. That of Mr. L. P. Fuller, of Morrowville, was mentioned last week. Another contributor is Mr. David Cook, of Washington, who will offer five sows of the best of breeding. These are from such great sires as Black Union 30463, Major Expansion 30464, Kansas Black Chief 27456, Onward Perfection 30279, Kansas Corwin 24728. His herd-boars in present use are Proud Tecumseh 32323, and Billy Wylie 32322. Proud Tecumseh is claimed to be one of the best boars in the State. Mr. W. K. Young consigns ten sows of the best blood lines and all bred to his herd-boar, My Chief 23238, by Ohio Top Chief 26971, by big Chief Tecumseh 23757, out of a Look Me Over sow. A. E. Driskell also consigns sows of up-to-date breeding. His herd-boar is

a very large, heavy hog of good length, back and bone. His name is Major Expansion 30464, by Expansion Searchlight 27933, out of a Hadley sow. D. M. Boyer consigns five sows by Ed Kay by Happy Perfection, said to be the best hog ever bred by Ed Kleeveer. These sows are bred to a Tecumseh boar of great quality. J. H. Bradshaw consigns five daughters of Expansion D. 31862, a large and well made sow of the 1,000-pound Expansion 26293, out of a Chief Tecumseh 2d sow. These will be bred to Perfection Tecumseh 31502, by Chief Ideal 2d 28951, out of a Chief Tecumseh 3d sow. D. A. Cramer, who is well known to Poland-China breeders of the State, consigns five sows sired by Little Mac and Kansas Black Chief 27456 by Ideal Black Chief 23405 by Missouri's Black Chief 19399. Kansas Black Chief is out of Jewel Wilkes 2d 53374, a granddaughter of Little Mac 14992. They are good ones. See advertisement on page 93.

Col. Bert Fisher, whose picture is herewith reproduced, has recently established his headquarters at 119 West Norris St., North Topeka, where he may be found by any live-stock breeder who desires the services of an experienced and up-to-date auctioneer. Colonel Fisher has had ten years experience and is thoroughly posted



on pedigrees. He has won such success in the past that he guarantees satisfaction to his customers. Incidentally he will make his office a headquarters for the purchase and sale of mules and horses. Kansas has need of more good live-stock auctioneers and Colonel Fisher seems to be able to meet this demand, in part at least, and owners of live stock are invited to write or telegraph him for his terms, which are always reasonable. His card is on page 101.

"Feeding for Profit."

When an animal is troubled with worms depend upon it something was wrong before the worms came. Worms are a product of nature and the result of unnatural conditions and imperfect digestion which allows a mucus to accumulate on the linings of the stomach and intestines, and worms breed and feed on this mucus. The conditions which caused the mucus, also caused the worms, and to expel the worms without removing the cause gives only temporary relief.

The existence of worms shows positive need of helping the animal's digestive organs. The best explanation of the process of digestion, absorption and appropriation or assimilation of grain feed is the much-discussed book entitled, "Feeding for Profit," written by the Rex Stock Food Co., Dept. 9, Omaha, Neb. This company is sending these books to owners of stock and each stockman should write them for a copy. We have permission to say that you will get one FREE if you mention this paper when writing for it.

A Good Investment.

H. D. Guthrie, of Highland Station, Kans., sent \$2.75 for the Kansas Farmer and our Dictionary, and after receiving them, writes: "All transactions with your company have proved very satisfactory to me and I find your paper a very useful and important adjunct to my family circle. It is also very gratifying to have been able to secure it and the paper for so little cost."

One of the world's greatest proprietary family medicines is Beecham's Pills, which has been before the public for over half a century, and now hold the supreme position among proprietary medicines. This, alone, is an overwhelming proof of the genuine worth of these pills, if there be any meaning in the ancient saying, "Vox populi vox Dei." For had they not a thousand-fold justified their claims upon public confidence, they could never have achieved such a splendid triumph over interested opposition and criticism throughout so long a period. Their phenomenal success is due to the fact that they recommended themselves, and have gained their popularity solely on their merits. Accumulated experience has declared them to be the most reliable family medicine procurable; and whenever tried, they have been permanently adopted as the specific to be depended on for defeating those evils which usually assail health in our daily lives, and, if taken in time, they will ward off many a serious illness.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color, and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's post office, should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kans., or Dr. N. S. Mayo, Manhattan, Kans.

Infectious Abortion.—My cows are losing their calves before the normal time. I am feeding cane and Kafir-corn and they are running on wheat and the straw stacks. Is it disease or is it the feed? A READER.

Stafford, Kans.
Answer.—You doubtless have infectious abortion in your herd. This disease has been thoroughly discussed in this department some weeks ago. I send you a press bulletin by mail.

Bone Spavin.—I have an 11-year-old mule that has a bone spavin of nearly two years standing. The spavin is located about the center of the inside of the hock joint and is about two by three inches in size. I have blistered it twice but the lameness and bunch still remain. Can I do anything to remove the lameness even if the bunch remains? W. O.

Cottonwood Falls, Kans.
Answer.—A "high" bone spavin in a mule of that age is a very difficult one to treat. I think the best treatment would be to put on a high-heeled shoe, fire and blister and give rest. Firing consists in burning around the joint with a white-hot iron. You had better employ a good veterinarian to do the work. It is possible that light blisters repeated and a high-heeled shoe may give relief, but do not blister again as severely as you have indicated.

Inflamed Eye.—I have a fine mare which has pink-eye. The eye is milky in color and she can scarcely see out of it. What can I do for it, if anything? P. L.

Cedar Point, Kans.
Answer.—You do not describe it fully enough so that I can recognize the disease. I am satisfied it is not "pink-eye," but is an inflammation of the eye, possibly due to an injury, and possibly it is periodic ophthalmia or moon blindness. If she gets better at times and then worse it is moon blindness and she will ultimately go permanently blind. Bathe the affected eye twice daily with hot water for fifteen minutes. Drop into the eye a few drops of a solution of boric acid, twenty grains dissolved in an ounce of water.

Sprained Fetlock. Lockjaw.—I have a mare that strained a fetlock, which got better and then worse. It is swollen and very painful. She is also swollen under the tongue and slobbers and it seems difficult for her to chew.

Valencia, Kans. W. McC.
Answer.—I will have to "guess" on this case; I think if you will examine your mare's foot you will find a punctured wound, probably a nail in the foot, and I am afraid she is showing symptoms of lockjaw. If I am correct,

RUPTURE

HYDROCELE, VARICOCELE, PILES, FISTULA and CANCER cured for life with one painless treatment. No knife, no detention from business. Ten thousand cured; patients' names on application. Cures guaranteed. Illustrated books on any of the above diseases free to the afflicted. GERMAN-AMERICAN DOCTORS, 912 Walnut St., Kansas City, Mo.

you had better get a good veterinarian to treat her. If you are sure there is a sprain, it is quite probable that it is going to gather and break. If the mare is at all valuable, I would advise you to have a veterinarian see her.

Ailing Cow.—I have a cow that for one year has been coughing and runs some at the nose all the time; there is a rattling sound when she breathes. It seems to be in her head or throat. What can I do for her? R. J. C.

Elk City, Kans.
Answer.—If the difficulty is in her throat, there is probably either a tumor or an abscess that will require surgical treatment, and you had better get a good veterinarian to do it. The coughing and running at the nose are also symptoms of tuberculosis or consumption. The lungs are affected in this disease, usually. It is an incurable disease that can be transmitted to other cattle and to persons. If she has this disease, you had better destroy her.

Ailing Calf.—I have a Hereford bull calf 4 months old. About four weeks ago he was taken with a chill; I gave him some castor oil and turpentine in some warm milk, put on some blankets and put him in a box stall. He seemed much better in a little while and began eating. In a few days he broke out with a mass of little sores along his back and on the thin skin between the thighs. These sores itched a good deal. The calf seemed to be getting better, but the last two days he lies down most of the time and does not eat his grain; he has a short, dry cough. He does not chew his cud but sucks the cow greedily. What is the trouble? J. T. S.

Independence, Kans.
Answer.—I do not know what the trouble is. There are some symptoms of cow-pox, but this does not occur along the back. I think your calf had an attack of pneumonia or bronchitis as shown by the coughing and running at the nose. I would advise giving him some bran to loosen the bowels and apply to the sores some white lotion, made by dissolving one ounce of sugar of lead and six drachms of white vitriol in a quart of water. If it seems to be transmissible to others I would isolate the affected calf and take good care of him.

The popularity of the well-known Summers Worm Powders appears to be on the increase. This remedy has a reputation among stockmen of more than twenty-five years' standing, and the manufacturers point to this fact as convincing evidence of the infallible merits of the powders. The one great advantage in the use of these powders is that they can be administered to the animals in their feed or with salt, thus overcoming the bother and inconvenience of individual treatment.

When writing advertisers, please mention this paper.

ZENOLEUM

Famous COAL-TAR Carbolic Dip.
For general use on live-stock. Send for "Piggies' Troubles" and "Zenoleum Veterinary Advisor" and learn its uses and what prominent stockmen say about it. Books mailed free. All druggists, or one gal., express paid, \$1.50; 5 gal., freight paid, \$6.25. ZENNER DISINFECTANT CO., 81 Bates St., Detroit, Mich.

AXLINE'S BROOD SOW SALE

Tuesday, February 16, 1904, at Oak Grove, Mo.

60 Head - Choicely-bred Brood Sows - 60 Head

Consisting of 10 tried Brood Sows, 10 Last Fall Yearlings, and 40 Early, Growthy Spring Gilts, all bred to these three Herd Boars: SUNSHINE CHIEF 27155, STYLISH PERFECTION 29205, and PERFECT SUCCESS 30436. Sale will be held at Lumber Yard. No postponement on account of bad weather. Free entertainment for parties from a distance. Everybody invited to attend. SEND FOR FREE ILLUSTRATED CATALOGUE.

E. E. AXLINE, Oak Grove, Missouri.

Long Distance Telephone at Farm. Rural Route 17.

Grange Department.

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

Conducted by E. W. Westgate, Manhattan, to whom all correspondence for this department should be addressed. Papers from Kansas Granges are especially solicited.

National Grange.

Master..... Aaron Jones, South Bend, Ind.
Lecturer..... N. J. Bachelder, Concord, N. H.
Secretary..... C. M. Freeman, Tippecanoe City, Ohio

Kansas State Grange.

Master..... E. W. Westgate, Manhattan
Overseer..... J. C. Lovett, Bucyrus
Lecturer..... Ole Hibner, Olathe
Steward..... R. C. Post, Spring Hill
Assistant Steward..... W. H. Coultis, Richland
Chaplain..... Mrs. M. J. Ramage, Arkansas City
Treasurer..... Wm. Henry, Olathe
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J. T. Lincoln..... Madison
A. F. Beardon..... McLouth
Henry Rhoades..... Gardner

State Organizer.

W. G. Obryhim..... Overbrook

Some of the Reasons Why Farmers Should Join the Grange.

The past and present Lecturer of the National Grange has suggested that the aid or help that has most fully met the needs of the farming population in solving the problems of life and adding to the success and pleasures and happiness of life on the farm is the helpful influence of a good grange—for the following reasons:

1. Because it is inexpensive.
2. Because it has stood the test for thirty-six years, and has never been found wanting in any respect.
3. Because it is the oldest, best and most prosperous fraternal farmers' organization in existence, and the only one that is National in its extent. It is founded on the principles of right and justice to all men, and is entirely free from partisan politics and party entanglements.
4. Because its social features, in a large measure, tend to break up the monotony of farm life, especially for the wife and mother, and greatly add to the happiness of all the other members of the family.
5. Because it develops a feeling of fraternity and good will among farmers and gives them greater confidence in themselves and in each other.
6. Because it is a school of thought and mental development for the boys and girls as well as for the older members, giving to all culture and refinement for the home, and the experiences that are essential to success in public life.
7. Because it develops a higher manhood and womanhood among its members.
8. Because it is officered by those engaged in agricultural who know from experience the needs of farmers, and are sincere in their desire to aid them in every possible way.
9. Because it is the duty of farmers to cooperate with one another, if they would successfully meet the influence of organization in every direction, and secure for wife and home a fair share of what the harvest yields.
10. Because of its cooperative features in life and fire insurance it has saved millions of dollars to farmers, in cooperative creameries, butter and cheese factories and in many other cooperative enterprises, enabling farmers to reap the same pecuniary benefits which accrue to other classes from associated efforts.
11. Because it has exerted greater influence in securing State and National legislation in the interest of agriculture than any other agency in the country.
12. Because it has secured National legislation in the Oleomargarine law, the establishment of the Interstate Commission, the establishment of rural free mail delivery, and State legislation in every State in the interest of the farming population.
13. Because it enables farmers to unite their efforts to secure the enactment of such non-partisan legislation as will protect the varied interests of agriculture and give greater prosperity to the farming population.
14. Because its educational features

tend to broaden the mind of the farmer and lead him to study and investigate questions which relate not only to the farm and farm life, but to affairs of State and Nation as well.—Aaron Jones, Master National Grange.

Brother John P. Lyons, Master of Burlingame Grange No. 330, reports as follows: "We were organized April 6, 1903, with 22 members; we now have 70 in good standing; lost one member only, by dimit. We have 17 more candidates awaiting initiation. We have good attendance at every meeting, with nothing to retard our progress from the first. We have bought and paid for a new organ and have all regalia necessary for grange work. We have just elected officers for the new year. We are all proud of the work done by Burlington Grange No. 330, in the first nine months."

A correspondent expresses the wish that open grange meetings might be held more frequently and that notice of such might be given in the KANSAS FARMER. All meetings of farmers in Kansas should be announced in the KANSAS FARMER. Such announcements cost nothing and are a means of promoting the interest of the meetings.

Let those who report grange news strive to report something that will help other granges, and be a credit to their own.—Obadiah Gardner.

Continued agitation of the needs of legislation to put out of business the few men, who through questionable methods, seek to manipulate the rights and to "deliver" the many, will surely result favorably, for it is backed by justice and right. The lesson should be plainly taught that an intelligent people are not so much in need of self-assumed leaders as they are of good and dutiful servants.—George B. Horton.

It may not be out of place in this connection to make brief recommendations along the line of lecture and editorial work suggested by our experience and observations. There should be some medium of communication between the State and subordinate lecturers, by quarterly or monthly publications, as has already been adopted by several States. The expense for such bulletins is light, compared with the good accomplished when judiciously and loyally edited. This is the most effective means known of awakening an interest and arousing enthusiasm among subordinate lecturers, considering the expense involved.—N. J. Bachelder.

The grange has no systems to crush; it has nothing to overthrow; it purposes to build up, to develop, to broaden the minds, and direct to the greatest good of the world the talent of its members.—W. N. Giles.

There are some things in life so precious that money will not procure them for us. We are all actuated by some motive in becoming members of an organization like the grange, and it may not be unprofitable for us to examine ourselves and see what we expect to receive from the order, and what we expect to give to the order in return. Are we imbued with a desire to help others to a higher plane, or do we belong, that we may save a few paltry dollars on insurance? It is a laudable object to save money, whether by belonging to the grange or in any other honest way, but do not let us make that the sole object of our lives.—George A. Fuller.

A novel watch in Zurich is in the form of a ball which moves imperceptibly down an inclined plane without rolling. There is no spring, the sliding giving motion to the hands, and the trip from top to bottom of the inclined surface, a distance of sixteen inches, requires twenty-four hours. The ball is then lifted again to the top.

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THE OLD HOMESTEADS.

Historic Monuments to the Thrift of Our Ancestors.

It is as natural for us to love the trees, the meadows, the old homesteads, as it is to want food and drink. Our ancestors built well when they erected those old mansions, the walls of which are in many cases as firm and good to-day as they were one hundred and fifty years ago. Our ancestors lived more simple lives than we do at the present day. They lived closer to nature. They lived in the sunshine and out of doors. As a rule they ate simple foods and easily digested them. To-day the American people eat fast, eat unwholesome foods and are shut up in dark and close offices, shops and illy ventilated rooms. Nature provides us with all we need for life if we only can take advantage of the good air, sunshine and eat good fruits and vegetables. Nature also provides the remedy for ill-health and stomach troubles in its roots, herbs and barks. Some forty years ago Dr. R. V. Pierce, now chief of staff to the Invalid's Hotel and Surgical Institute, at Buffalo, N. Y., found that certain herbs, roots and barks, when made into a concentrated extract, helped in the assimilation of the food and purified the blood. This "Golden Medical Discovery" of Dr. Pierce makes pure rich blood. Every bottle bears the stamp of public approval. The reason many patent medicines fail in curing disease and eradicating poisons from the blood is because they contain large quantities of alcohol. Dr. R. V. Pierce never believed in the use of alcohol for a medicinal tonic, as he found it shrunk up the red blood corpuscles, and although it might give temporary benefit, it did no lasting good. Any one can easily prove that Dr. Pierce's Golden Medical Discovery contains no alcohol by simple distillation. Therefore do not permit the dealer to persuade you that he makes something better, or knows of something "just as good," for it is almost certain to contain alcohol or narcotics, and will not do you the lasting good which the "Discovery" of Dr. Pierce is sure to do. Thousands of people have given their testimony as to its merits, and lack of space only permits us to publish a few of the many letters received every day from those who have tested its merits. The reason they speak so highly of it is because it supplies the needed strength to the body to throw off a cold—to prevent catarrh, pneumonia or consumption. By its nourishing qualities the body is filled with renewed vitality and for the weakened system as a remedy for those recovering from sickness it is the safest tonic one can take.

"I would be ungrateful indeed," writes Mrs. J. M. Kizzlar, of Murfreesboro, Ark., "should I not do all I could to assist you in your great effort to relieve the suffering. Nothing would give me more pleasure than to be the means of helping some poor suffering woman to find relief, as I have done. Words fail to express my gratitude to you and to the Faculty of your Institute for the relief from the great suffering I so long endured. I consider my cure almost miraculous. Six years ago my health began to fail. I took many different kinds of patent

medicine, was treated by two or three different physicians but steadily grew worse. Had almost given up in despair, when I decided to try Dr. Pierce's medicines, as a last resort. I learned that he invited all the sick and suffering to consult him, so thought I would write and place my case in his hands. He kindly answered my letter advising a course of his medicines. I sent for Dr. Pierce's book, the 'Common Sense Medical Adviser,' read it carefully, and followed his advice as faithfully as I could. My disease was so complicated I had but little hope. I was suffering from inflammation and congestion of stomach and liver, piles, ulceration of womb, also prolapsus, congestion and irritation of the ovaries. At the time I commenced treatment with Dr. Pierce, I was greatly emaciated, complexion pale and sallow, eyes lifeless, and sick and tired all over. Would have weak spells so I could hardly move hand or foot. All the nourishment I could take was a little milk and cracker—even then I would suffer untold agony. Did not dare take a drink of cold water. Had a dreadful headache all the time; back ached so I could not rest day nor night; pain in side under shoulder-blade and in back of neck; had a ringing or roaring in ears; night-sweats, chilly sensations and hot flashes, also palpitation of heart, and menstrual derangement. Hands and feet were cold and felt numb or 'asleep.' By the time I had taken one bottle each of 'Golden Medical Discovery' and 'Favorite Prescription,' I felt some better; my head and stomach did not pain me so much, and, as I persisted in the treatment, one by one my aches and pains disappeared. Now I can eat anything I want and can do the housework for a family of six. I now enjoy better health than for several years past."

"When first I commenced taking your remedies," writes Mr. E. F. Cingmars, of 533 Penn Avenue, Minneapolis, Minn., "I had been for four months under treatment of a well-known specialist in this city for catarrh and stomach trouble, rapidly getting worse. Got so bad that I could not eat anything that did not distress me terribly and I was obliged to quit taking the doctor's treatment entirely. I was greatly reduced in flesh. As a last resort I wrote to you and stated my case, and after receiving your instructions I followed them closely. After taking five bottles of Dr. Pierce's Golden Medical Discovery and one vial of his 'Pleasant Pellets' I commenced to improve, and decided to continue the medicines and observe your instructions regarding hygienic treatment. It is now nearly six months since I commenced your treatment and I can say that I am well and never felt better in my life. Am very grateful to you for what your medicine has done for me."

"Nine or ten years ago my health became very poor, and in 1892 was so far gone that good doctors pronounced my case the worst they had ever treated," writes Mr. Harvey Phipps, of Florence, Ala. "I had acute stomach trouble, liver complaint, catarrh, and was so nervous I could not sleep. I finally took Doctor Pierce's Golden Medical Discovery and Dr. Pierce's Pleasant Pellets, and in a few days noticed a decided improvement. When I had used three bottles of the 'Discovery' I was a new man; could eat mince pie for supper, go to bed at 7 P. M. and sleep until 7 A. M.

Dr. Pierce's Common Sense Medical Adviser, sent on receipt of stamps to pay for mailing only. Send 21 one-cent stamps for book in paper covers, or 31 stamps for cloth-bound volume. Address, Dr. R. V. Pierce, Buffalo, N. Y.

The Young Folks.

CONDUCTED BY RUTH COWGILL.

WHO SMILES IN THE RAIN.

The coward may smile—
When there's sun all the while—
It's braver to smile in the rain.
The weakest may joy
When there's naught to annoy—
He's stronger who smiles through his
pain.
And then when there's sun, when there's
bird song and breeze,
When gloom's put to rout and discouragement
flees,
What need has the world
Of the mouth corners curled
In the cheeriest smiles, when the fields
and trees
Are smiling so broadly that nobody sees
The wee bit of brightness you're giving
the while?
But days when it's rainy there's need
for your smile.

The weakling may smile
When there's brightness the while—
It's better to smile when there's rain.
The gloomster may joy
When there's naught to annoy—
He's brave who can laugh through his
pain.
When all the wide world so full of song
That birds sing and brooklets go warbling
along,
With hearts light as chaff
All the earth seems to laugh—
The sunny day courage says not you are
strong,
Though hearty good cheer one could
never call wrong—
But oh, when the day is all haggard and
gray
And Nature weeps gloomily, sobbing
away—
Then laugh in the hope of the sweet
afterwhile,
On days when it's rainy there's need for
your smile.

—S. W. Gillilan, in Baltimore American.

Bonny Prince—The Autobiography of a Collie Dog.

MARION SEWELL.

CHAPTER XIII.—HEARTACHE.

I would not have anyone think that Mr. Carmington was a cruel man; on the contrary he was really kind, that is, as far as he knew how to be. True to his promise he gave me plenty of good things to eat, and provided me with the best of quarters; for what could be more flattering than to be allowed to sleep every night on a warm, long-haired rug in a richly furnished library? He was simply cold in his manner and extremely indifferent to me at all times. Had I not been so accustomed to being petted I would, probably, have been well satisfied with my new home. As matters stood I was utterly desolate. My name was spoken so seldom that I fear I would have forgotten it altogether had it not been so nearly associated with the memory of Master Howard.

The first days after the parting I could not eat, but would lie very still for hours thinking of the past. Once Mr. Carmington noticed my lack of appetite, and supposing that my sight was failing, he pushed my dish of meat towards me with his foot. But it was of no use, everything had become distasteful to me, and it was many weeks before my grief lessened, or I felt in the least reconciled to my new life.

Each morning I went with Mr. Carmington to his place of business, which proved to be a large banking house, where day after day I heard the jingling of gold and silver coin, and all the talk was of "money, money, money," the very name of which I hated because it was the root of all the evil that had come to me.

Although I daily walked down town by Mr. Carmington's side and lay for hours at a time near his desk, we were no better friends than on the day when he came in through the little white gate and took me away from my master. Yet how could I blame him, this busy man of the world, for his lack of sympathy and dearth of kindly words? Perhaps even if he had spoken to me, and tried to take my little master's place, it would not have mattered a great deal, for my thoughts were constantly with Howard and the rest of the family.

Over and over again I asked myself why Mrs. French and Aunt Lucy had not come to bid me good-by. Was it because they did not care? Or, perhaps it was because they cared too much. And what had become of Fleetfoot? Had Howard kept the pony and sent me away? The old jealousy

came back and grew upon me, and I was tormenting myself with the thought that after all I was not the favorite one, when on day as we were leaving the bank I heard the sharp beat of firm hoofs, and in a moment a hatless, golden-haired girl rode past on a beautiful pony, which I recognized at once. Jumping into the street I gave a bark of excitement just as pony and rider disappeared 'round a corner. I had seen little Fleetfoot for the last time.

CHAPTER XIV.—A SUDDEN CHANGE.

Winter came on with its short, cold days and frosty nights, robbing the trees of their wealth of bright leaves, and the flower gardens of their splendor. This fact, however, gave me little concern for I no longer looked for anything beautiful in this changeable, sad old world. Mr. Carmington did not appear to mind, either, for he never took the trouble to glance about him. It may be that his head was too full of money matters. I am almost sure that he would never have known that it was winter if the bitterness of the weather had not driven him to don an overcoat.

We went out every morning and came back every evening, "just like clock work," somebody said.

But as the season progressed it was darker each night when we arrived home.

It struck me as rather odd that Mr. Carmington made such a close companion of me, being as indifferent as he was to my presence. At first I naturally supposed that he was taking care of me, but as this was quite unnecessary it gradually dawned upon me that I was taking care of him, for as I began to revive an interest in passing events I discovered that he carried money, not only in his head, but also in his pockets, and in a belt around his waist. I do not know why he did this. Maybe it was his wages, or perhaps he wished to count it over in the privacy of his room. One thing I am certain of, he did not fancy the possibility of its falling into a stranger's hands.

The winter holidays had come and gone, and it was now the beginning of February. Mr. Carmington was more wrapped up in his business than ever and I was still his silent body-guard. We always came home in the dark, but as we knew the ways of the city so well we needed no torch to light our way, even after we passed the place where the electric lights glimmered.

One pitch-black night about the time I have just mentioned, Mr. Carmington and I were walking up a steep little hill, having a few minutes previously detached ourselves from the busy crowd in the heart of the city. I remember well what a still night it was and how distinctly Mr. Carmington's new shoes squeaked as he made his way leisurely up the narrow side-walk. I trotted along beside him, making no sound as I went, for my feet, though not small, were well padded.

I do not know exactly how it happened, but just as we were making a turn, I felt something like a jerk, and a pair of hands closed firmly about my neck, almost shutting off my breath. I had time for but one thought, that perhaps Mr. Carmington was attacked by robbers, or imagined that he was, and had appealed to me for help. But in this supposition I was wrong, for Mr. Carmington's steps had not slackened. I could hear his shoes squeaking along the sidewalk, but it seemed as if they were hundreds of miles away. The fingers were still around my throat, and some soft thing was pressed close against my nose and mouth. My head began to grow heavy, and I felt that I was slipping, slipping, slowly but surely into a great dark pit. Worst of all, I was unable to move or make a sound.

(To be continued.)

Disraeli's Witleisms.

To a friend vexed by a rainy day:
"There are two powers at which men should never grumble—the weather and their wives."

His heartfelt tributes to his own wife, a woman much older than him-

self, are very beautiful. His witleisms on Gladstone are irresistible. Some one inquired:

"What is the difference between a misfortune and a calamity?"

He replied:

"Well, if Gladstone fell into the Thames, that would be a misfortune; and if any one pulled him out, that, I suppose, would be a calamity."

"Gladstone treats the Queen like a public department—I treat her like a woman."

O, what keen diplomacy is seen in many of his daily remarks! To an author, presenting an impossible book: "Many thanks; I shall lose no time in reading it."

"When I meet a man whose name I have utterly forgotten, I say: 'And how is the old complaint?'"—From Kate Sanborn's "Books as I Find Them," in National Magazine for January.

Our New Relations.

Now that Uncle Sam is going so largely into the business of expansion it becomes necessary for us, his nephews and nieces, to be informed about many lands, in order to know our newly-acquired cousins.

We have found something interesting about our latest adopted, Panama, and something, also, of our longer-known, the Philippines.

CHEAP MONEY IN PANAMA.

The stranger is at first astonished to find Panama a land of much money. The common people of the outlying regions, and it is almost all outlying region down there, come into the city to market with money in both fists, bills of big denominations sticking out of their pockets, and money in baskets and bags—money carried to town in bundles as if it were watercress or spinach. This wonder ceases somewhat when the stranger gets his hotel bill. "It is no wonder," he says to himself, "that they carry money in baskets. They need it by the basketful to pay their bills." Here is the verbatim bill of my first eight days' stay in Cartagena, one of the coast cities and a port of call for steamers from the North:

Board and room, eight days at \$200 per day	\$1,600
Carriage hire, three hours at \$35 per hour	105
Laundry, eighteen pieces	70
Soda water, one bottle	5
Repairing shoes	20

If you go out into the markets and shops of the town you find that prices rule equally high there. Potatoes are worth \$8, rice \$5 and poor stuff at that, flour \$6 and onions \$4. All this not by the barrel or bushel or bag, but by the single pound. Six dollars a pound for flour is calculated to cause the housewife dismay and put the bread-winner down on his luck. We pay pretty high prices for beef at home nowadays, but it is still higher there. You pay \$18 a pound for beef in the city, \$6 to \$7 a pound for it in the country, and this does not mean prime cuts, but just as it comes. The only thing relatively cheap is the mango: you get four of them for \$1.

Now all this is very dismaying, but I struck a still further cause for surprise at the bank, whither I went quite early in the trip. I wanted small bills in the money of the country for a ten-dollar gold piece, and when I passed it to the cashier he began to count money as fast as he could, stacking it up on the counter before him. I waited patiently, knowing that this is a manana region and that one has to wait. Probably when he was ready he would wait on me. After a time he pushed a bushel or more of bills under the wicket, saying in Spanish: "Here's your change, sir."

There was \$1,000 in the pile, and the secret was out. The Colombian dollar is worth just one red cent in Uncle Sam's coin!—From "The Canal Country," by A. G. Kingsbury, in National Magazine for January.

RAILROADING IN THE PHILIPPINES.

The evening band-concerts on the Luneta are just the opposite of the Tondo market scenes. Here a native or American band plays under the incandescent lights, while an endless

chain of vehicles passes slowly through the park, bearing the more fortunate of Manila's population—the ladies bareheaded in the delightful evening air and dressed as a rule in white, accompanied by escorts in all their bravery of American, Spanish or Filipino evening dress. In Spanish days, these evening concerts were often followed the next morning by the shooting of a batch of insurgent prisoners on the same spot. Here in the Luneta fell Rizal, the novelist patriot of the Philippines, and many others who hated Spain. No traces of these atrocities remain. Even the old battery of Krupp guns that threatened Admiral Dewey's fleet has been shoveled bodily away and its site carefully parked.

Manila, too, is a good point of departure for an extended Northern trip over the Manila and Dagupan Railway—a line operated by English capital. The depot is in Tondo, and a few hours enables one to reach the northern terminals at Dagupan, 124 miles from the metropolis. This trip carries the traveler through the densely populated Pampanga lowlands showing a vast checker-board of rice fields, banked up to hold the rains. Some of the towns on the line are fairly large,—Angeles, for example, having fully 10,000 inhabitants. Tarlac was the headquarters of Aguinaldo for some weeks, and almost every bamboo town along the route witnessed a sharp fight between insurrectos and Americanos. During the military operations for a time the road was operated by the American troops. Although the road-bed is good and the rolling stock could be worse, the proverbial Yankee recklessness caused a run without disaster from Manila to Dagupan to be referred to, by residents of Manila, as "an accident."

Now the tourist will be surprised to see a Filipino in engineer's jumpers, and another will ask for his ticket with truly conventional nonchalance. The Americanization of the islands will be very evident along this route. Boot-blacks, paper boys and ice-cream vendors will give you a taste of borrowed New York impudence, and even lunches of native and American foods will be pressed at you through the car-windows at the stations. There is no better way, however, to get a fairly correct impression of the country and its outward life, especially if time is very limited, than by traveling along this lone little Filipino railroad, stopping, if possible, at one or two of the larger towns and resuming the journey the following day. At several of these towns there are imposing churches, and Dagupan boasts of a very fine hospital, formerly a convent. The scenery along the Lingayan Gulf is very pleasant, as there are many groves of banana, betel and cocoanut palms on the shores.—From "Hawaii and the Philippines," by John Marvin Dean, in the Chautauquan for December.

Moving Wild Beasts.

"In every menagerie," said an old showman, "they use, in shifting animals about, what they call a shifting box."

"You can't very well walk to the cage of a royal Bengal tiger if you want to shift him and take him by the scruff of the neck, for he might not take it kindly; and the gentlest animals might harm themselves if you tried to handle them. So if you want to move an animal anywhere you get a shifting box."

"A shifting box is practically a small cage, barred at one end, and having the middle section of bars joined top and bottom to form a gate, which can be slid inward in grooves at the top."

"The box is backed up to the door of the big cage, which is then opened, as is also the door of the shifting box, and then there is a clear opening for

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the animal from one to the other. When you have got the animal in the box a man standing on the top of it drops the door of the box and catches it at the top.

"Then you move the shifting box over to whatever other cage you are going to shift the animal to, and back the box up to the cage, and reverse the operation, getting the animal now out of the shifting box into the cage.

"Sometimes it is hard work shifting animals, sometimes very easy. To get them into the box you may have to drive some, and for some you may have to wait a long time. A common method in shifting animals is to skip the last feeding time for the animal in its regular cage and put the food for it in the shifting box. The animal is hungry and goes for the food there.

"The shifting box is used sometimes in shifting animals from one paddock to another, or from a paddock to a cage. In such cases the box is placed against a door or gate in one corner of a paddock, and then men carrying racks like shields in front of them go into the paddock and form a line across it, with the animal between them and the corner.

"As they advance into the angle of the paddock, and the distance from side to side grows less, man after man of the line drops out, until finally one man, or two, have the animal cornered and drive him into the box.

"But a shifting box can't be used for all animals; not for monkeys, for instance. If you want to shift them you have to catch them with an arrangement like a big scap net.

"This net is made with a hoop a foot or two in diameter with the net part made, not of netting, but of burlap; a deep burlap bag. The man who is to shift monkeys wears, when he walks in among them, a rubber coat, and a rubber cap with a havelock hood that covers his neck and all about his head but his face, and he wears rubber gloves; all this protection, of course, so that the monkeys that might jump on him can't scratch or bite him.

"When the man has got a monkey where he can scoop him he brings the net or bag down over him and then, with the handle of the net, he gives the bag two or three twisting turns, twisting it around near the hoop and over the monkey, so that the monkey can't get out and can't scratch.

"Birds of smaller kinds, when they are to be shifted, are caught with a net, but in shifting big birds, like vultures, condors and eagles, they are caught with a big net of burlap, something like that used for monkeys, so as to avoid injury from their beaks and talons.

"A shifting box again, but of a different kind from those used in shifting animals, is sometimes used in shifting alligators and crocodiles. This box, of suitable size and shape, is placed on its side in the pool, with the open side toward the alligator, and then men get behind it and shove it over toward him.

"Finally they get the alligator over against the other side of the pool, where they can work him into the box. Then they right the box up and put slats across the top. But the commoner way, when they want to shift an alligator, is to rope it.

"Very probably there are some cowboys attached to the show, and if there are, they get them to lasso the alligator's head, so as to hold his jaws tightly together, so that he can't bite. They are likely to get two lassos over his head, one from either side, these lassos serving them as guy ropes to hold the creature's head still, as well as to hold its jaws tightly closed—it could make a lot of trouble swinging its head around. And then, with the head and jaws thus secured, they go to roping him.

"While they are doing this they have one man, sometimes two men, hanging on to the end of the alligator's tail to keep him from swinging that around; a big alligator could easily break a man's leg with it.

"They get the rope around the alligator's body and legs until they come down to his tail and then sometimes they take a turn around the end of that and draw the tail around to the alligator's side and secure it there and so

as to make it powerless. But oftener in the roping of an alligator for shifting there is used a stout scantling that is laid along the alligator's back, that is long enough to project a foot or two at either end, beyond the alligator's head and extended tail.

"They get some of the ropes around the alligator around the scantling too, and when they come to the alligator's tail they rope that to it securely. The tail is thus held perfectly secure, as is the head at the other end, and, when the tying is complete, they lift the alligator up and men get under the projecting ends of the scantling, two at either end, at the alligator's head and tail, and walk away with him."—N. Y. Sun.

For the Little Ones

TALKING IN THEIR SLEEP.

"You think I am dead,"
The apple tree said,
"Because I have never a leaf to show—
Because I stoop,
And my branches droop,
And the dull mosses over me grow!
But I'm all alive in trunk and shoot;
The buds of next May
I fold away—
But I pity the withered grass at my
root."

"You think I am dead,"
The quick grass said,
"Because I have started with stem and
blade!
But under the ground
I am safe and sound,
With the snow's thick blanket over me
laid,
I'm all alive, and ready to shoot,
Should the spring of the year
Come dancing here—
But I pity the flowers, without branch
root."

"You think I am dead,"
A soft voice said,
"Because not a branch or root I own!
I never have died,
But close I hide,
In a plummy seed that the wind has sown.
Patient I wait through the long winter
hours;
You will see me again—
I shall laugh at you then,
Out of the eyes of a hundred flowers."
—Edith M. Thomas, in St. Nicholas.

Princess Honeysuckle's Bird.

When the little Princess Honeysuckle first came to live with her royal uncle and aunt in their big palace, she was homesick and sad. She did not like the court festivities and her heavy, royal gowns; she did not like having her small, royal hand kissed by the courtiers and retainers, whose duty it was to wait upon her highness, and she wept bitterly when she was obliged to ride in the royal carriage on procession days.

But by and by she came to be used to these things, and even to enjoy them. That is what she was telling her little bird prisoner, as he fluttered against the gold bars of his cage and begged to be set free:

"You won't be homesick awful long, dear, teeney, weeney, little bird," she said, consolingly. "You'll get 'customed to it. I did. I 'spected I'd just die at first, but I kept getting cureder an' cureder, till I was all well again."

In reply the little bird only peep-peeped miserably, as it went on tearing and crumpling its feathers against the bars. That troubled Princess Honeysuckle most of all. If he would only stand still a while, she thought.

Just a few days ago the tiny prisoner had been at home in the great elm yonder, with his beautiful oriole mother. Now he called and called and called for her. At last she came. She came again and again, and brought him juicy worms. She would sit on the outside of the cage and talk little encouraging talks to him, as only mothers can talk.

One morning little Princess Honeysuckle sat on her sunny window-seat studying her division of fractions. She was a bit sleepy (division of fractions always made her sleepy, it seemed), and with half-shut eyes she listened drowsily to the mother oriole and her baby bird.

"Peep! Peep! Peep!" Why, no; gracious me! That isn't what they are saying. They are talking in words just like other people. The princess held her breath.

"Cheer-up, cheer-up, dear," sang the mother; "things will clear-up, clear-up, dear."

The princess listened harder than ever, pushing back a golden curl.

"Never mind, never mind," trilled on the sweet voice, "somebody will be kind." Then the mother kissed her baby goodby and flew off. How strange that birds should kiss each other, thought the little princess. But hadn't she seen it with her own eyes? Hadn't she heard the queer, chirpy "smack?"

From the garden below came the sound of the court chamberlain's voice in cross surprise:

"Biddibridget," he called to the nurse, who was flirting with the gardener, "don't you see that Princess Honeysuckle is asleep up on the window seat? She might fall out and break her highness's neck!"

Then the little princess stirred in the sunlight, and opened her big blue eyes. So she had fallen asleep! Dear me! And the mother oriole hadn't flown away at all, but was still there by the gold cage talking. Only she wasn't talking in real words.

"Che-ip, che-ip!" cried the tiny prisoner, still beating its wings coaxingly. "Che-ip, che-ip!" the mother answered, reassuringly. After all, it did sound like "cheer up," thought the princess.

She rested her chin in her hand for a long time and when the Biddibridget came hastily in to see about her little charge, Princess Honeysuckle told her that she was busy thinking and wanted to be alone.

From the great elm yonder came the sweet trilling song of the mother oriole, who had flown back to her other babies in the tree.

"Somebody-will-be-kind, never-mind, kind, kind, kind"—oh, yes, that is what she sang.

The little princess reached up her royal hand and, with a smile, softly opened the door of the golden cage. "Somebody-will-be-kind, be kind"—with one glad, shrill little cry the baby prisoner shot through the clear, sunshiny air and flew directly toward the great elm.—New York Tribune.

The Horse's Story.

When I was young I was a carriage horse. My master was good and kind to me, and my life was one of ease. When he met with reverses, I became the property of a neighbor, who in time sold me to a carter.

My new master treated me unkindly, frequently compelling me to work, dragging heavy loads of stone and ashes, when I was weak from want of food.

One day he was belaboring me unmercifully in the street when a woman saw him, and gave him into the hands of the Society for the Prevention of Cruelty to Animals. When my collar was taken off, a terrible sore on my shoulder was brought to light, and I was pronounced unfit for work. To regain my strength, kind friends sent me to Fermannah farm.

From the time that I came here until now, I have enjoyed every minute of my stay. I roam over the field the whole day long, roll on the grass, sniff the delicious air, drink from the running stream, and crop the sweet young clover. The only drawback to my pleasure is, that when the summer days are gone I will be compelled to leave it all to return to my stuffy little stall in the cramped old stable in town and the cruel master who rules me with a rod of iron. J.M.

—Martha Alricks Johnson, in Pets and Animals.

At the Kindergarten.

Little Emily Kingsbury, aged four, who attends the kindergarten and calls it the "kidneygarden," was being examined as to the senses.

"What are your ears for, Emily?"
"To hear with," was the answer.
"And what are your eyes for?"
"To see with."
"And what is your nose for?"
"To blow," was the innocent answer.
—December Lippincott's.

C. B. Hudson, who has been painting the fishes of Hawaiian waters, says that nearly all bottom sea fish have the power of changing color at will, like chameleons.

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THE PATH TO SERVICE.

(Written for Kansas Farmer.)

LOUISE CASTLE WALBRIDGE.

Valn thy wish for service?
Look within and see
Why it is the Master
Calleth not for thee.

Search when in the silence
Waiting on thy God;
Thine own heart may tell thee
Why this chastening rod.

Art thou true to duty,
Humble though it be,
Sparing self in nothing,
Giving lavishly?

Hath thy neighbor burdens,
Heavy, hard to bear?
Dost thou try to lift them?
Are these things thy care?

Vast the Master's vineyard,
Laborers are few,
If thou provest worthy,
Need there is of you.

Fit thyself for 'serv'ite,
Heed each moment's call;
Work lies all around thee,
Will to do is all.

From Kansas.

BY ROY ROLFE GILSON.

(Courtesy of Leslie's Monthly Magazine. Copyright 1904, Frank Leslie Publishing House, New York.)

You remember Burrows—lean, lanky fellow, sat on the back row in school and rolled marbles. Remember how they'd rumble away under the seats, hitting this desk and that one, and the teacher mad as a wet hen because she could never catch onto where they started?

Well sir, Burrows—same old Burrows—dropped in Wednesday. Looks the same, acts the same, same grin, same chuckle, same long legs, and I'd have sworn they were the same old trousers, hitched to the shoe-tops, if it hadn't been twenty years since I last saw him.

"Hello, Bill," I heard, and looking up, there stood Burrows, chuckling.

"Just thought I'd take a run down to New York," he said, "to see Wall Street and the Statute of Liberty. How's all the folks?"

"Well," said I, "I'm about all the folks there are in my family, Burrows; I'm pretty well."

"What," said he, "not married?"

"No," said I, "not yet, Jim."

"Pshaw!" said he. "That's too bad, isn't it? Why, I've got a wife and seven children, Bill, and a feed store, out in Kansas."

"You've done well."

"Yes, manage to get along," said he. "Not married, you say?"

"No, we don't marry early, as a rule, in New York. It's too expensive."

"Pshaw," said he. "That's too bad, Bill."

My name is William, but I used to be Bill, in Kansas.

"No," said I. "It costs about all I can earn to support myself, Burrows."

"Pshaw," said he. "You don't say so. Why you—you must be getting pretty nigh onto forty."

"Well—yes," said I.

"And not married, you say?"

"That's what I said."

"Well, well. Why, you used to be fond of the girls, Bill, in Kansas."

"Ever been in New York before, Burrows?"

"No," said he; "that is, not as I remember," and chuckled—same old chuckle.

"Well," said I, "you'd be likely to remember it if you had, wouldn't you?"

"Might," said he, still chuckling.

"Well," said I, "what do you think of Wall Street?"

"Hm," said he, "narrow, ain't it? Kind of an alley. But I suppose now, if you'd shake one of them there buildings, you could pick up dollars and half-dollars and bonds by the bushel—eh, Bill? But where's the trough?"

"Trough?" said I.

"Why, yes," said he, red in the face and shaking like an earthquake.

"Trough where they w-water their—you know—s-stock!" said he, and burst, clumping me on the shoulder.

Well sir, Burrows had made up that stale old joke in his feed store out in Kansas; just 'lighted on that cast off, musty jest he had, and chuckled, and

brought it with his old valise all the way from the prairies simply to fatten it on my New York blood and make a whole yarn of it to carry back to "the boys" in Kansas.

There I was, in that Broad Street bedlam, trying to show him the great buildings, and the Sub-Treasury, and the statue of Washington, and the banks and offices; straining my lungs above that infernal din to impress the man with the majesty of the financial spectacle—but great guns! You take one of these country Kansans, they won't forget their apple-barreled jokes. They won't let on they're thunder-struck, even when they're looking at the very things they'll go home and brag about for six years after.

Why, I took Burrows to Carnegie Hall in the evening.

"Pretty big place," said he gazing around him.

"Pretty big!" said I. "Biggest hall you ever saw, Burrows."

"Guess you're right," said he, chuckling—same old chuckle. "Guess you're right, Bill, though I have seen Silas Winter's new barn," said he. "Did I ever tell you about Silas' new barn?"

And off he went with his little story, which was just as funny to him there in Carnegie, with the great orchestra playing Wagner, as it would have been sitting on a rail fence listening to the katydids in Kansas.

There was a man who had come a thousand miles to see New York—and still in Kansas!

"New York," said he, "is a great place to come to—buildings and Statue of Liberty and all—but I wouldn't live here, Bill. You couldn't hire me. It's too big, and there's too much rushing around, and shoving, and racket. And it costs too much. It costs too much for victuals and drink and beds to sleep in; yes, and for water and sunshine and air, by thunder—things you get free where I come from in Kansas."

"What's the use? You're making money. So am I. You're making thousands where I make hundreds, but you're spending hundreds where I spend tens. So what's the odds? You're dressed up a little tonier, sure—but you ain't married, and you haven't a chick or a child in the world, Bill. Why, you look tired and worried. You look yellow. Liver out of kilter? You ought to come out and plow awhile and husk corn—in Kansas."

"What do you do evenings, Burrows?" I asked by way of diversion.

"Evenings? Why, we smoke, and read, and gas a little, and go to bed."

"Well," said I, "we smoke, and read, and gas a little, and go to the theater."

"Well, I forgot the theater," said Burrows. "We go to the theater, too, now and then—Uncle Tom's Cabin' once a year or so, and the circus. Children just love the circus. You ought to have children, Bill. It would cheer you up."

"Why, I'm all right. What are you talking about?"

"Ye-ss, but you aren't all right, Bill. I tell you, you look bad. You're bilious."

"Oh, your grandmother!" I said.

"Well, now, Bill, look at your eyes. They aren't right, I tell you. They—"

"Besides," I broke in, "suppose I had children—"

"That's right, Bill; you ought to."

"Well, suppose I had children, would I be less bilious? Good heavens, Burrows, if I were married, down here in New York, I wouldn't dare to have children, on my income!"

"Pshaw!" said he. "You don't tell me! Have to keep 'em dressed up, I suppose—and nurses."

"Of course," I said.

"Pshaw!" he muttered. "That's too bad, isn't it? Now children," said he, "are the light and life of Kansas."

"Hm!" said I.

"Yes, sir," he went on, chewing a toothpick. "You take children running around all over the place, like chickens, I tell you it's nice, Bill. You can't help loving the little scamps, always up to some mischief or other. Why, I'll tell you what it's like, Bill, when there aren't any children. You know the best bedroom that's kept shut up and only slept in now and then when there's company; you know how

it smells—close and dead, especially if there's matting. Now that's what home is without children to keep the air alive. Why, say, the whole blamed farm of mine—outdoors and in—seems dead to me when my kids go a-visit-ing."

"I never heard it put just that way," said I. "That's very new to me—and interesting."

"Well," said Burrows, his eyes twinkling. "I'm from Kansas—eh, Bill?" And he nudged me. Now if there's anything I don't like, it's a man who nudges; but they all do it, I suppose, in Kansas.

Oh, as I say, I enjoyed Burrows—enjoyed seeing him again, and hearing him talk, and all that, you know, but think of the nerve, think of the sublime impudence of a man coming all the way from Kansas to beard a New Yorker, and joke him, and lecture him, and pity him, mind you! Fancy being pitted by an old hayseed from Kansas!

"But, Burrows," I said, "you don't understand at all. You don't grasp the situation. Once get you down here, and acquainted a little, and getting on, why the longer you stayed the harder it would be to tear yourself away."

"For fear I'd miss something—I know," said Burrows. "Same way with people in insane asylums: the longer they stay the loonier they—"

He waved his hand.

"Bill," said he, squinting one eye at him nickel watch; "Bill, it's just forty-five minutes past nine, now, in Kansas."

Now what can you say to a man like that! What can you talk about? What is there, anyway, in all New York, to compare with Kansas? What do you do with a man who is always preaching, and wanting to argue? What does the Government do with Kansas?

"Bill," said he, "you're a New Yorker—not born and bred, of course, but an adopted orphan, like most New Yorkers that amount to shucks. I take it that you're a fair sample."

"Well, yes—if you want to put it that way," I muttered. I was getting wary.

"A fair sample," repeated Burrows, "of a loyal New Yorker."

"I think so."

"Well, ever been to the Aquarium, Bill?"

"No, not that I remember."

"You'd be—likely to remember it—if you had, wouldn't you?" said he, more softly.

"Might," I said.

"Ever been in the Brooklyn Navy Yard, Bill?"

"No; can't say I have."

"Been to Grant's tomb, I suppose?"

"Been by it."

"Went inside, of course?"

"N-no; but—"

"Been over to Governor's Island, no doubt, to see the soldiers?"

"No, I haven't; but what the devil has that to do with my being a New Yorker? Those are the show places, of course—things you tourists visit, but what in thunder—"

"Of course, Bill, you've climbed the Statue of Liberty? All loyal New Yorkers—"

"Burrows, I wouldn't climb that infernal statue for—"

"Say, Bill, you're not a New Yorker. Your'e not living in New York—really living here, you know. You're just stopping awhile, like I am, only a little longer, that's all. And when you've made your pile, you'll be coming back to Kansas."

"Why, Bill, in Kansas, there isn't a place where a man was hung or shot, or any other historic spot, that our folks don't decorate, some time or other, with a picnic. Why, Bill, we live—all over the blamed place—in Kansas!"

"Now, I'm not urging a man to stay in Kansas if he don't like Kansas. I've nothing to say when a born and bred Kansan packs up his duds, and leaves, and laughs at his old mother State over his shoulder. He has a right to laugh—if he wants to. If he can find it in his heart to do such a miserable, contemptible turn-coat trick, I've nothing to say, Bill—nothing to say at all."

"But, Bill, just let me catch the sucker who'll laugh at Kansas when

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he's living right on her soil, eating her bread and butter, and drinking her waters, and breathing her air! Don't you ever let that kind of a Kansas grasshopper come nigh me—or I'll brain him with an ax-helve! I will, so help me.

"Just as I feel about this here going abroad! If an American doesn't like the United States, let him live where he pleases, I say, but the kind of American that stays right here, and drinks his country's pap, and gets chubby on it, Bill, and whines—don't you ever let that kind of an American come nigh Jim Burrows, if he wants to keep chubby, that's all. Just take him to one side and tell him that where I come from, we celebrate Fourth of July old style—speakin', and fire-works, and pie-eat—in Kansas.

"I'm down here in New York, Bill, but by gosling! I want everybody to know I don't belong here. I want 'em to know I come from Kansas. I've stayed in Kansas because I've liked Kansas. I found her waiting around for me when I was born, and she's been like a wet-nurse to me ever since, and when I die, Bill, I want 'em to lay me in the same old dirt I made mud-pies of when I was a boy, Bill, that's me. Put her there. Say, Bill, you look peaked. Well—here's to Kansas." —By Roy Rolfe Gilson, in Leslie's Magazine.

Recipes Tried and True.

[We very gladly welcome recipes from our readers. Knowing, as we do their reputation for good cookery, which Kansas farmers' wives have earned, we have no fear to publish whatever good things they may send.]

Mince Meat.—One cup chopped meat, 3 cups chopped apples, 1 cup sugar, 1½ cups raisins, 1½ cups currants, ½ cup molasses, 1 cup liquid in which meat was boiled, 2 teaspoons each salt, cinnamon, cloves, and allspice, ½ cup vinegar.

Lemon Pie.—One lemon, using rind and juice, 1 cup sugar, 1 cup water, 1 tablespoon flour, 3 eggs. Bake in rich crust, and cover with meringue.

Cookies.—One and two-thirds cups sugar, 1 cup butter, 1 cup sour cream, 3 eggs, 1 teaspoon soda, flour enough to handle easily.

Jumbles Rich.—Sugar 2 cups, lard 1 cup, 2 eggs, 1 cup sweet milk, 1 teaspoon soda, ½ teaspoon cream of tartar, teaspoon flavoring extract, flour to make soft dough. ANNIE.

Who ever thinks of connecting such a commonplace article of diet as the lemon with the romantic history of ill-fated Anne Boleyn? Yet indirectly she was the cause of its first introduction into England, and so into popular notice. Henry VIII gave such splendid feasts and pageants in honor of

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the coronation of Anne and of their previous nuptials as had seldom been accorded to queens of the blood royal. These kingly entertainments were in turn followed by the great civic feasts of London, for which the whole world was searched for delicacies to add to the splendor. At one such banquet, graced by the presence of the royal pair, a lemon was introduced as an elegant novelty. To an epicure such as Henry the acquisition of a castle in France would have proved less acceptable, and such was the importance attached to the discovery—so says an old biographer—that a special record was made of the fact that the cost of this precious lemon was six silver pennies!

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Our Club Roll.

- Mutual Improvement Club, Carbondale, Osage County (1895).
- Give and Get Good Club, Berryton, Shawnee County (1902).
- Woman's Literary Club, Osborne, Osborne County (1902).
- Ladies' Reading Club, Darlington Township, Harvey County (1902).
- Woman's Club, Logan, Phillips County (1902).
- Domestic Science Club, Osage, Osage County (1888).
- Ladies' Crescent Club, Tully, Rawlins County (1902).
- Ladies' Social Society, No. 1, Minneapolis, Ottawa County (1888).
- Ladies' Social Society, No. 2, Minneapolis, Ottawa County (1889).
- Ladies' Social Society, No. 3, Minneapolis, Ottawa County (1891).
- Ladies' Social Society, No. 4, Minneapolis, Ottawa County (1897).
- Challiso Club, Highland Park, Shawnee County (1902).
- Cultus Club, Phillipsburg, Phillips County (1902).
- Literatae Club, Ford, Ford County (1903).
- Sabeian Club, Mission Center, Shawnee County, R. R. No. 2 (1899).
- Star Valley Woman's Club, Iola, Allen County (1902).
- West Side Forestry Club, Topeka, Shawnee County, R. R. No. — (1903).
- Fortnight Club, Grant Township, Reno County (1903).
- Progressive Society, Rosalia, Butler County (1903).
- Pleasant Hour Club, Wakarusa Township, Douglas County.
- The Lady Farmers' Institute, Marysville, Marshall County (1902).

A Club Where There is a Grange.

If I could only make you see and feel as I did the day I visited the Sabeian Club, you would not wonder at my enthusiasm. In the first place, it was a beautiful day—one of those rare days that Kansas drops down upon us, underserving of so great favors, in the midst of winter rains and cold winds. The sky was divinely blue, the clear freshness of frost-bitten air fragrant with some distant burning grass, and the wind was but faintly rustling the dry corn-stalks in the field as I passed. My faithful old horse shared the delight of the day and ambled along briskly enough to cast great balls of mud from the wheels into the air and deposit a nice little mountain of it in the seat beside me. A solitary ride of an hour and a half, yet who could be lonesome on such a day!

The Sabeian Club is composed of twenty women, who meet fortnightly, at the homes of the members. There is in this neighborhood, a very large and flourishing grange, one of the most prosperous in the State, and this fact makes the position of the Sabeian Club a peculiar one; for it takes away many of the reasons for being which sustain the average club. The grange supplies the social element to the community; it attends to whatever charitable work is needed; it affords means for intellectual growth and opportunity to develop ease of speech and readiness of thought before an audience.

The women of the neighborhood, however, felt that they needed more in the way of culture than the grange alone could give, and organized this club. This was in 1899, and at first it was composed of both women and men. The men, however, growing jealous, perhaps, for their grange, withdrew within a year, and since then the Sabeian Club has been a woman's club,

as active and as interesting still as though it were the only means of social recreation in the township.

I chanced to be with the club on the day of their "Kansas" program. The responses to roll-call were poems by Kansas authors and this was most interesting. I had not realized how many real poets we could boast. Some of the responses were comical little squibs and limericks and some were beautiful songs by people who are known further than the borders of our own State.

This is the program for the day and it was carried out very successfully, with the exception of one paper, which was not provided at all:

Roll call—Quotations from Kansas poets. Biographical sketches of the first four governors of Kansas.

How many locations were chosen for the site of the capitol before Topeka? "We all believe in Kansas, she's our State. With all the elements to make her great."

The papers were very interesting. If you have never tried it, you do not know how fascinating a program can be made upon our State history. It is full of romance and dramatic interest.

Upon the first page of the Sabeian Club Year-book are these words, suggestive and inspiring:

"Absence of occupation is not rest; A mind quite vacant is a mind distressed."

I subjoin the programs for the meetings of the year, as given in the calendar:

OCTOBER 13.

Roll call—Current events. Wonderland of America. California. Oregon. (Sketches of these places were given by members who had been in them, which must have made a very interesting meeting.)

OCTOBER 27.

Roll call—Heroines of prose and poetry. Submarine cable. Wireless telegraphy.

NOVEMBER 19.

Roll call—Winter quotations. Municipal politics for country women—Discussion by the club. The man in the moon.

NOVEMBER 24.

Ancient and modern Thanksgiving. A Thanksgiving story (original).

DECEMBER 8.

Roll call—Quotations from Eugene Field. Women as reformers. Women as breadwinners. Women in politics (2). Women in art and society (2).

DECEMBER 22.

Roll call—Current events. How different nations celebrate Christmas (2). Use and abuse of Christmas—Discussion by the club. Christmas carol.

JANUARY 12.

(Kansas program given above.)

JANUARY 26.

Laws of inheritance for children and wife in Kansas. Property rights in Kansas (2).

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FEBRUARY 9.

Roll call—Current events. The Nativity in art. Mental effects of art surroundings. Why the sunflower is yellow (!)

FEBRUARY 23.

Roll call—Anecdotes of George Washington. Character sketch of George Washington. Religious side of his character.

MARCH 9.

Roll call—Spring quotations. Current events—One member leading a discussion. Personality of Edgar Allen Poe. The Mocking Bird.

MARCH 22.

Roll call—Current events. Thomas Edison—man and inventor.

APRIL 13.

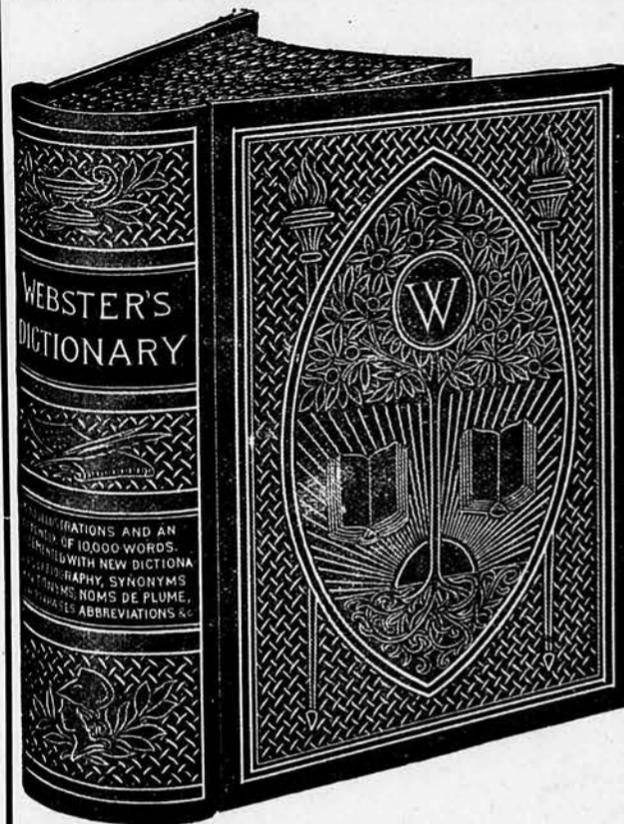
Roll call—Noted American women. American women of yesterday and today. Story of a cat.

APRIL 23.

Roll call—Current events. The influence of fads on character (2). The blackbirds' convention. "Earth's noblest thing—a woman perfected" (2). "God appoints to each one of his treasures a separate mission"—By the club.

Several of the topics (by which I have placed the figure 2) in the programs are assigned to two different members. In this way a broader and more impartial conception of the thing can be gained, and it seems to me an excellent idea.

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VALUABLE CATTLE BURNED.

Continued from page 74.

were Elvira, Lady Wilton of Brookside, Beth, Emma, May and Desdemona. They were all dams of prize-winning calves. The calves of Elvira and Beth were unbeaten in the showing. Calves of Elvira have sold as high as \$1,000, and the least that any of them has ever brought was \$470, which Mrs. C. S. Cross paid for Elvira 5th, a prize-winner at the American Royal and International shows last year, the sale having been made at the time of the big sale held by Mr. Starnard last month.

THE POLAND-CHINA MERGER AGAIN.

The annual meeting of the Standard Poland-China Record Association is to be held at Maryville, Mo., February 3. It is all important in behalf of the interest of the breeders of Poland-China swine that all of the Poland-China records should be consolidated into one at the earliest date possible. Breeders everywhere are favorable to this movement and it will be wise for the stockholders in the various associations to bring it about.

Mr. H. M. Kirkpatrick, of Wolcott, Kans., chairman of the committee in charge of consolidation, has sent out a letter to the stockholders of the Standard and therein submits a feasible plan for action at the annual meeting next week.

The action taken by the stockholders of the Standard will be noted with much interest by breeders generally. We call attention to the communication and the plan as submitted by Chairman Kirkpatrick. It follows:

KIRKPATRICK'S COMMUNICATION.

To the Standard Stockholders:—You are doubtless informed of the effort that was made to consolidate the Poland-China Record Associations, but not as to the status of that undertaking at this time. I will take this method of explaining and at the same time of answering the many inquiries that I have been without time to answer. The work of the committee, scattered over the several States as it was, moved slowly. Being chairman of the committee and perhaps the most enthusiastic and determined member, the work practically all fell upon me. The plans were all completed and the organization nearly so when the great flood came. My property and income were so completely wrecked that I could give no further time nor money to public work. I deplore these circumstances and the chaos and conflict of interests that exists. My desire is the consolidation of all into one. The next best thing is to have as few as possible. With that in view, together with what I deem the best interests of the Standard—in allegiance to which I yield to no man—I submit the enclosed plans for your consideration and I will endeavor to be at the annual meeting at Maryville February 3 to support them with my reasons. Sincerely yours, H. M. KIRKPATRICK.

PLAN PROPOSED.

Increase capital stock to \$10,000—1,000 shares par value \$10 in conformity with the action of your board of directors.

Move bag and baggage to Kansas City, Mo., that great stock center where accommodations for housing the association can be had without price.

Exchange Standard stock for shares of all other record associations' stock. Reserve 300 of the 500 shares of new stock for this purpose. Sell 200 to new actual breeders at \$10 per share.

If any of the 300 reserve shares of stock are not absorbed at the expiration of one year, sell them at \$25 per share.

If a greater number of shares than the 300 are needed to exchange for other stock, increase the capital stock—or, for that matter, increase it now if it can be done legally, because a thousand will be needed if this company is aroused to its opportunity and is handled as it should be.

Begin an aggressive policy at once. Solicit with reasons the cooperation of every shareholder of other record stock everywhere, not slighting holders of

"American" stock, especially those living so far from the seat of government in Iowa that they are practically disfranchised. Widen the methods of the association so they may look to the interest of the breed as well as those of the stockholder.

MARKET FOR CORN HUSKS.

A member of the Kansas Farmer Company has received an inquiry from the Houser & Haines Manufacturing Company, of Stockton, California, as follows:

"Dear Sir:—We are desirous of purchasing a lot of corn-husks to be used in the manufacture of tamales. The husks want to be taken from the yellow corn stock. White leaves preferred.

"We were talking with Mr. J. A. McAfee, of Stockton, Cal., who used to live in Kansas, and he referred us to you, thinking perhaps you may be able to do something for us in this line. If it would not be too much trouble, we would like to have two or three husks sent to us by express or by mail and we would gladly pay you for your time and trouble. If these are satisfactory we may be able to use quite a few and it might pay you perhaps to save these for shipment to us. The price of these husks in California, laid down in Stockton, amounts to 3½ to 4 cents per pound, and if we could get them as cheaply from you we would take about ten tons."

The person to whom this letter was addressed is not in position to furnish husks. Should any reader desire to investigate the matter, no doubt the Stockton company will be glad to hear from him.

Farmers' Institute at Berryton, February 4 and 5, 1904.

- Invocation.
Address of Welcome.....W. H. Coultis
Response.....Judge A. J. McCabe
"A Homesteader in Western Kansas"
.....T. B. Odell
"The Production and Marketing of Corn"
.....N. L. Tevis
THURSDAY, 1:30 p. m.
"Laying Out the Farm"
.....Prof. A. M. TenEyck
Kansas State Agricultural College.
"Sabbath in the Country"
.....Mrs. J. B. Sims
"Shall Kansas Lag, or a Permanent State Fair"
.....H. A. Heath
THURSDAY, 7:30 p. m.
"Brain and Muscle on the Farm"
.....Chas. O'Neill
"Science in Home-making"
.....Miss Flora Rose
Kansas State Agricultural College.
"The Grange: Its Relation and Benefits to the Farm"
.....W. G. O'Bryhim
FRIDAY, 10:00 a. m.
"Should We Favor Independent Packing Interests, and How?"
.....E. W. Adams
"Water for Agricultural Purposes"
.....B. B. Smyth
"Corn Breeding and Selection"
.....Professor TenEyck
FRIDAY, 1:30 p. m.
"The Bright Side of Life in the Country"
.....Gov. W. J. Bailey
"Why Women Should Study Law"
.....Mrs. Lee Monroe
"Opportunity of a Girl in Rural Life"
.....Miss Alice Burckman
FRIDAY, 7:30 p. m.
"What Kind of an Education Should the Farmer Give his Children?"
.....Robt. A. Reed
"The Country School"
.....Eugene Dunlap
"Education vs. Money"
.....John R. Carter

Agricultural Matters.

Emmer 40 Pounds to the Bushel.

EDITOR KANSAS FARMER:—Your letter of recent date, enclosing an inquiry from Mr. S. B. Wheeler, Ada, Kans., regarding the number of pounds allowed a bushel of speltz (correctly called emmer, as speltz is not grown in the United States), was duly received. In reply I would say that in North Dakota, where this grain has been most extensively cultivated, the standard weight is 40 pounds to the bushel, but it does not appear that the law includes a legal weight for a bushel of emmer in the State of Kansas.

M. A. CARELTON.

Cerealist, Department of Agriculture, Washington, D. C.

The Campbell System.

EDITOR KANSAS FARMER:—Replying to Dr. E. P. Miller, of New York City, in regard to the Campbell system of soil-culture, I would say that this is a subject of great importance to the

Kansas farmer. The Campbell system is simply a better and more thorough system of cultivation than that usually employed by the average Kansas farmer. I have twice this fall visited the Campbell model farm at Hill City, Kans., and the stand of wheat is a sight well worth seeing. The sturdy healthy stools of wheat are a revelation to the slipshod farmer. The land for this wheat was plowed in June, 1903, and harrowed over after every rain. The soil having been packed by the Campbell packer daily after the plow. This system, of course, requires the loss of a crop during the season that the land is being fallowed. The system was unnecessary this year as there was ample opportunity to plow ground after wheat and other crops were removed. The summer fallow no doubt belongs to the country further west where the rainfall is less than here.

I put in eighty acres of wheat last fall on land that yielded thirty bushels of wheat to the acre in 1903, and I have the only piece of wheat in the neighborhood that is up enough to make the field look green, the fall having been a dry one. We have here as good a soil as the sun ever shines on, and what we need is intelligent farmers and stout horses and plenty of them to put the soil in condition to absorb all the moisture that falls, then stir the top of the ground frequently to prevent the evaporation of the moisture and to give the roots an opportunity to collect plant-food from the air. Ground for fall crops should be plowed in July and after the plow packed daily by the Campbell packer and followed by the harrow and re-harrowed after every rain until the crop is sown.

Ground for spring crops other than corn should be plowed in the fall and packed and harrowed as above, then lay until spring. This insures early sowing in the spring, which is a great advantage for oats and barley. The importance of having ground well plowed and well settled for all small grain is well known by many, but can not be repeated too often. I think that this part of Kansas has a bright future before it by the employment of thorough, scientific cultivation of the soil. Many farmers who plow at all make a practice of plowing the ground and allowing it to lay without further cultivation for months at a time. Where rainfall is abundant this method brings fair results, but in drying weather much moisture is lost.

CHARLES DARLINGTON.

Decatur County.

REPLIES FROM THE AGRICULTURIST OF THE KANSAS STATE EXPERIMENT STATION.

Alfalfa On Hardpan—Inoculation.

I have been reading all reports on alfalfa in the KANSAS FARMER, and will sow a field of eight or ten acres if you think it will grow here. The land where I wish to sow is the ordinary prairie soil from eight to eighteen inches deep, underlaid with from six to ten inches of hardpan and then clay to a depth of about thirty feet to gravel which contains water. If I sow, where can I get eight hundred or a thousand pounds of soil which I can be absolutely sure is infected? I wish to plant the land to cow-peas in the spring and sow to alfalfa the last of August.

H. H. HIGH.

Cherokee County.

Unless the hardpan layer which you mention in describing the soil is too hard for the alfalfa roots to penetrate, I believe that alfalfa will grow successfully on your land. Your plan of planting to cow-peas next season and seeding to alfalfa in the fall is doubtless a good one, provided you can get the cow-peas off the ground early enough.

There are many extensive growers of alfalfa in the State who could supply you with infected soil; perhaps if this letter catches their eye they will write to you. Col. J. W. Robison, Towanda, Kans., grows a large amount of alfalfa. Howard Debler and A. E. Huse, both of Manhattan, Kans., are growing a great deal of alfalfa. We might supply you with a few hundred

pounds of the infected soil from this station. It does not seem to me necessary to purchase so large an amount of soil until you have demonstrated whether or not alfalfa bacteria are present in the soil. You might distribute the soil over a small part of the field and note results. If you find it necessary to inoculate the soil on the whole field, the part of the field inoculated will furnish the soil with which to inoculate the remaining portion of the field a year or two later.

A. M. TENEYCK.

A Wornout Pasture.

Will you please answer the following questions? I have a farm in Crawford County, Kans. There are twenty acres in pasture, it is native grass, has never been plowed but has been over-stocked. It is first-class soil. What kind of seed ought I to sow and when is the best time to do it, and how much seed per acre? My renters pasture their horses, cows and calves in the same pasture.

J. D. CONLEY.

Marcoupin County, Ill.

If you wish to retain the native grass pasture, I recommend that you disk the pasture early next spring, following with the harrow. A little grass-seed may be sprinkled over the field, as a mixture of Bromus inermis and English blue-grass, or perhaps a little Kentucky blue-grass. Keep the cattle off of the pasture the larger part of the season. It will also be a good plan to manure the field with well-rotted barn-yard manure at the rate of twenty to thirty loads per acre. If you give this treatment and keep the stock off the pasture, the grass will make a strong renewal growth and will thicken up so as to furnish good grass the next season or doubtless to some extent next fall. If the pasture is so run out that you do not think it advisable to renew the native grass, the sod may be broken and the field planted to another crop a couple of seasons and afterward reseeded to a mixture of domestic grasses as follows: Ten pounds orchard-grass, eight pounds of English blue-grass (or Kentucky blue-grass), and six pounds of Bromus inermis with two pounds of red clover per acre. I prefer usually to seed early in the spring, although fall-seeding may be perfectly successful, provided the soil- and weather-conditions are favorable for sprouting the seed and starting the grass. New seeding should not be pastured to any extent the first season. If the grass makes a strong growth it may be pastured lightly in the fall.

A. M. TENEYCK.

Teosinte.

Does the enclosed page on teosinte refer to the Kansas State Agricultural Report? If so, I failed to find any reference to it in the reports of 1901 and 1902 which I have. What I want to know is, have you tried it, and if so, with what success? We have raised it the past season and find it a great success, both in quality and quantity. I am sure it is far ahead of anything ever tried in this part of the State for fodder. I raised about twenty-two tons of dry fodder per acre. Last summer was a bad season here on account of too much rain. I had trouble in getting seed that would grow. About twenty-five or thirty farmers in this part of the country will plant it this next season if we can procure good seed. The seed we bought last spring was poor, only one-sixth of it would grow. If you can tell me where we can get good seed I would like to know it.

W. J. CONNER, M. D.

Labette County.

Your letter to Secretary Coburn has been referred to me. The quotation given in the Herndon Seed Catalogue is taken from Bulletin No. 18 of the Kansas Station. Bulletin No. 102 also mentions teosinte. The later experiments with the plant do not seem to have given as good results as the earlier trials. In Bulletin No. 102, Prof. A. S. Hitchcock, in speaking of teosinte, says: "It gives a fair amount of fodder here, but there is nothing to recommend it above corn, sorghum, or Kafir-corn for the same purpose. It requires a long growing

season and considerable moisture, for which reason it is not well suited to Kansas conditions." Teosinte is a native of Mexico and is thought by some botanists to be the origin of our native Indian corn. It does not produce an ear as does corn, but produces seed in the leaf axil on slender pointed spikes. In the United States the plant seldom flowers except in the extreme Southern States, and never produces seed except in southern Florida, or near the Gulf coast. It is considered a valuable forage plant in the Southern States and under favorable conditions produces immense crops of fodder.

Last season was especially favorable to the growing of this crop. At this station teosinte was tried along side of several of the other forage plants, but did not give especially favorable results. We cut two crops of fodder, but the total yield was not above that produced by cane or Kafir-corn. The trial was made on rather poor upland soil. For this character of land I should prefer cane or Kafir-corn to teosinte. On very rich bottom-land, which is supplied with abundance of moisture, doubtless teosinte would be a profitable forage crop.

I can not inform you as to where you can secure the best seed, the seed is practically all imported. Doubtless some of the Southern seed-companies would be more apt to have first-grade seed than the seed-companies farther north.

A. M. TENEYCK.

Soy-beans.

I would like you to tell me, through the KANSAS FARMER, the best way to grow soy-beans, and which are the best adapted for this locality, the early or late varieties. I live in Ellsworth County, Kans. I have never seen this crop raised, and I should like to know how far apart the rows should be planted, and how thick in the row.

ARTHUR BROWN.

Ellsworth County.

Your letter to the KANSAS FARMER has been referred to me. After a 14-year's trial made at this station, the results indicate that the Early Yellow soy-bean is best adapted for growing in this State. Last season we planted some twenty-seven varieties and the Early Yellow sort was one of the best yielders. This variety of beans ripens in about ninety days after planting. The varieties which gave the best yields last season were the following:

	Yield per acre. bu.
U. S. No. 1299, a yellow variety secured from the U. S. Dept. of Agriculture.....	15.8
Ito San, a yellow variety.....	15.7
U. S. No. 1308, a yellow variety.....	15.1
Early Yellow Soy.....	14.8
U. S. No. 1313, a green bean.....	14.8
U. S. No. 1302, a green bean.....	14.5
Early Brown Soy-bean.....	13.7

All of these varieties were planted June 15 and matured fully. Perhaps the earliest of those named is the Ito San, almost identical in appearance with the Early Yellow variety. For planting in Ellsworth County, I do not think you will find a better variety than the Early Yellow, and seed of this variety is now common in the State.

The favorite method of planting is to use the grain drill, stopping up part of the cups so as to plant two drill rows thirty to thirty-two inches apart, dropping the beans about two inches apart in the row. The drill corn-planter may also be used, but the objection to its use is that the corn-planter puts the rows too far apart to secure the largest yields. At this station a very good crop was grown last season by planting with the lister. The ground was double listed, the beans being planted on the ridge at the second listing. It is necessary to list shallow the last time if the planting is done in this way, because if the beans are placed in a deep listed furrow, part of the pods which form low down on the stem will be covered up during the cultivation and the beans will be hard to harvest. The same difficulty is experienced in planting with the lister as with the drill corn-planter in that the rows are too far apart to give the largest yield. Where the beans are planted with the grain drill or drill corn-planter, the ground should be well prepared, giving a fine mellow soil as a seed-bed.

Soy-beans should not be planted too early, because they will not grow well until the ground becomes warm. Usually about the last of May is considered the proper time. The crop is usually cultivated much the same as corn. Avoid the use of large shovels and do not cultivate too deep, but kill the weeds and keep a mellow soil mulch to conserve the soil moisture.

Soy-beans will follow almost any crop well, but it is preferable to plow the land early in spring so that the soil will have a chance to settle and accumulate moisture so as to be in a good condition of tilth when the beans are planted. At this station a very fair crop was grown last season by sowing broadcast. In a dry season, however, this method would not prove successful and it would not do to plant the beans this way on weedy land. Where beans are planted in rows, about two or three pecks of seed are required per acre. When sown broadcast about one and one-half bushels per acre will be required. The usual method of harvesting when the beans are planted in rows is to use the bean-harvester, several makes of which are sold by the machine-dealers in this State. When the beans are planted broadcast they may be harvested with the bean-harvester using a windrower or buncher attachment. At this station the beans are placed in small piles immediately after cutting, and allowed to become thoroughly dry, when they are thrashed from the field. We use the ordinary separator, taking out the concaves and part of the cylinder teeth, but the use of the regular bean-thresher is to be preferred because the beans are split and cracked badly when thrashed with the separator, even in spite of the precautions taken. At this station we have not thus far found soy-beans to be a very profitable crop, because of the small yields secured, but the yield is not the only thing to consider in growing this crop. The soy-bean is one of the annual legumes and takes its nitrogen directly from the air, storing it up in the roots as well as in the seed, in case the required bacteria are present in the soil. Thus the crop tends to enrich the land and make it more fertile in the production of other crops. In some instances it has been necessary to inoculate the soil with the soy-bean bacteria before the crop could be made to thrive successfully. If you have not grown soy-beans on the farm and if none have been grown in your locality, it may be advisable for you to secure soil from some old soy-bean field which is known to be inoculated with soy-bean bacteria. Spread this soil thinly in some of the rows when you plant the beans and note the results.

A. M. TENEYCK.

Pencilaria.

Have you ever grown pencilaria at the station? If so, what do you think of it as a fodder-crop for this part of Kansas as compared with Kafir-corn and sorghum? E. L. PITZER.

Pratt County.

We have grown pencilaria at this station; in fact, made a trial of it last year, in comparison with cane and Kafir-corn as a fodder crop. At this station on the upland soil, which is not very fertile, pencilaria is not so productive as cane or Kafir-corn. On rich bottom-land, doubtless it will produce greater crops, as has been demonstrated in other States. Also it is a more Southern crop than cane and Kafir-corn, and will likely produce better in Pratt County in comparison with cane and Kafir-corn than it does at this station. It is my judgment, however, that you will not find it superior to the standard fodder-crops. It is a slow-growing crop in the early part of the season, and the seed is not apt to start well; it requires richer land than cane or Kafir-corn, and more care and cultivation in order to produce a profitable crop.

As to the feeding-value of the fodder, no comparative trials have been made at this station. Since pencilaria makes no seed when cut to make the best feed, it might be less nutritious, on the whole, than cane or Kafir-corn, which produces seed as well as fodder. I believe, however, that you

should try pencilaria in a small way in order to satisfy yourself as to the merits of the crop. In purchasing the seed, purchase Pearl millet-seed instead of pencilaria, they are the same although many seed-companies sell under separate names, charging ten times as much per pound for the pencilaria-seed as for the Pearl millet-seed. The plant is really the old cat-tail millet which has been grown throughout the South for half a century.

A. M. TENEYCK.

Cow Stanchions.

I am going to make some cow stanchions of two heavy 1 by 6's each for the top and bottom part. The cows are large-grade Shorthorns.

1. Is it uncomfortable for a cow to sleep in a stanchion?
2. Will the two 1 by 6's, laid on the ground, hurt the cow's neck when she is lying down?
3. How much space should be allowed each cow? I thought three feet about right, but have been told that even two and a half was too much.
4. Should the top of the stanchions slant backward toward the cow? If so, why, and how much?
5. Is three feet about the proper distance from the bottom of the stanchions back to the edge of the manure-trough?
6. Give dimensions and composition of manure-trough.

JOHN FROST.

Marshall County.

1. Without doubt the rigid stanchion is rather an uncomfortable place for a cow to rest. The rigid stanchion may be used simply to tie the cow for feeding and milking, but cattle will doubtless rest much more comfortably in an open shed where they can have freedom of movement than they will lying with their heads fastened in a rigid stanchion. The rigid stanchion is also especially uncomfortable for a cow during fly-time. The swinging stanchion, which permits the yoke to turn and move a little back and forth, is to be preferred to the rigid stanchion, when cows are left in the stable over night.

2. The one by six inch boards, which you propose to use to make the base of the stanchions, will not be high enough to injure the cow's neck when she is lying down. A good arrangement, however, would be to place a cap or piece of rounded molding on the top of the six-inch boards.

3. Three feet is none too much space to allow for one cow, especially the large grade Shorthorns which you desire to stable; in fact, I should be inclined to give a little more rather than a little less than three feet. At this station we use the Bidwell stall and each cow is given three and one-half feet of space.

4. It is not necessary that the top of the stanchion slant backward toward the cow. Sometimes stanchions are made in this way, the object being to cause the cow to step back when she raises her head in order that the platform may be kept clean. Also the plan allows the cow to step forward when she lies down, by which she is enabled to lie upon the clean part of the platform. Where slanting stanchions are made, the usual slope is about 15° to 20°, or the stanchion will make an angle with the floor of about one-fifth or one-fourth of a right angle.

5. The width of the stanchion from the bottom of the stanchion back to the manure-gutter should vary according to the size of the animals which you desire to stanchion. In the Bidwell stalls at the college farm, the distance from the bottom of the manger to the edge of the gutter is five feet four inches. With the large cows which you desire to stanchion, I think a five feet width of platform would not be too great.

6. The manure-gutter should be about 18 inches wide at the top, and 4 to 6 inches deep. The sides of the gutter may be made sloping so that the bottom may be about 12 inches



"Love lightens labor," the saying runs, and in a sense it is true. But even love cannot lighten labor or make it easy for the woman who is in constant suffering from inflammation, bearing-down pains or other womanly diseases. The one thing that can make work easy for women is sound health, and Dr. Pierce's Favorite Prescription is the thing that will give sound health to sick women.

Dr. Pierce has so much faith in his "Prescription" that he offers to pay \$500 in legal money of the United States for any case of Leucorrhoea, Female Weakness, Prolapsus, or Falling of Womb which he cannot cure. All he asks is a fair and reasonable trial of his means of cure.

"I suffered from female weakness for five months," writes Miss Belle Hedrick, of Nye, Putnam Co., W. Va. "I was treated by a good physician but he never seemed to do me any good. I wrote to Dr. R. V. Pierce for advice, which I received, telling me to take his 'Favorite Prescription' and 'Golden Medical Discovery.' When I had used the medicines a month, my health was much improved. It has continued to improve until now I can work at almost all kinds of housework. I had scarcely any appetite, but it is all right now. Have gained several pounds in weight. Dr. Pierce's medicines have done wonderfully well here. I would advise all who suffer from chronic diseases to write to Dr. Pierce."

"Favorite Prescription" makes weak women strong, sick women well. Dr. Pierce's Common Sense Medical Adviser is sent free on receipt of stamps to pay expense of mailing only. Send 21 one-cent stamps for the paper-covered book, or 31 stamps for the cloth-bound volume. Address Dr. R. V. Pierce, Buffalo, N. Y.

wide. Some prefer to make the gutters even deeper than the figures given, giving the bottom of the gutter a slight incline so that it will be about 2 inches less depth at the rear side. There should be three or four feet of space for a walk outside of the manure-gutter, this walk to be raised as high as the platform upon which the cows stand.

A. M. TENEYCK.

Cow-peas and Corn for Ensilage.

Can you give me any more information in regard to sowing cow-peas with corn for silage? How many peas to the acre, and should the corn be drilled as thick as for the grain? Will cow-peas reach the right stage for silaging at the same time as corn or should they be sown later? Would it be a good plan to sow cow-peas in all corn at the second or third cultivation and pasture when corn is shocked? What variety should be planted in order to harvest with a corn-binder? I have been reading your articles in the KANSAS FARMER in regard to silos, and I fed a bunch of cattle last winter from the silo and liked it very much, but believe that the ration could be balanced cheaper than by mill-stuff.

Shawnee County. E. W. ADAMS.

Judging from the experiments at this station, the only successful way to grow cow-peas and corn together for ensilage is to plant the cow-peas and corn together in drill-rows, three to three and one-half feet apart, rather late in the season, say early in June or late in May, after the ground has become thoroughly warm, so that the cow-peas will start and grow rapidly. Last season we planted cow-peas and corn in this way during the last part of June. The ground was double-listed, the seed being planted on the ridges at the second listing. The cow-peas and corn were mixed together in equal parts. We used a sixteen-cell plate, rim drop, and the cell had been somewhat enlarged by filling out the ends. This dropped the seeds so that by actual count after the plants had come up, the cornstalks averaged about two feet apart in the row and the cow-

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peas about six inches apart in the row. The combination made an excellent crop, the peas made a rank growth and the cornstalks supported the cow-peas in good shape. The crop was cut with the corn-binder, about September 20, and put in the silo. The actual yield was eight and one-half tons of green fodder per acre. By separating the pea-vines from the corn-fodder in a few bundles I found that the fodder consisted of 20 per cent of cow-pea fodder and 80 per cent of corn-fodder. We use the Whippoorwill variety of cow-peas and the Silvermine corn, which is a medium early variety. When the corn was cut, the corn was in the advanced milk stage, just right to make excellent silage, while the cow-peas were quite full of pods and the pods were filled with green peas, but none of the peas had begun to ripen. I consider that the stage of maturity at cutting, of both of the plants was just about right to make the best quality of silage or dry fodder.

I believe that the crop should be planted a little thicker, say the cornstalks twelve to eighteen inches apart in the row and cow-peas three to four inches apart or less. The planting may be done with the lister in the manner mentioned above, provided a special plate be made for dropping the seed; or if the ground is well prepared a drill-planter may do the work, or perhaps a grain-drill could be very successfully used by stopping up a part of the seed-cups.

Experiments were tried in planting cow-peas in the corn-rows after the corn had come up; this resulted in failure, because it was found necessary during cultivation to cover up the cow-peas to a large extent in order to kill the weeds. Also it would appear from our experiment that corn and cow-peas planted together at the same date mature about alike so that they will be ready to cut for fodder at the same date. When the cow-peas were planted early in the season, about the proper time for corn-planting, the peas started very slowly, the corn got in advance of the peas, many of the plants were covered by cultivation and others died out so that the crop was a failure. When the cow-peas and corn were seeded together broadcast, the growth of the cow-peas was very slight because of the shading by the corn.

Cow-peas may be sown in the corn at the last cultivation as suggested, and if the balance of the season is not too dry they will make considerable growth so as to make cover-crop and perhaps furnish some pasture after the fodder has been cut or in the early part of the fall before the hard frost comes, the crop may be pastured by sheep. Such a method of planting will not furnish any amount of fodder, however, because of the shading of the ground by a good corn-crop. And because of the drying of the soil, which comes from the feeding of the corn-roots, only a meagre growth of the cow-peas results. This was the actual result of the experiment tried at this station last season.

Perhaps the Whippoorwill variety is as good a sort as any to plant in Kansas. The Clay and Iron varieties are later and make a larger growth of fodder, but do not produce as large a

growth of pods and peas as does the Whippoorwill. The earliest maturing cow-peas grown at this station last season, which variety was also a good producer of seed but not a very rank vine-grower, is called the "New Era." If the object is to produce seed, this is one of the best varieties to plant in Kansas. A. M. TENEYCK.

English Blue-grass for Orchards, and for Worn-out Land.

Have you experimented any in sowing English blue-grass in orchards? Will it pay to sow English blue-grass in a worn-out pasture, and then disk it? Can I get a stand?

D. W. McALISTER.

Washington County.

We have made no experiment at this station of sowing English blue-grass in the orchard? I do not think it will be found to be well adapted to this use. I should rather recommend

tive grasses. These will make a renewed growth and if the cattle are kept off the pasture for a season and a little well-rotted manure spread over the field, the pasture will doubtless recover and furnish good feed another season. I would disk the pasture early next spring as soon as the ground is in good condition, and follow with the harrow, the disk is apt to leave the sod too loose or too much cut up, so that the harrow is necessary in order to give a good surface mulch. A. M. TENEYCK.

Some Questions.

1. At what temperature should cream be to quickly obtain butter?
2. Is there any experiment station that issues a bulletin on the quince and its culture? The KANSAS FARMER of October 8, last year, said, through Farm Notes, "Put coal ashes around the quince bush." For what purpose? I've seen that recommended periodically



Judicious Spreading of Manure.

Probably no branch of farm work is of as much importance to the progressive farmer of to-day, as the distribution of manure in such a way as to derive the most benefit, consequently his attention has turned to the more adequate way, that of spreading by machinery. Several of the manufacturers of farm implements have put manure-spreaders on the market in the last few years, and among these we feel that one that has come near to reaching the height of perfection is the Great Western English Apron Spreader shown in the above cut. There are many strong points in favor of this machine, any one of which might serve to put it in a class by itself. Principal of these would seem to be the endless apron, which admits of reloading without the trouble of stopping to crank it back and of hauling about doubt the amount of manure that can be handled by a half-apron machine.

The combined hood and endgate serves the dual purpose of keeping the manure from beater while loading, and acts as a hood or shield while in motion, and is changed from gate to hood by means of the lever which throws the machine in operation, without leaving seat. The beater will not carry over hard chunks or bunches of manure until they are thoroughly torn to pieces or pulverized. In fact, every detail for spreading all kinds of manure, lime, wood ashes, plaster, and commercial fertilizer, has reached a surprising degree of completeness in this machine. It also spreads straw, chaff, sawdust, etc., for mulching strawberry plantations, etc. The reader will get much good from the large illustrated catalogue which the Smith Manure Spreader Company will gladly mail on request. See advertisement in another column.

orchard-grass or Bromus inermis for this use, but would rather prefer to keep the orchard cultivated if the purpose is growing fruit. The plan followed at this station is to cultivate the orchard during the early part of the season and seed some cover-crop, such as oats or cow-peas, along in August; this is allowed to remain during the winter and serves to catch the snow and protect the ground from severe freezing. Early in the spring the ground is double-disked and the disking is continued at intervals during the summer.

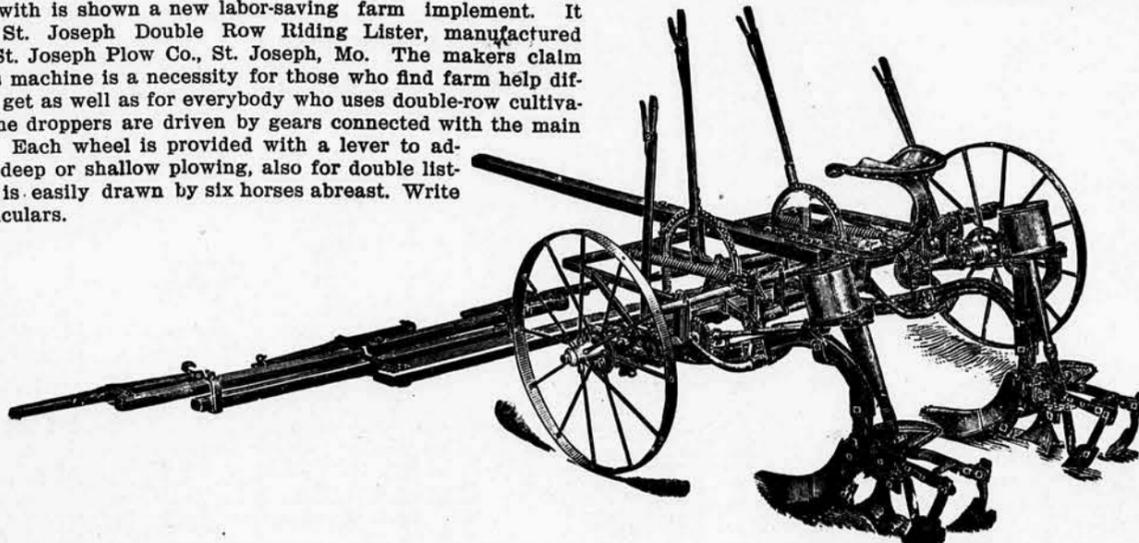
It will be a good thing for you to give the old pasture a good disking, and a little seed of English blue-grass and Bromus inermis scattered over the bare places will not do any harm and doubtless some of the grass will take root and grow. I prefer the Bromus inermis for this purpose, rather than the English blue-grass. The greatest good will come, however, from the effect which the disking has on the na-

for 30 years. Why are so few quinces raised? Do they require a salty soil?

3. The method by which prairie and alfalfa hay is measured in the stack in Hamilton County is this: Add the width to the over and divide by 4. (One-fourth of the sum of the width plus the over equals one side of a square of the stack.) Multiply the 1/4 of the sum by itself. This product equals the number of square feet at the end. Multiply the number of square feet by the length and the number of cubic feet in the stack is obtained, which divide by 422, the cubic feet in a ton, or the cube of 7 1/2. This gives the number of tons in the stack. I would inquire why, in the method given by Mr. Diesem, the width should be subtracted from the over? Why should the remainder be divided by 2? Why multiply the quotient by the width and length?

4. Will the Norway spruce grow in Kansas? Where can young trees be obtained? B. A. MONROE.

Herewith is shown a new labor-saving farm implement. It is the St. Joseph Double Row Riding Lister, manufactured by the St. Joseph Plow Co., St. Joseph, Mo. The makers claim that this machine is a necessity for those who find farm help difficult to get as well as for everybody who uses double-row cultivators. The droppers are driven by gears connected with the main wheels. Each wheel is provided with a lever to adjust for deep or shallow plowing, also for double listing. It is easily drawn by six horses abreast. Write for particulars.

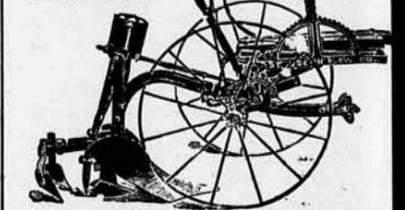


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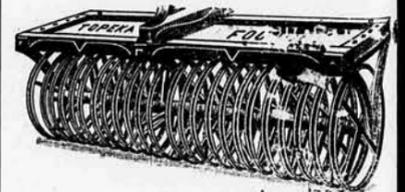
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In the Dairy.

Just Common Cows.

EDITOR KANSAS FARMER:—Mr. M. E. King, of Labette County, according to an article in the KANSAS FARMER of January 7, thinks that the majority of the farmers of Kansas are a lot of fools, because they don't sell out all their dual-purpose cows and buy special-purpose ones like his. Now, I am going to tell Mr. King what eight years of ordinary native cows, with ordinary care, have done for me in the last twelve months. My cows commenced to come fresh on September 13, 1902, and all eight head were fresh by November 2. They ran on heat for 33 days during September and October; they were then put up on fed fodder night and morning, and on fodder at noon, till grass came the following spring. They were not used any time except in a warm bed closed on three sides, to go into which they wished.

Now for results: There were eight cows, but as one was only a small 2-year-old heifer with first calf, and as I used milk in the house for a family of six persons, I think it but fair to count only seven cows. From September 1, 1902, to September 1, 1903, I sold to the creamery 1,735 pounds butter-fat, or an average for seven cows 248 pounds per cow, which brought \$8.83, or almost \$55.50 per head for the year, and with very ordinary care. Now I would like to know if Mr. King's special-purpose cows were given the same care as the above cows, how much butterfat would be the average over the assessor's return. I think it much. My experience with special-purpose cows is that they are a decision and a snare that the average

farmer should steer clear of, and I have had them off and on for nine years. And now the calves. One year ago I sold some 1-year-old steers from those cows for \$24.00 per head to a neighbor. He roughed them through last winter and sold them off the grass this summer when they weighed around 1,050 pounds, and those steers never got any grain except a little I fed them the first five months, as they were skim-milk calves.

Any time in the last five years I could pick up such cows as I now have for between \$35.00 and \$40.00 per head. In fact, I could buy them now for much less than that. Then why should a man keep cows when calves are almost a total loss as far as the steers go? I do believe if Mr. King had good native cows and took as good care of them as he must take of his delicate special-purpose ones, he would get just as much and perhaps more butter-fat and a good calf that it would be both pleasant and profitable to keep and feed. Mr. King may say, "Why don't you house your cows and reap the benefit?" Well, in the first place I have not the barn to house them in; and in the second place if I did house them I would have to employ help to look after them and I doubt greatly if the extra income would pay for the bother and trouble of doing so. But the main obstacle is, I have no help but myself, and must do the best I can.

Now, I hope Mr. King and all other like-minded men will think twice before they slander such a good friend to the farmers of Kansas as the dual-purpose cow, for she has helped lift the mortgage off many a farm, and always paid me for her keep, and that is more than I can say for the special-purpose cows I have owned. True, I may not have had the best strain of that breed. Neither have I the best dual-purpose cows; far from it. There is one thing in favor of the special-purpose cow, I never knew of any of them to die of milk-fever.

ARTHUR A. PATTERSON.
Ellsworth County.

How to Secure Dual-Purpose Cows.

EDITOR KANSAS FARMER:—I have been reading the articles on dual-purpose cows, published recently in the KANSAS FARMER, and thinking possibly everybody is now through, will offer a few suggestions.

It seems strange that some people can see nothing but strictly beef- and dairy-breeds. They seem to think it impossible for a cow to raise a good calf and still be a heavy milker.

Mr. King says if we want beef get beef-breeds; if we want milk and butter get dairy-breeds. This is all right as far as it goes. Take the men on the range; all they want is a cow that will raise a calf. All the dairyman wants is the milk, but the farmer on an 80- or 160-acre farm wants and must have beef, milk and butter. Therefore he must look to the dual-purpose cow.

Now what is a dual-purpose cow? And how can we get her? Mr. King and Mr. Holderman would say: "Anything not a beef- or dairy-cow."

The farmer in this section, and perhaps all over the State, will start with a few scrub cows, head the herd the first year with a Hereford; next year a Shorthorn; possibly the next an Angus, and the next year, just anything so the cows will give milk. This is where Kansas gets her fine milch cows.

What I call a dual-purpose, or "farmer's cow," is one that will weigh 1,400 pounds and give five gallons of milk a day, with a butter record of a pound a day the year through. Now, how will we get them? We may get a few by such haphazard breeding, but not many. There are breeds that fill this place, viz: Red Polled and Brown Swiss.

In Red Polled, we find such cows as Beauty 5th, giving 7,000 pounds of milk a year; Mayflower 2d, with a milk record of over 10,000; Flora 2d, with a record of over 7,000 pounds.

In Brown Swiss, we find Brienzi, giving 81 pounds of milk a day for three days, at the Chicago show in 1891, which made over 3½ pounds of butter

a day; and Beinwyl, a cow weighing 1,850 pounds, with a butter record of over 500 pounds a year.

I could name a score of others; these are dual-purpose, or farmer's cattle.

How will we get them? Get an animal of one of those breeds to head your herd and breed straight on that line; and in a few years you will have a herd that will not only please you, but your pocketbook as well.

In conclusion will say, give the range men their beef breeds, the dairymen the Jerseys, but let the farmer have the dual-purpose cattle. J. W. COOL.
Cherokee County.

The Dual-purpose Cow.

EDITOR KANSAS FARMER:—Now we have all agreed that there is a general purpose cow, for how could Kansas ever become the great State she is without her? It was she that furnished the early pioneers a good share of their living. It is she that furnishes the milk, the cream, the butter, the cheese, and little Bennie says, "ice-cream, custard, and lots of things." The dairy cow may have come to Kansas tied behind the moving wagon, the beef cow in the cars, but the farmer's cows came in droves. Beef being cheap this year the farmers have been killing their own beef, largely, and get much better meat,—why should not farmers go back to the more independent way of living, thus getting a better article at less cost than when buying it? The farmers ought to be the most independent, happy, and contented people on the globe; if they are not, why not? The Jersey may be the city cow, the Angus may be best for beef on high-priced land, the Hereford for the range, but the farmer's cow, the cow for the millions, must be the dual-purpose cow. Now, kind friends, let the man with his Red Polls alone.

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He may not keep them long. Besides they will not interfere much with the Herefords, and some of the Herefordmen may get tired of keeping the "farmer's cow" to raise some of their show Herefords on. Can they become so nice, fat and sleek, without milk? The farmer's cow, if of the improved kind and rightly managed, always makes a little money for her owner. So let the children have their cup of nice new milk, their custards, and ice-cream, and at least "take a look at this fair land" of ours and see if it is not more pleasant than "wandering around for years in the wilderness"—of beef. Osage County. A FARMER.

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To the patron sending us the largest number of new shippers, we will give the following prizes, according to number of patrons secured:

- First prize, Steel Range, value \$40.00
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- Third prize, Gentleman's Watch, value..... 20.00
- Fourth prize, Double Barrel Shot Gun, value..... 18.00
- Fifth prize, 4 Bottle Babcock Tester, or Nickel Plated Carpet Sweeper, value..... 5.00
- Sixth prize, 2 Bottle Babcock Tester, or Connecticut Meat Chopper with stuffing attachment, value..... 4.00

Any patron who fails to secure one of the above prizes will receive 50 cents in cash for each new patron secured.

This contest will close with the end of business March 31, 1904. Ship us a can of cream and make yourself eligible to participate in this contest. Write us for full particulars, including entry blanks, illustrated description of prizes, etc. If you have no separator, send for a catalogue and description of the best separator that is made, the famous, easy-running Empire machine.

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KANSAS CITY, MO. DENVER, COLO.
Cream Separator Department.

Miscellany.

First Annual Meeting American Breeders' Association, St. Louis, Mo., December 29 and 30, 1903.

Officers: President, Hon. James Wilson, Secretary of Agriculture, Washington, D. C.; vice-president, Hon. L. H. Kerrick, Bloomington, Illinois; secretary, Prof. W. M. Hays, St. Anthony Park, Minnesota; treasurer, Prof. Oscar Erf, Manhattan, Kansas; chairman, plant station, Dr. H. J. Webber, United States Department of Agriculture, Washington, D. C.; secretary, plant section, Prof. N. E. Nansen, Brookings, South Dakota; chairman, animal section, Hon. John Dryden, Minister of Agriculture, Ottawa, Canada; secretary, animal section, Prof. F. B. Mumford, Columbia, Missouri.

The council is made up of the seven officers, excepting the president. Address, W. M. Hays, Secretary, St. Anthony Park, Minnesota.

Membership fees: Annual, \$1; life, \$20; patron, \$1,000; outside North America, annual, \$2.

A new organization called the American Breeders' Association was formed at St. Louis, December 29 and 30, 1903.

ers than plant-breeders in attendance.

The recent great discoveries in heredity, such as Mendel's law, and the practical results of such breeders as Luther Burbank of California, have made possible this movement for a general organization. Scientific investigators who are studying heredity are hereafter assured of a most appreciative hearing for any really valuable discoveries, and of support for important investigations. Luther Burbank of California was given the signal honor of being the only man elected as honorary member.

This organization had its origin in the American Association of Agriculture Colleges and Experiment Stations. At the New Haven meeting of that Association, in November, 1900, a committee was appointed to consider the advisability of forming an association of plant and animal-breeders. This committee was made up of the following named gentlemen:

Prof. W. M. Hays, of the University of Minnesota, chairman; Director L. H. Bailey, of Cornell University; Prof. T. F. Hunt, formerly of Ohio University, now of Cornell University; Dean C. F. Curtis, of Iowa Agricultural College, and Dr. H. J. Webber, of the United States Department of Agriculture. Owing to the fact that the plant-

to promote the improvement of plants and animals by the development of expert methods of breeding."

The annual membership consists of persons, societies and institutions interested in the objects of the association and paying the prescribed annual fee. There are also life members who pay a fee of \$20, patrons who give \$1,000 or more, and honorary members. The names of the patrons are to be retained on the lists of patrons as long as the association lasts. Any person who shall have done notable service in advancing the objects of the association, may be elected an honorary member by the council, but no more than two honorary members may be elected in any one year, and there shall be no more than ten honorary members. Honorary members, life members and patrons are exempt from annual dues.

A membership committee of which Mr. Eugene Funk, of Bloomington, Ill., is chairman, is being selected. There is to be one or more members of this committee for each State. The council passes on all applications for membership.

An excellent annual report is to be published, also a directory of all members, giving the specialty of each. Thus will be provided a long needed



Aylesbury Duke, the subject of our illustration, is a Missie bull, belonging to the famous Shorthorn family of that name, bred by W. S. Marr, of Aberdenshire, Scotland. Aylesbury Duke is a particularly handsome dark red bull at the head of the Silver Creek Shorthorns, owned by J. F. Stodder, of Burden, Cowley County, Kansas. He is a bull that carries, in ordinary breeding condition, 2,300 pounds. He is so close to the ground and is so compactly built that one wonders that so much good beef is there. He has demonstrated himself to be a very prepotent sire, and a number of his get, both bulls and heifers, are to be sold at Wichita, February 3, 1904.

It includes both animal-breeders and plant-breeders, also scientists who are interested in the study of heredity in plants and animals.

The constitution of the new association provides for a council of seven, made up of all the above officers, except the president. Dr. H. J. Webber was made chairman and Prof. W. M. Hays, secretary and general executive officer of the council. The council has started plans for a large membership.

Already a sufficient number of annual and life memberships has been assured to warrant the announcement that an annual report will be published containing the papers and discussions, also a directory of animal- and plant-breeders, and of biologists. Numerous far-reaching enterprises are already being projected. The meeting had a remarkable tow-days' program. Dr. David Starr Jordan and other leaders in attendance upon the meeting of the Association for the Advancement of Science, with which the new organization met, are quoted as predicting great results from this new organization. Secretary of Agriculture James Wilson sent a telegram the first day of the meeting heartily commending the movement. There were present more plant-breeders than animal-breeders, but it is predicted by the animal-breeders present that next year there will be many more animal-breed-

ers than plant-breeders in attendance. The recent great discoveries in heredity, such as Mendel's law, and the practical results of such breeders as Luther Burbank of California, have made possible this movement for a general organization. Scientific investigators who are studying heredity are hereafter assured of a most appreciative hearing for any really valuable discoveries, and of support for important investigations. Luther Burbank of California was given the signal honor of being the only man elected as honorary member. This organization had its origin in the American Association of Agriculture Colleges and Experiment Stations. At the New Haven meeting of that Association, in November, 1900, a committee was appointed to consider the advisability of forming an association of plant and animal-breeders. This committee was made up of the following named gentlemen:

The name earlier advertised as "American Plant- and Animal-breeders' Association" was changed, after full discussions, so as to read simply American Breeders' Association. As the scope and extensive field opened to this association were developed during the meeting, the members became more and more convinced that this name was wisely chosen. Plant-breeding is making such wonderful advances, that very soon even live-stock breeders will not think of the word breeding as applying merely to domestic animals.

The purpose of this new association is stated by the constitution, to be, "To study the laws of breeding and

directory of breeders of animals, breeders of plants and scientists especially interested in the various objects of this association, also of societies and institutions interested in the improvement of plant and animal life. The directory will be published at actual cost and, if possible to pay for it out of the modest fees, or if money can otherwise be secured, it will be incorporated with the annual report and thus be supplied to every member without further cost. It is hoped that the membership committee will be able to complete its work so that the last proofs of the directory may be read by June 1, 1904.

The membership committee expects to invite many breeders, scientists, associations and institutions to become life members and patrons. The monies received from life membership fees and from patrons is solely for investment, only the income being available for the current expenses of the association. Persons desiring to become members should apply to the secretary, W. M. Hays, St. Anthony Park, Minnesota, or to Mr. Eugene Funk, chairman membership committee, Bloomington, Illinois, for blanks for the desired kind of membership.

The constitution provides for an annual meeting and such other meetings as the council may decide upon. Sufficient funds are already assured so that the council has ordered the secre-

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J. P. SHAFER, M. D., Water Doctor, 210 Penn. Ave., Pittsburg, Pa.

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tary, with the assistance of the secretary of the plant section, and the secretary of the animal section, to publish the first annual report. Since this publication should not be long delayed, it is very desirable that persons, associations, educational institutions, libraries and other organizations should at once apply for application membership blanks, that their names may appear in this first directory.

The constitution provides for sub-committees to be appointed by the council and to report to the council. The subjects for a number of these committees have been suggested, but formal action has not yet been taken in regard to them. The constitution provides that the council may act without being in session, questions being submitted by mail from the secretary's office, and they may hold meetings when occasion demands.

REPORT BY THE ORGANIZATION COMMITTEE.

The chairman of the organization committee in his opening address said: "The cost of making a possible annual increase of 10 or more per cent in the billions of dollars' worth of American animal and plant-products, or a total of hundreds of millions of dollars' worth of added annual income with but little added expense, is a large undertaking; but a billion dollars' worth of added wealth wrested from the soil every decade is a magnificent goal. No less of an incentive, at least to scientists, is the possible solution of the laws of development in plants, in the lower animals and in man. The promoters of this proposed plant and animal-breeders' association believe that the practical breeders and the biological scientists have much in common and that they can be, mutually, very helpful.

"The correspondence incident to the preparation for this meeting, has shown that the State experiment stations, the United States Department of Agriculture, the laboratories in our great universities, and private breeders of animals and plants are ready to here join hands. This meeting should mark a new pulsation in the living beings which man uses with which to draw from the earth his sustenance and much of his pleasure. This association will touch the interests of that strong body of men who breed animals, that more quiet but no less useful class who improve plants, and will greatly aid all producers in plant and animal products as well as all consumers of these commodities. Whether it proves cohesive and useful, depends upon having a good plan and upon the members who compose the organization.

"The Hon. James Wilson, Secretary of Agriculture, who is doing such a large service to breeding by his liberal policy in giving support to the plan of organizing breeding research in heredity, suggested the American Association of Agricultural Colleges and Experiment Stations as the best organization under which to promote the proposed plant and animal-breeders' association. Under his strong leadership, the official and general public are taking seriously the proposition that we build up a science, a technique and an industry of breeding plants and animals, which shall add to the world's other modern improvements, greatly improved forms of plant and animal life."

ADDRESSES AND DISCUSSIONS.

Upon motion of the organization committee, Dean Charles F. Curtis, of Iowa Agricultural College, was chosen chairman of the temporary organization. Prof. W. M. Hays, of the Minnesota College of Agriculture, was chosen temporary secretary. The convention then amended the constitution and by-laws, suggested by the organization committee, and adopted them in the form outlined above. The remainder of the two-days' session was devoted to addresses, papers, and discussions, as briefly outlined below. The council met in the evening of December 30, and, after perfecting an organization by electing Dr. H. J. Webber chairman, began the active work of the association.

PLANT AND ANIMAL INTRODUCTION.

David G. Fairchild, United States Department of Agriculture.

The stores of material of cultivated and wild types of animals and plants which is scattered over the globe is immense, and while heretofore zoologists and botanists have been busy getting dried plants and preserved skins for our museums, the time has come when they should get living material which will have a bearing upon the welfare of the human race.

The Department of Agriculture, through its agricultural exploration work, has made a beginning and has already over ten thousand importations of which it has careful records. This work has been materially assisted by the private beneficence of Mr. B. Lathrop, of Chicago, who has given years of his effort and many thousands of dollars to put the Secretary of Agriculture in touch with all parts of the globe. Our plant-breeders are benefited greatly by these new importations, and a number of species and varieties of plants have entered widely into commercial use, and the increased annual values from this source is already enormous. Dr. Fairchild made numerous suggestions as to further needed investigations in foreign countries, looking to the importation of plants and animals. He gave a new and much broader view of the subject of animal introduction than had ever before been publicly considered. Some foreign species should be imported for use in crossing our domestic species and thus produce new animal hybrids, as is now being widely and successfully done in plant-improvement.

COMMERCIAL CORN-BREEDING.

Mr. J. D. Funk, Bloomington, Ill.

Commercially the corn-breeder must have one aim and only one, that is utility. The acre is the farmer's unit. There are three ways to increase his profits per acre: improvement of fertility, improvement of culture, and improvement of productiveness of seed. The commercial breeder of corn must increase the number of shelled bushels of grain per acre, and also increase the feeding value of the bushel. On farms aggregating 25,000 acres in area, Mr. Funk and his partners breed a number of varieties of corn. They have twenty or thirty isolated, small fields, or corn nurseries. On each are planted the seeds from fifty or sixty numbered ears of a certain variety, each ear being planted in a given row, which is also numbered. Before tasselling, all plants that are seemingly barren of an ear are detasselled, and weak or objectionable rows are entirely detasselled and thrown out. Each row is husked separately and the corn weighed. By this means is secured the yield per plant of the progeny of each mother-plant. From each of the eight or ten rows giving the highest rate of production, thus showing their mother ears to have had the highest breeding-power, are saved several of the best ears for mothers of rows in the next year's nursery. From these same best rows, seed is also saved for larger plots, the yield for which the next year are also recorded. The yields of the mother-plants, their centner yields in nursery rows, and the yields of the field-plots, become performance records of the strain of corn as the individual track-record and the record of numerous of his progeny, become the performance records of the trotting-horse.

BREEDING EXPERIMENTS WITH DOMESTIC ANIMALS.

Dean Charles F. Curtis, Iowa Agricultural College.

Experiments in progress or contemplated at the Iowa Experiment Station were outlined. An attempt is being made to procure sheep suited to use on the Western ranches. Galloway and Shorthorn cattle are being crossed to produce "blue-gray" hybrids. Professor Curtis and his associates are famous winners of prizes at fat-stock shows, and he naturally looks for some of his results along that line. He has been conducting these experiments for a number of years and presumably will

(Continued on page 96.)

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FOR SALE—Mammoth Bronze turkeys, large bone, fine plumage; 2 pens not akin. Eggs in season. Address, Mrs. T. M. Fleming, Route 3, Fontana, Kans.

PURE White Wyandottes for sale. Eggs for sale in season. \$1 for 15. Darby Fruit Co., Amoret, Mo.

R. C. W. LEIGHORNS, R. C. B. Minorcas for sale. \$1 each. Eggs in season. (Mrs. A. D. Corning, Meredith, Kans.)

FOR SALE—H. C. Short, of Leavenworth, Kans., desiring to give his whole time to breeding of S. C. B. Leghorns, will sell his entire flock of S. C. White Leghorns, of the Cornell and Knupp strains. Birds 1st as pen, Topeka, January 1904.

EPH. SIMPSON, 19th and Washington St., Topeka, Kans., has for sale cockerels scoring above 88 points and eggs of Black Minorcas.

WHITE WYANDOTTES, (Dunston strain), \$1 to \$2 each. Eggs in season. J. W. Park, Route 1, Oswego, Kans.

BARRED PLYMOUTH ROCKS—Cockerels and pullets. Write for prices. E. W. Caywood, Clifton, Kans.

BLACK LANGSHANS—For sale; also choice White Holland Turkeys. Mrs. John Parsons, Clearwater, Kans.

FOR SALE—Black Langshan cockerels. Extra good, satisfaction guaranteed. Mrs. E. W. Stephenson, Box 202, Elk City, Kans.

CHOICE B. P. Rock cockerels and Collie pups for sale. Send for circular. W. B. Williams, Stella, Neb.

FOR SALE—S. C. B. Leghorn cockerels. Write your wants. Adam Andrew, Girard, Kans.

FOR SALE—S. L. Wyandotte cockerels, \$1 and \$1.50 each. Frances Howey, R. 1, Topeka, Kans.

PURE B. P. R. cockerels, at \$1 each. Eggs in season. S. E. Cook, Box 36, Elk City, Kans.

BLACK LANGSHAN COCKERELS with score card by Rhodes, from stock that won \$10 sweepstakes at Wamego Poultry Show. James Bottom, Onaga, Kans.

BLACK LANGSHANS FOR SALE—Some are scored; all are extra good. Mrs. Geo. W. King, Solomon, Kans.

SECURE your B. P. Rock cockerels in time. Fine large cockerels ready for shipment. Write for prices. Mrs. J. C. Leach, Carbondale, Kans.

FOR SALE CHEAP—Pedigreed Scotch Collie pups. W. H. Richards, V. S., Emporia, Kans.

DONT WAIT! BUT send at once: birds have won twenty-three firsts, and sixteen second premiums at leading shows. Chris Bearmans, Barred and White Plymouth Rocks, Ottawa, Kans.

BARRED PLYMOUTH ROCK cockerels from \$1.50 down. Good birds. Write your wants. My birds will please you. Eggs in season. Adam A. Weir, R. F. D. 2, Clay Center, Neb.

S. C. B. LEIGHORNS—Choice cockerels for sale. Eggs in season, \$1 per 15; \$4 per 100. J. A. Kauffman, Acme, Kans.

FOR SALE.

Ten varieties of pure-bred poultry. Catalogue and price-list sent free. Address: H. H. HINIKER, Route 4, Mankato, Minn.

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Silver Laced and Pure White, and White Holland Turkeys. High-grade birds for sale at reasonable rates. Write wants to R. B. WALLACE, Stafford, Kans.

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Forty Buff Plymouth cockerels of Burdick strain. Every bird will score from 88 to 91 points. Pen at Topeka show Jan. 1904 scored from 89 to 92 points. One cockerel and five hens, weight from 8-lb. cockerel to 6-lb. hens. Homer Davis, Walton, Kans.

FOR SALE.

Three hundred choice Light Brahmas, sure to please our customers. Write for what you want and we will make you prices that are right for the choice stock that is offered; these are the best lot of Brahmas we have ever offered. Eggs in season. Address F. W. Dixon, Holton, Kans.

1,000 HEAD OF

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Over 300 prizes won in last two years on my poultry. 600 head of Barred, Buff and White P. Rocks, S. L., Buff and White Wyandottes, Black Langshans, Buff Cochins, and S. C. Brown and White Leghorns. 200 Pekin, Rouen, White and Colored Muscovy ducks, Toulouse and Exeter geese, 200 M. B. and W. H. turkeys of heavy weight. Write for prices. GEO. A. HEYL, Washington, Ill.

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Three Grand Yards of the Best Strains in the Country

White Plymouth Rocks hold the record for egg laying over any other variety of fowls; eight pullets averaging 289 eggs each in one year. I have some breeding stock for sale at reasonable figures. Eggs in season, \$2.00 per 15, expressage prepaid anywhere in the United States. Yards at residence, adjoining Washburn College. Address THOMAS OWEN, Topeka, Kansas.

The Buff Plymouth Rocks
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Are Better Than Ever. At State Fair at Hutchinson 1903, I won in warm competition, 1st cock, 1st hen, 1st pullet, 1st pen, 2d pen.

No Better Buffs Can Be Found.

Eggs from my two best pens, 15 for \$2; 30 for \$3.50. They are in the \$5 class. A few good cockerels for sale, \$1 to \$2. Mammoth Bronze turkey eggs, 11 for \$2.

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The Poultry Yard.

CONDUCTED BY THOMAS OWEN.

Coming Poultry Shows.

January 27-30, 1904, Emporia, L. G. Alvord, secretary.
February 1-3, Manhattan, Geo. C. Wheeler, secretary; C. H. Rhodes, judge.
February 4-10, Manhattan, Kansas State Agricultural College Poultry Institute, Prof. Geo. U. Wheeler, superintendent; C. H. Rhodes, instructor.
December 7-12, Newton, R. R. Hobbie, secretary; F. W. Hitchcock, judge.

The Early Chicks.

EDITOR KANSAS FARMER:—This is the beginning of a very important year in this history of the territory embraced within the circulation of your valuable paper, and I hope that your readers are going to take advantage of it. The World's Fair of 1904 is almost upon us, the celebration of the Louisiana Purchase. There will be hundreds and hundreds of thousands of visitors in attendance at St. Louis during the event, and they will need to be fed. There is going to be a tremendous demand for chickens and eggs, and the farmers tributary to the territory adjacent to St. Louis must furnish the bulk of the supply. What proportion of this vast amount of eatables are you planning to furnish, dear reader? Frying chickens and fresh eggs are going to bring a good price, and you may depend upon it that they are going to be in demand and can be sold at a price considerably above what you have usually been getting.

It is high time that you were arranging to have the chicks coming on. Are your hens sitting? I fancy I can hear many of you say, "No," for I feel sure that sitting hens are a scarce article the country over. Then how are you going to get them hatched? is the question, and the answer comes in the same breath: with an incubator. I trust that all readers of the FARMER have had the pleasure of seeing an incubator at work. But perhaps you have not. Years ago, when I first began the poultry-business, incubators were scarce and very crude affairs at that. The inventor had an elephant on his hands in that respect. I well remember my first one, a machine sceduled to hold 200 eggs. With fear and much curiosity I placed the first 200 eggs in the thing, and waited patiently for three weeks, for at the end of that time I confidently expected to have a large flock of chicks, but when the time rolled around I had a tray full of well-cooked eggs, for the machine proved to be a misnomer as a hatcher. The copper tank containing the water held some twenty-one gallons; and when filled and brought up to the boiling point, the temperature got to going up at such a rapid rate that there was no stopping it, and the machine having no regulator, there was no other alternative than to let the eggs become hard boiled.

By the time that the eggs in the center of the egg-try were at the proper temperature, those in the outer rows were as yet cold, and by the time the outer ones were at the proper heat, those in the center were cooked. Hence I made very poor headway with that machine, and although I finally succeeded in getting some chicks out, by omitting those from the center of the machine, I got enough of it and traded it for a pen of Barred Plymouth Rocks, and they soon died of the roup, and thus the matter ended. I bought other machines and some of them did very well, but not until a more recent date have I succeeded in getting a machine that I called trustworthy.

I have paid all the way from \$12 to \$40 for machines, and the less reliable of the lot were the higher-priced ones, and I can say with truth that the idea that a machine has to cost a certain sum before it is to be depended upon is a mistake, for the best and most reliable machine I have come across so far is one that I paid \$11 for, and it holds just 120 eggs. When I set this machine I am pretty sure of getting all the way from 95 to 110 chicks from the eggs placed in it, depending, of course, on the freshness and general quality of the eggs. A neighbor of ours became enterprising and con-

cluded to go into the poultry-business. This was in December, 1902. She came to me for advise in regard to the proper machine to buy and the size, and some other matters. I took pleasure in advising her, and I persuaded her to get the same size and make of an incubator as my own, which she did. She set her machine for the first time early in January, 1903, and her first hatch was 95 chicks from 98 fertile eggs. She raised to broiler size 92 of those chicks and they brought her about \$40, a neat little sum as a beginner. She kept that machine going right along, not allowing it to cool off, until in June, and during that time she hatched out between 600 and 700 chicks. Thus you see what can be done by one woman, and a beginner in the business at that. Far too many farmers imagine that they need machines of large capacity to do any business, when that is a mistake, as this instance proves. A machine of small capacity hatches better, as a general thing. The machine that I am now using takes up very little room; and when placed in my dining room, which, by the way, is not very large, it is out of the way and is handy for me.

Do not understand by this that I have to sit up with the machine of nights. I see it early in the morning, when I fill the lamp and trim the wick, turn and air the eggs, and the job is finished. I repeat this in the evening, most generally after the milking is done, the chickens fed and shut up for the night, and other work over. The filling of the lamp, trimming of the wick, and airing and turning of the eggs requires not to exceed five minutes of time, and is over before one would hardly think about it.

The time required for allowing the eggs to remain out of the machine varies from five to thirty minutes, owing, of course, to the advanced condition of the chicks in the eggs.

Cooling the eggs expands and contracts the shell, and this, with the turning process, furnishes the embryo chick the only exercise it needs, and we should see to it that this is attended to regularly. The more we exercise the eggs the stronger the chicks will be, and the stronger they are the more chance for them to hatch and reach maturity.

If you are a breeder of Leghorns what are you to do for early chicks? For it is claimed that this breed is a non-sitting one. If you desire a hatch of early chicks and your hens refuse to sit, how are you to manage it so that you will have them? This is a question of vital importance, and you should consider it now, while it is yet early, and not put the matter off until the time is here for setting your eggs, and no hens are wanting to sit. With the incubator you hatch out a brood all of the same age and size, and if they are pure-bred, all of the same color. With the hen you must drag along, setting a hen now and another one later on, and chicks coming off now and then, only a few of the same age, and the whole thing is mixed up.

We must pay more attention to the incubator, for a good, reliable, trusty one in the hands of any farmer's wife is a veritable gold mine. The incubator is no longer an experiment, but a reality, and there are good ones on the market. It took me quite a while to find one that suited me, but it is all plain sailing now with the one I have, and it costs so little that any farmer can afford to own one of them.

One lady in Kansas wrote me not long ago that last year she borrowed the money to buy one of these machines, and after erecting a \$65 brooder-house, with many other expenses during the year, she came out at the end of the year with \$50 in the bank, and there are hundreds of other women who have done equally as well, even better.

I could recite many instances of this character, but people are certainly waking up to the importance of the many advantages of the incubator over the hen as a hatcher. Get a breed of hens that do not sit, and keep them at work shelling out eggs and put these into the incubator and turn them into chicks to feed the throngs at the

CHICKENS Sound and Strong ones easy to raise, and the BEST FEED HATCHING THEM to get them. It is incubators. Booklet free. F. Grundy, Morrisaville, Mo.

\$80 A MONTH SALARY And all expenses to men with introduction our guaranteed poultry and Remedies. Send for contract; we mean business and wish best reference. G. R. BIGLER CO., 445 Springfield, Mo.

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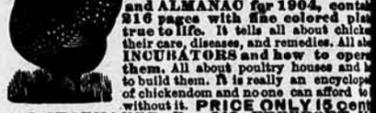
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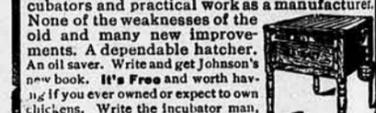
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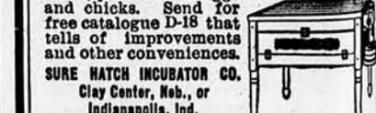
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HOUSE GESESE-Partridge Cochins. Three... also some cockerels and pullets for sale in season. Address Mrs. G. A. Rhoads, 1011 Kans.

SALE-50 choice R. C. B. Leghorn cockerels, or six for \$5, in season. O. B. Smith, 1011 Kans.

FOR SALE-From well-mated hens, raised by S. L. Wyandottes, S. S. Hamburgs, and Barred Plymouth Rocks, \$1 per 13. Trios Wyandottes, \$5 each; cockerels of first three especially fine Wyandotte cockerels. Write to Jewett Bros., Dighton, Kans.

HOLLAND GOBLERS-From first brood, \$1 each. E. T. Melville, Eudora, Kans.

HOMESTEAD POULTRY FARM-Pure Wyandotte and S. C. Leghorn cockerels for sale, or two for \$1.50. Send your orders. Williamsburg, Kans.

COLLIE PUPS-Four more litters of high-bred Collies, from 1 to 3 weeks old, for making orders now. Walnut Grove Farm, Dighton, Prop., Emporia, Kans.

SALE-100 B. P. Rock cockerels from the Thompson ringlet and Latham strain, standard and color; price, \$5, \$3, and \$2 each. Pen 1, \$5; pen 2, \$3; pen 3, \$2; range, \$5; for beauty and utility. Address Mrs. Nathan, Carbondale, Kans.

RAISED B. P. ROCK COCKERELS-Selected; for sale at \$1, or two for \$1.50. Must be from Mrs. L. E. Crandall, Crandall, Kans.

ED ROCKS-Some extra nice cockerels for sale at \$1 each. J. A. Sawhill, Edgerton, Co., Kans.

PER MONTH straight salary and expenses for men with rigs to introduce farm remedies among the farmers. We meanly furnish bank references of our reliability, however unless you mean business. Address, MFG. Co., Dept. 13, East St. Louis, Ill.

True Bred Poultry. Our 75 breeding pens contain the best fowls of the best varieties. We have All the Standard Breeds. Our Poultry Farm contains more high grade poultry than any other farm in this country and is produced from a long line of prominent prize-winners. Our COMPLETE POULTRY BOOK, postpaid for 4c. Worth many dollars to you. Write for it today. ROYAL POULTRY FARM, Dept. 481, Des Moines, Iowa.

IGHT BRAHMAS. Cockerel and let pen at the Kansas State Show for sale (with score-card by Rhodes.) Name what you want and I will try to please. BROWN.

ng Prairie Poultry Farm, Onaga, Kans.

FOR SALE. E. C. FOWLER, 427 Shawnee Ave., Topeka, Kans.

Langhan cockerels for sale, by prize-winner at Chicago, St. Louis, and Kansas City, Mo. Had 46 birds at Topeka 1904 show. Took 1st prize for largest display in Asiatic class. All bring over 91 points. Has made a specialty breed for past 12 years.

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dition Powder (BERK'S REM) which years of experience has proven infallible remedy and preventive of Cholera, as well as Distemper and dysentery in live stock. Send for list of testimonials of leading Kansas breeders, and a box. Price 50c. Manufactured and sold by J. H. SCHLEGEL & CO., Topeka, Kans.

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Red Plymouth Rocks, White Plymouth Rocks, Buff Cochins Partridge, Light Brahmans, Black Langhans, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs, Leghorns and Belgian Hares. Class Standard Stock of Superior Quality. Stock For Sale. Eggs in Season. Your Wants. Circular Free.

H. DUFF, Larned, Kans.

SALE---Cockerels and Pullets

Famous Winter-Laying Barred Rocks. Skinner's Prize-Winning Cochins. Won at Missouri State, Kansas City, Fort 1904 Topeka Shows. Address E. SKINNER, Columbus, Kans. Beautiful Catalogue free.

World's Fair that is soon to be here. The incubator breeds no lice or mites, never leaves the nest, nor breaks its eggs, and sits just when and where you want it to. A few dollars invested in a machine will glad-den the heart of your good wife as well as the children and at the end of the year I am sure that you will agree with me that it was a good move. Many men and women have written to me in regard to this matter of incubators, and I deem it a special pleasure to reply to all, providing, of course, a two-cent stamp is enclosed for a reply by mail.

This matter of an incubator is an important one, and one that should be seen to now, so that you may make your purchase early and have the machine on hand for immediate use when needed. At some future time I will be glad to tell you how I operate my machine, and how I feed my chicks, and care for my old fowls to make them lay to the best advantage.

FRED H. PETTS, Warsaw, Missouri.

A Cure for Roup.

EDITOR KANSAS FARMER:-I notice you have frequent inquiries for a roup remedy. The simplest and most effective remedy we ever tried is simply smoking the fowls with gas tar. This you do at night when the chickens are all on the roosts. Take an old kettle with a few live coals in it, and smear tar on old rags or sticks and lay on coals and you will soon have your hens sneezing. We have a spray filled with gas tar and crude carbolic which we use frequently around the hen-house, also around the hog-house and cow-barn, and we find it quite satisfactory.

J. W. KRAFT, Saline County.

Black Hamburg Poultry.

EDITOR KANSAS FARMER:-Can any of your readers tell me where I can get pure-blooded Black Hamburg poultry? Dickinson County. ARTHUR CHILD.

Poultry Show.

EDITOR KANSAS FARMER:-I would like to call your attention to the coming poultry-show at the Kansas Agricultural College. We are not planning on a very large scale, owing to the fact that no money is appropriated by the college for the purpose, and we have no means of providing premiums and other expenses. We have decided, however, to attempt to hold a small show, granting ribbons and score-cards to winning exhibitors.

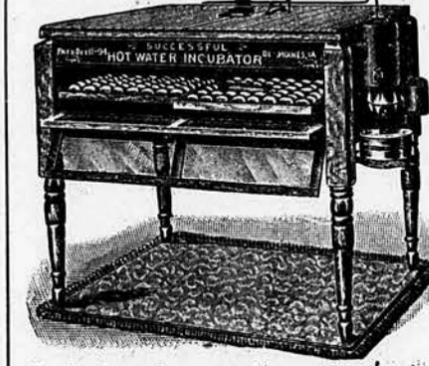
No entry-fee will be charged. Judge Rhodes will score the birds and sign score cards. The show will be held the first three days of February and provision will be made to care for all birds sent here. Judge Rhodes will remain a whole week and poultry instructions will be given to the short-course students during the whole week, both in the class-room and the judging-room. G. C. WHEELER.

Everest, Kans., Jan. 11, 1904.

EDITOR KANSAS FARMER:-Will some one, through the KANSAS FARMER, give plans and cost of an up-to-date poultry-house that will accommodate 100 chickens? BROWN COUNTY.

Successful Incubation.

That incubators have reached the point where there seems to be little room left for improvement is apparent from some of the remarkable hatches produced by



the best modern machines. In the last few years, probably no other line of manufacturing has shown greater advancement. As is always the case in a growing business, there has been sharp and keen

competition in the making and sale of incubators, but the honest and reliable house, with a machine capable of making its own way, will eventually take the lead. The less obliging firm, which is not so fortunate in the possession of a faultless machine, must inevitably lose out in the long race. The makers of the Successful Incubators and Brooders, the Des Moines Incubator Company, of Des Moines, Iowa, have undoubtedly done much toward bringing the incubator up to the state of popularity and efficiency that it now enjoys. That the leading poultry-raisers of the entire world recognize the high value of Successful Incubators and Brooders, is shown by the steady flow of orders for the machines. From time to time the company has been compelled to enlarge its plant, until at present they have one of the largest and best-equipped factories in the world. The illustration above is one of their famous machines.

A feature of the Des Moines Incubator Company worthy of note is that they are not alone manufacturers, but are in the poultry business on a grand scale themselves. They have one of the largest and finest assortments of fancy fowls to be found anywhere. In the poultry world, their establishment is known as the Royal Poultry Farm. It numbers over a hundred pens of fine fowls of all classes. They publish an elegant separate poultry catalogue. To readers of this notice who write the company requesting it, both the incubator and poultry catalogue will be mailed free of charge. The advertisement of the Des Moines Incubator columns, and is worthy the attention of our readers.



The Harper Forge Offer.

Farmers as a rule are not helpless in matters of repairing. But it must be confessed that as a general thing there is a sad lack of tools on the farm for this purpose. A little thought would convince any one that a good set of tools, such as would enable the farmer to do all his ordinary repairing, is money well invested. We write this in the light of the C. R. Harper forge offer in another column. Hardly a single day in the year but the average farmer could use to advantage one or more of the group of blacksmith tools offered by this company. Many a time he would avoid a breakdown or a half a day at the shop and a considerable repair bill, saving in a single day as much as the whole Harper outfit would cost. The company manufactures an excellent line of blacksmith tools. All the items mentioned in the ad are specially adapted to the farmer's use. They make a specialty of steel forges. A good forge is the basis of any really valuable set of repair tools. Their offer is of special interest right now because for a limited time, as set forth in the ad, they are presenting free one of their large hearth, ball-bearing forges to every purchaser of their repair outfit. There is nothing offered in the set but that will have frequent use, as anvil, vise, drill set, drill frame, etc. The Harper Compan is well established at Marshalltown, Iowa, and is well-known as a dependable concern for people abroad to deal with. We believe that this would be a good time for our readers to secure a set of tools and that they will find just what they have often felt the need of. The manufacturers pay the freight and send the outfit on approval, so that anyone may feel safe in dealing even though he does not know of the reliability of the company.

Our readers interested in reliable power for work about the farm, dairy and shop should note the advertisement of the Temple Pump Co., Chicago, who offer on favorable terms a two-cylinder engine claimed to be without a peer. They furnish sizes from 2 horsepower up to 16 horsepower. It is light and easily portable on any ordinary farm wagon. It is especially adapted for irrigation in connection with their centrifugal force pumps.

Our Cook Book Offer.



The White House Cook Book, 590 pages, comprehensive treatise on carving. All kinds of cooking and baking. Everything from soup to nuts. Cooking for the sick. Health suggestions. Kitchen utensils. Family recipes. Toilet items. Dyeing and coloring. Measures and weights, etc. Prepared by the former chef of the Hotel Splendide, Paris. Regular price, \$2. Our price with the Kansas Farmer for one year, \$2. The two for the price of one, delivered to you.

Address, Kansas Farmer Company, Topeka, Kans.

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Farm Engines and How to Run Them.

THE YOUNG ENGINEER'S GUIDE. By Stephenson, Maggard & Cody, Expert Engineers. Fully illustrated with about seventy-five beautiful woodcuts. A complete instructor for the operator or amateur.



The book first gives a simple description of every part of a boiler and traction or simple stationary engine, with definitions of all the technical terms commonly used. This is followed by over 80 test questions covering every point that precedes. Then come simple and plain directions to the young engineer as to how to set up and operate his engine and boiler, followed by questions and answers to what should be done in every conceivable difficulty that may arise, covering such subjects as scale in the boiler, economical firing, sparks, pressure, low water and danger of explosions, lining and gearing the engine, setting the valves, oiling, working injector and pump, lacing and putting on belts, etc. There are two chapters on farm engine economy, giving the theory of the steam engine, especially in its practical applications to securing economy of operation. Chapter XII describes "Different Types of Engines," including stationary, compound, Corliss and high speed engines, and all the leading makes of traction engines with an illustration of each. Also chapter on gasoline engines and how to run them, and another on how to run a thrashing-machine. The book closes with a variety of useful recipes and practical suggestions and tables, and 175 questions and answers often given in examinations for engineer's license. Beautifully illustrated with plans, etc. 12mo cloth. Price, \$1. Given with one year's subscription to the Kansas Farmer for \$1.50, postage prepaid. Address Kansas Farmer Company, Topeka, Kans.

Now is the time to take advantage of our Blocks of Two. Read our offer on the first page.

First Annual Meeting American Breeders' Association, St. Louis, Mo.,

(Continued from page 93.)

have some illustrations of his work in the live-stock exhibit at the World's Fair next autumn. Dean Curtis is chairman of a sub-committee, appointed by the American Association of Agricultural Colleges and Experiment Stations, to have charge of an exhibit of methods of instruction and experimentation in animal-feeding and in animal- and plant-breeding in a pavilion the exposition authorities are erecting for that purpose. This committee, consisting of Dean C. F. Curtis, Dean H. J. Waters, and Prof. W. M. Hays, met during the week and plans are being matured for an exhibit along these lines by the agricultural colleges and experiment stations. The new breeders' association may assist in this exhibit.

NEW GERMAN BOOK ON BREEDING.

Professor C. Fruwirth, of the Agricultural College of Hohelm, Germany, presented to the association a new book, printed in the German language, in which he outlines the general subject of plant-breeding, either for college classes or to be used as a manual

proach in economic or artistic value the desired hybrid.

TEACHING THREMMATOLOGY.

Dean E. Davenport, University of Illinois.

Dean Davenport, in a paper sent to the meeting, suggested the term "Thremmatology," which is recognized in the dictionaries, for general use to designate the whole subject of evolution under the influence of man. Simplifying the name of the association to that of Breeders' Association may make it less necessary to give this longer word general adoption. Dean Davenport said that he found the subject a most difficult one to reduce to pedagogic form. The theories of evolution are not only many, but apparently in vital respects diametrically opposite. Dean Davenport urged that we be very conservative about adopting theories, but that the work of delving for facts be pushed forward vigorously, as the need of proper theories in animal- and plant-breeding is great.

INVESTIGATIONS INTO THE HEREDITY OF SPORTING VARIETIES.

Prof. Hugo de Vries, who has gained world-wide recognition on account of his studies of radical or marked varia-

and animal-breeders that the breeding should be done as nearly as practicable under the general conditions for which the variety or breed is to be commercially used. He urges the breeding on the ranches of hardy, rustling types which will mature early and grow large under the more severe conditions of the ranch.

PLANT-BREEDING AS A FACTOR IN CONTROLLING PLANT DISEASES.

Mr. W. A. Orton, United States Department of Agriculture. Read by Dr. Webber.

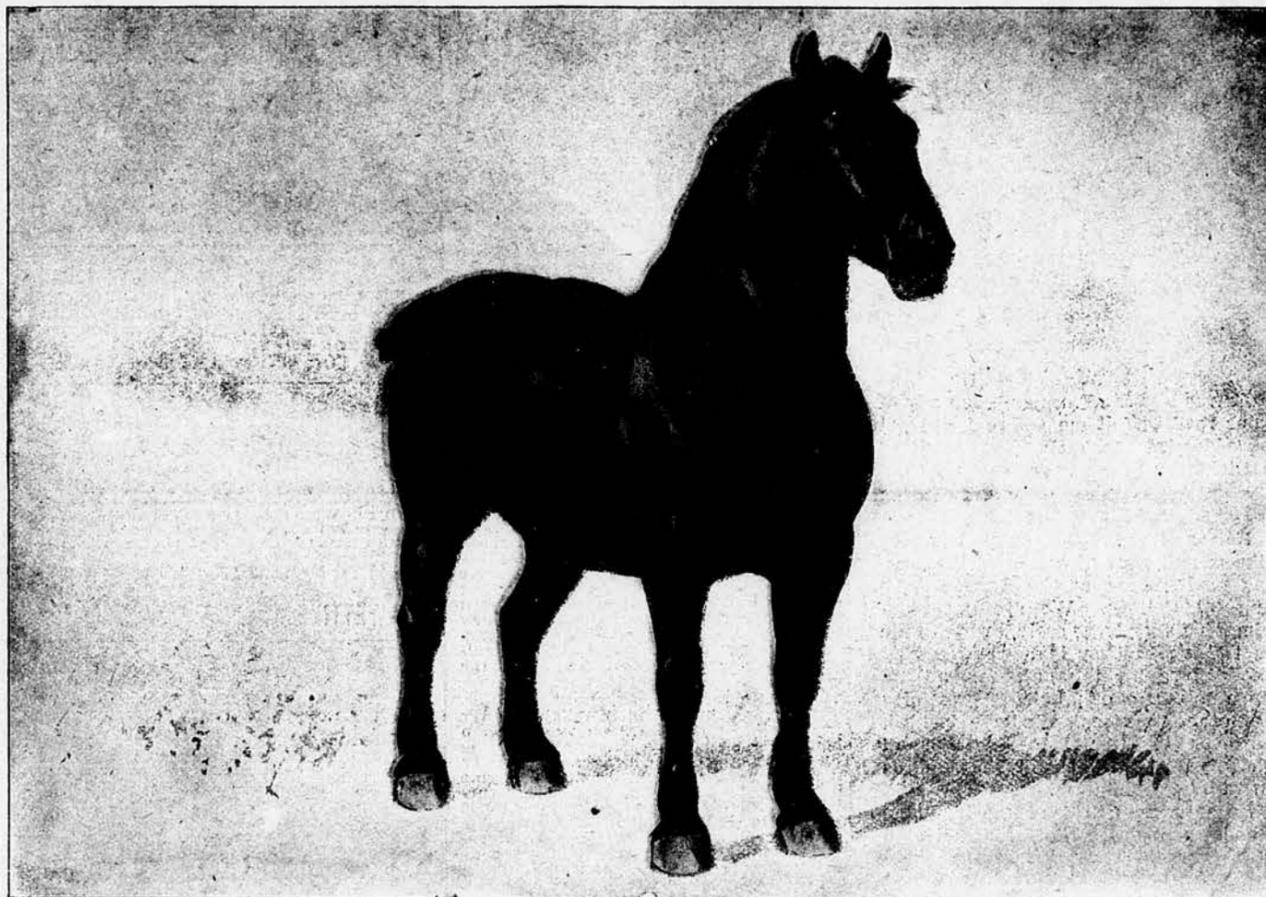
Hybrid watermelons resistant to the dreaded watermelon wilt have been obtained. Sutton of England, has produced potatoes resistant to the disease called "Phytophthora." Millard produced disease-resistant grapes, and Nilsson has produced a vetch resistant to Peronospora. The United States Department of Agriculture has developed strains of cotton resistant to the cotton-wilt. The best of these, the Rivers' Sea Island varieties, produce full crops of cotton of high quality on the worst wilt-infected land. This department has also originated the iron cow-pea, which is entirely resistant to the cow-pea wilt, and also to root-knot caused by nematodes. Other new hy-

sociated with bringing the new products into general use. Inventors create new values, and creative breeders who add to the transmitting efficiency of plants and animals are in that they too often do not see for themselves reasonable remuneration. Our patent laws promote mechanical invention, but other must be used to promote breeding difficulties and especially the long required in most important lines of animal- and plant-breeding, place the exploitation of this work outside methods employed in the promotion of large, modern industrial, transportation, and merchandising concerns. promoter tersely answers the man who has large plans for commercial breeding and the merchandising in bred animals, seeds, and plants. "Your plan would not strike investors because it is a long-time proposition. They demand quick returns." You need a large number in the business creating new values along economic and artistic lines in animals and plants and still larger numbers who multiply these new varieties and breeds foundation stocks for the commercial growers of animals and plants. The public, who are the final beneficiaries of these new values should pay bills, or rather they should render a reasonable share of the large value they thus receive nearly free. The public generally gets between 90 and 100 per cent of the benefits of new inventions and of new plant- and animal- creations.

New methods need to be worked out to give better rewards to those who create new values, and growers of pedigreed stock and growers of pedigreed plants, so that they may get a larger share and that the more profitable business may induce many more to enter these fascinating vocations.

The Minnesota Experiment Station during the past six or eight years worked out a plan of distributing varieties, originated a dozen years ago which has proven much better than the gift-package system used by some other varieties. For example, "Minnesota No. 169 Wheat," which was originated from a single wheat-plant in 1892 after passing through the breeding nursery and field-plot tests for years, increased to fifteen hundred bushels and sold in 1902 to fifteen hundred farmers, at \$1.50 per bushel. It was double the price of ordinary wheat, and established a high price for the seed of this variety. In 1903, the four hundred seed cooperators, including seed firms, who received in larger quantities at the same price sold for seed or planted probably ten or twenty thousand bushels of this new variety. There is now little with the experiment station, or known to exist in the granaries and seed houses of the State between fifty and one hundred thousand bushels of this variety suitable for seed in 1903. The facts that this variety has won the many trials at the Minnesota and other experiment stations during eight years, and on hundreds of farms in the State in 1902, average 18 per cent better in yield and as good in quality as the common five and six stem wheats, nearly universally grown through the State, are serving as a performance pedigree, giving the holder of this seed something like 50 per cent profit per bushel. This margin of profit is sufficient to induce holders to learn about the new wheat, and to advertise it in the country and agricultural press of the State. These advertisements, in turn, aid by inducing editors to write editorials, all adding to the publicity and the demand for the new variety.

The statistical methods in plant-breeding now being widely adopted give courage that measures instead mere artistic inspection can be widely adopted even in the breeding of meat-producing animals. Some data was given as to how statistical methods can be used in producing breeds of hogs with higher fecundity, resistant to hog-cholera, etc. Suggestions were made outlining several methods of testing cows three days in each month, as to secure the amount of food consumed and the amount of their product, that the net returns from each



IAMS' ALGERIAN (52673).

Black Percheron, 2 years old, weight 1980 pounds. A sensational, fast-moving "wide-as-a-wagon drafter, a sparkling black diamond, imported and owned by Frank Iams, St. Poul, Neb. The ribbon-grabber at 1903 Nebraska Fair.

by breeders, using illustrations from animal-breeding.

CORN-BREEDING IN THE UNITED STATES DEPARTMENT OF AGRICULTURE.

Mr. C. P. Hartley, of the United States Department of Agriculture.

Mr. Hartley gave a record of numerous valuable experiments in corn-breeding made by the plant-breeding laboratory of the United States Department of Agriculture.

EXPERIMENTS IN CORN-BREEDING.

Dr. Cyril G. Hopkins, University of Illinois.

This paper which was not presented in person, gives a record of Dr. Hopkins' widely known experiments in breeding corn for increased percentages of protein, oil, starch, etc.

BREEDING FROM TAME VS. WILD SPECIES.

Mr. H. W. Groff, Sincoc, Ontario.

Returning to primitive types for material to use in plant-hybridizing has generally resulted in a large crop of unsuitable plants which might be called breeder's "weeds." Most progress is made when the hybridizer keeps as far as possible from the wild species. In hybridizing it is generally better to choose species for mating, both of which, as nearly as may be, ap-

proach in economic or artistic value the desired hybrid. Professor de Vries believes that these inconstant varieties should be studied for scientific results and even used in the production of commercial varieties. Our prospects in ameliorating our cultivated races largely depend on our knowledge of the laws of inheritance and variability. The most variable types afford the best chances for studying these laws. Among these the sporting varieties are the most useful.

BREEDING FOR AND ON THE RANCH.

Dean John H. Shepperd, North Dakota Agricultural College.

Custom has been heretofore to breed the males needed for the Western ranch herds in the agricultural regions east of the short-grass country. Under this plan, the assumption is, that animals bred to suit the climate, food, soils, methods of stabling, etc., of the States on the Mississippi River, will best serve the purposes of the ranchmen and farmers in the semi-arid country in the west side of the great plains region and the elevated valleys of the mountain regions. Professor Shepperd recognizes the general belief of plant-

brid cow-peas have been obtained, also resistant to both of these diseases and of better yield and quality.

It has been found practicable to breed for resistance and at the same time increase the value of the other desirable qualities of the variety. Mr. Orton emphasizes the selection of individuals and particularly for the resistance of their "blood" to disease as shown by the disease resistance of a large number of the progeny of individual mother plants. Hybridization should be resorted to when selection fails to accomplish the purpose. In using hybridizing as a means we sometimes have the added difficulty of fixing the types. There is no likelihood that the fungi causing disease will change their habits and become parasitic on the resistant strains.

BREEDING SOY-BEANS.

Prof. H. F. Roberts, Kansas Experiment Station.

A brief report was sent in of two years' work in breeding soy-beans.

DISTRIBUTING VALUABLE NEW VARIETIES AND BREEDS.

W. M. Hays, Minnesota Experiment Station.

The creation of new values in animals and plants is most intimately as-

al cow in high-priced breeding where performance pedigrees specially desired, may be known. It seems no more impossible to breed the diseases of injurious insects to make them more effective than some of our insect enemies. It is to breed yeasts so as to alter the flavor of beers, or to alter the smallpox infection so as to select the less virile vaccine.

In one case, "Minn. No. 13 Corn," Minnesota Experiment Station carried the matter of statistical methods and while the yield was increased and the corn made earlier, so carry it nearly fifty miles further west along the north zone of the corn belt, its appearance was not enough attended to, making it attractive in the seed stores, and easily distributed widely than it has been had more of the seeds of modern artistic corn-judging adopted. But ordinarily the fault of breeders has been to pay attention mainly to external appearance and not sufficiently after the intrinsic qualities. The unit of value to be attained is the net returns per acre and not, i. e., the value of the product less the cost, all things considered. This paper is given here, more in full, because time did not permit of its being read, and upon request.

OBSERVATIONS OF HEREDITY IN WHEAT.

Charles E. Saunders, of the Canadian Experiment Stations, produced a number of new hybrid wheats at the experimental station at Ottawa, Canada.

WHEAT-BREEDING IN CANADA, ITS OBJECTS AND RESULTS.

William Saunders, Director of the Dominion Experimental Farms, Ottawa, Canada.

William Saunders is a veteran wheat-breeder, having begun wheat-breeding in 1899 and having bred raspberries and other crops at a still earlier date. He showed that Preston, Stanley, and other noted Canadian wheats, bred by him, have been widely distributed throughout the entire Dominion. Present wheat has recently been tested as to milling and baking qualities by experts and by experts in the University of Minneapolis. These men have stated that this wheat is practically as good in quality as Red Fife, known in the Northwest as hard spring wheat. The fact recently brought out, together with the fact that this variety has been in the lead in yield per acre in the experimental stations in Canada, makes it a very high yielder in the experimental station plat tests of some of the best wheat fully warrants the statement in this one wheat Dr. Saunders has made many times over paid his country the large expenses heretofore incurred in the management of a system of experimental farms distributed throughout the dominion, which were organized under his leadership. Dr. Saunders early undertook the task of finding or finding earlier maturing varieties of wheat with which to extend the wheat area to the northward at vast expense of rich prairie northwest of Winnipeg, equal in quality to several States. He already has nearly a week earlier in ripening and excellent in yield and quality. The association most cordially greeted Saunders.

ING HARDY FRUITS IN THE NORTHWEST.

N. E. Hansen, South Dakota Agricultural College.

Professor Hansen spoke from notes, giving a very brief statement of his experiments at Brookings, South Dakota, with fruits and vegetables. He mentioned his experiments in hybridizing the sand-cherry with other related species, hybridizing tame wild strawberries, hybridizing peaches and peaches so as to secure new forms and numerous other lines. The writer has recently visited Professor Hansen's breeding nurseries, where are growing a quarter of a million seedling plants, most of which are of his own production, and is glad to corroborate a statement recently made, that Professor Hansen is among breeders of horticultural plants in the State experiment stations

of America. Professor Hansen announced the production of graft hybrids, a new and wonderful evidence of the plasticity or adaptability of living substance.

BEAN-BREEDING.

Prof. B. A. Emerson, University of Nebraska.

Professor Emerson started out first to study the theoretical problems connected with breeding garden-beans and string-beans. Later he became interested in the actual production of improved varieties, and reports substantial progress. He has found it difficult to hybridize beans in the open field, but has succeeded by planting them in greenhouses where he prevents the air from becoming too dry and hot during the flowering period. He found, however, that since insects cross pollenate about 10 per cent of the beans in his fields, he can use these busy friends to make his hybrids without the expense of planting in greenhouses or hand pollinating.

INHERITANCE OF THE EFFECTS OF TRAINING.

Dr. C. B. Davenport, University of Chicago.

Dr. Davenport reported investigations designed to test Redfield's theory that aged animals which have for a long time been strenuously under a certain environment are more likely to

ing all words or phrases which apply to the sample in hand, using one sheet for each variety. These words are then drawn off on the typewriting machine, making a connected statement of the description of the variety.

The other class of blank forms mentioned by Mr. Scofield is the score cards on which are placed those qualities needed in comparing the value of one plant with another, one animal with another, or one breed with another. The score card differs from the description form, chiefly in that its subject matter is a record of performance of the individual or group under test or experiment.

Mr. Scofield recommends the loose leaf or card system for most records, using books as permanent keys to plots and systems.

PLANT-BREEDING IN THE UNITED STATES DEPARTMENT OF AGRICULTURE.

Dr. H. J. Webber, in Charge of the Plant-breeding Laboratory of the United States Department of Agriculture,

Gave interesting verbal accounts of the work of himself and his associates in breeding numerous species of field crops and of horticultural crops. His noted work with the orange in Florida from which rather valuable new varieties are already appearing, was given in some detail and illustrated by nu-

a concentrated saline solution without the presence of the male of the species, the progeny developing normally nearly to maturity, but then being rapidly distanced by the young produced by the normal sexual method. Here the absence of forwarded characters was not apparent until the period was reached needing the qualities peculiar to the male parent. These pulsating movements of inherent forces, now latent, now active, will be of interest in connection with the theories of Dr. Cook.

APPLICATION OF THE THEORY OF EVOLUTION TO BREEDING.

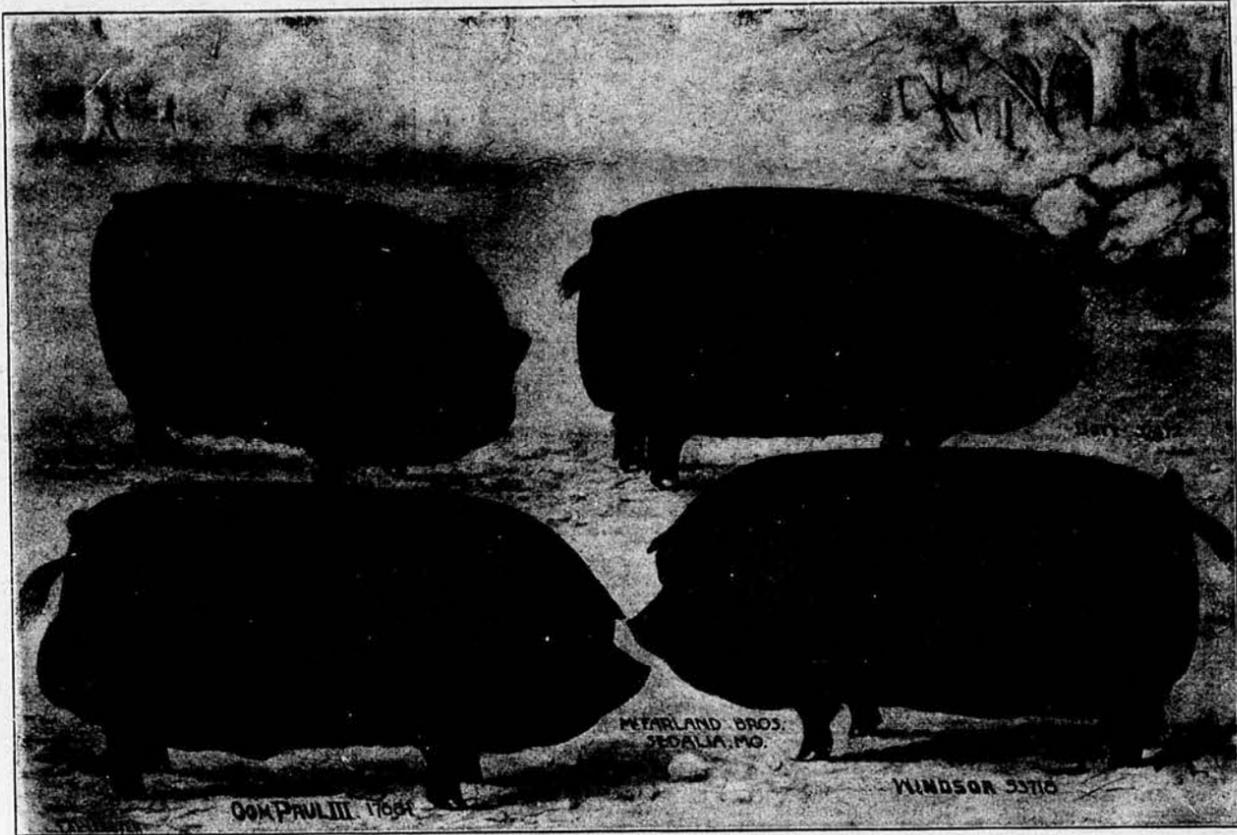
Dr. O. F. Cook, United States Department of Agriculture.

Read by title only, but reports of the proposed trend of his discussions are most interesting.

RELATION OF LIFE HISTORY STUDIES TO BREEDING.

Dr. W. T. Swingle, United States Department of Agriculture.

Read only by title. Will deal with the study of a species wherever found in the world, the possibility of its introduction into other regions, its improvement and its use, and the Government's relation to the fullest utilization of the species. Dr. Swingle has applied his theories to two species, and bulletins soon to be issued have en-



A group of prize-winning Duroc-Jerseys owned by McFarland Bros., Sedalia, Mo.

produce young, strong in the qualities developed by the training to which the parent was long subjected. Dr. Davenport tabulated the pedigree records of 300 cows. He found that the mother of the prize-winners are on the average about two hundred days older than those of the non-prize-winners. This is not a large difference, but would seem to be slightly significant.

Dr. Davenport also read a paper on "Color Inheritance in Mice." The reviewer has no copy of this paper, but it will appear in full in the publication known as "Science."

DESCRIPTION, FORMS, AND SCORE-CARDS AS HELPS TO BREEDERS.

Carl S. Scofield, United States Department of Agriculture.

Mr. Scofield discussed principally two kinds of blank forms. The one is designated to assist in minutely and accurately describing a variety or breed so that it can be distinguished from other distinct types. In this kind of blank form many things are placed which are not necessarily indications of intrinsic value, but are used simply as means for identification and classification. Mr. Scofield showed a card designed for describing wheats. On this sheet of paper were all the words and phrases describing all the observable characters of plant, head, chaff, and grain. In making descriptions a blue pencil is used on the sheet, mark-

ing numerous photographs. His work in producing new varieties of cotton, longer and more uniform length of staple and superior in yields was mentioned. This work has been widely published and Dr. Webber did not deem it necessary to write the matter out in detail. He showed the large scope this plant-breeding work is assuming under Secretary Wilson's administration.

INFLUENCE OF SIZE OF PARENT ON BIRTH WEIGHT.

Prof. F. B. Mumford, of Missouri Experiment Station.

Professor Mumford gave an account of his experiments carried on during several years past, showing that the sire has comparatively little influence on the birth weight of the progeny. His paper was given from notes and the reviewer is not able to give an extended statement. His discovery that the male influence does not operate as to size and some other characteristics until after the animal is born is believed to have wide significance. Even a more general fact may be here arrived at, viz.: that some characteristics are transmissible forward to develop at a later period in the life of the progeny. The sexual characteristics may be taken as examples. A most remarkable coincidence occurred by a member of the zoological section of the general association reporting the fecundation of sea urchins by means of

abled him to work out a general scheme of dealing with the species.

GRAPE-BREEDING.

Prof. S. A. Beach, New York Experimental Station.

Professor Beach gave in detail his methods and results in experiments in grape-breeding, which he has been conducting in the famous grape regions of western New York. The reviewer did not hear his paper nor the next following, which were given during a joint session of this association with the American Society for Horticulture, in which the two gentlemen are active workers.

SEED SELECTION ACCORDING TO SPECIFIC GRAVITY.

V. A. Clark, Geneva, N. Y.

A detailed discussion of experiments with seeds of wheat and other plants was given.

THEORETICAL STUDIES IN BREEDING.

Prof. W. J. Spillman, United States Department of Agriculture.

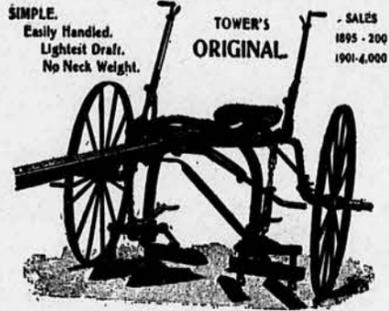
Professor Spillman also spoke extemporaneously, and the reviewer being absent from the room at that time, can only refer those interested to the complete papers which are to be published in the annual report of the association.

The association recognized its indebtedness to the American Association of Agricultural Colleges and Experiment Stations for having given

it birth. The recognition given Luther Burbank by his unanimous election to honorary membership by a standing vote was most heartily accorded. The American Association for the Advancement of Science and the St. Louis local entertainment committee were given sincere thanks for their very many courtesies. W. M. HAYS, Sec. St. Anthony Park, Minn.

The Corn Yield Increased.

Corn-growers everywhere have been making great forward strides in increasing the quality and quantity of this great crop. The systematic, scientific breeding has developed the number and size of the



grains until there is no waste space about the ear. More progress still, however, has been made in increasing the yield by surface cultivation effected by Towers' Surface Cultivator, which has been used more than a score of years in many fields. The highest endorsement of this product of the factory of J. D. Tower & Sons Co., Mendota, Ill., is the fact that the famous Funk Seed Farms of McLean County, Illinois, are using more than fifty of them in their fields. The illustration gives a good view of it.

THE MARKETS.

Kansas City Live Stock and Grain Market.

Kansas City, Mo., January 25, 1904. Owing to the low prices of last week and the stormy weather the receipts of cattle were not up to the standard here to-day, the supply being only about 6,000. Under these conditions prices were forced up 10@15c on dressed beef stuff, the market in some instances being 25c higher than last week's close. Some right good steers sold to-day for \$4.95. Owing to the weather conditions existing throughout the Central and Western States the prices on fat stuff is expected to advance very materially this week. Cows and mixed stuff were also 10@15c higher and the supply very limited. The stocker and feeder market was light, though the market was tested very substantially and prices ruled strong to 10c higher. A big string of Colorado stockers sold to-day for \$4.15. Hog receipts here to-day were very light at a little better than 5,000, of which 1,500 went direct to Armour. There was no real choice hogs in to-day's supply. The market was strong to 5c higher. Considering the quality of the supply prices were better than 5c higher. Nothing over 200 pounds sold for less than \$5 and the lighter mixed kinds sold readily at \$4.95. The top to-day was \$5.15 and the bulk \$5@5.10. Pigs and lights shared the advance with the other kinds and were in good demand. The sheep market started off to-day like it meant to regain the loss in prices of last week. The receipts here were about an average Monday supply, but the estimated receipts at the other leading Western markets made the total supply for the day look small, being but little over 35,000. This lightness of receipts had the effect of making prices firm and higher, the stronger feeling being imparted to all markets. A large consignment of Colorado sheep here and sold well. The receipts here and sold well. The buyers seemed ready and willing to bid when anything was offered and this also had the effect of making the market higher. The general market was a good 10@15c higher, all classes sharing about the same lift. Yearlings sold up to \$5.15, wethers at \$4.50, ewes at \$4, and lambs at \$5.75. A stronger feeling seems to prevail and with moderate receipts, the market shows promise of remaining steady. Fresh receipts of horses and mules to-day were liberal though not nearly so heavy as last Monday, when the total was close to 2,000. At the auction, about 500 head were on hand to be sold, and while selling has continued all day, there will be quite a goodly number for the auction to-morrow. Buyers were here from Eastern and Southern points, and some were here from other markets. At the opening, the bidding was slow and the sales were on a lower basis, but after the bidders warmed up, the selling was quicker and a good number of offerings were old. Prices ranged about \$5 lower than the auction last week, steady with the close of the week. All dealers have a good supply of mules on hand, and the commission had about 800 head on hands this morning. The supply of buyers was very small, owing no doubt to the weather. Dealers were taking advantage of the opportunity thus offered and were buying mules at the commission barn. With moderating weather the prospect for trade is good and no change in prices is quotable. Grain receipts at Kansas City to-day were 363 cars wheat, 132 cars corn, 25 cars oats, and 1 car of rye. There was an active demand for wheat, but it was lower. No. 2 hard 73 1/2@76c, No. 3 hard 70@71c, No. 4 hard 62 1/2@65c, No. 1 red 86@88c, No. 3 red 89@90c, No. 2 red 92@93 1/2c, No. 3 active and firm. No. 2 mixed 39 1/2c, No. 3 mixed 39@39 1/2c, No. 2 white 40 1/2c, No. 3 white 39 1/2@40c, No. 4 white 38 1/2@39c. Good demand for oats and market firm. No. 2

Special Want Column

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

ANNOUNCEMENTS.

I HEREBY announce myself as a candidate for re-nomination as State Senator for second term for the Seventeenth Senatorial, Shawnee county, district, subject to the Republican county primaries. John T. Chaney.

I AM a candidate before the Republican primary for County Attorney of Shawnee county. W. H. Cowles.

CATTLE.

FOR SALE—A fine lot of red Shorthorn bulls, from 10 to 20 months old; part of them are non-registered, and the balance are registered, but all thoroughbreds, and will be paid right. Also a few Poland-China boars and Barred Plymouth Rock cockerels and White Holland toms. Cockerels \$1 each; toms \$2. Visitors always welcome, and all correspondence cheerfully answered. A. F. Huse, Manhattan, Kans.

FOR SALE—Ten head of registered Red Polled bulls at a bargain. Herd consists of following families: A 1, B 2, B 8, B 20, H 1, I 18, N 6, U 6, V 1, V 2. Butterfield (3410) at head of herd. Weight 2,450 lbs. Can ship over Union Pac R. or Missouri Pacific railways. Otto Young, Ulca, Ness Co., Kans.

FOR SALE—8 head of registered Angus bulls from 10 to 20 months old; good individuals. R. L. Milton, Stafford, Kans.

FOR SALE—Shorthorn bull, 20 months old, sire Godor Butterfly 142556, dam the Rose of Sharon cow, Duchess 624, by Adam Sharon 64447; big and fine. Also a Cruickshank bull, 15 months old, sire Goddy Butte fly 142556, dam Barmpton's Joy by Red Victor 105113, second dam Barmpton's Pride by Imp. Prince Bishop (57-70); third dam Imp. Barmpton Primrose by Viking (48873). Either one a herd-header. E. S. Myers, Chanute, Kans.

FOR SALE—Cheap Shorthorn bulls. Address Joe Manville, Agency, Mo.

GALLOWAY CATTLE—Choice young stock of both sexes for sale. W. Guy McCandless, Cottonwood Falls, Kans.

FOR SALE—Two registered Shorthorn bulls, color red, one 2-year-old, the other 8 months. Two seven-eighths Shorthorn bull calves, 8 months old, color red. I also have a few full-blood Rose Comb White Leghorn cockerels. For prices address, P. H. McKil-trick, McCracken, Kans.

FOR SALE—A small bunch of Shorthorn heifers, also two bull calves, choice breeding, and good individuals, at \$50 each. Write, or better come and see them. S. H. Lenhart, Hope, Kans.

FOR SALE—Choice registered Hereford bulls, 8 to 15 months old. Address, or call on A. Johnson, R. E. 2, Clearwater, Kans.

FOR SALE—Four thoroughbred Shorthorn bulls, color red, from 5 to 24 months old. Also a few thoroughbred cows and heifers. For prices write, J. P. Engel, Alden, Rice Co., Kans.

FOR SALE—Guernsey bulls from best registered stock. J. W. Perkins, 423 Altman Building, Kansas City, Mo.

mixed 37 1/2@38c, No. 3 mixed 37@37 1/2c, No. 4 mixed 36@36c, No. 2 white 35 1/2@36 1/2c, No. 3 white 37@37 1/2c, No. 4 white 36@36 1/2c. Rye was steady. No. 2 50@50 1/2c, No. 3 49@49 1/2c. Mixed feed sold at from 12@13c per cwt.

Butter continues firm on creamery and table grades. Extra creamery butter sells for 21c and fancy dairy at 18c. The egg market is in an excited state and the limited supply and cold weather makes it good for the sellers. Firsts, cases returned and loss off, 26c, new No. 2, w. w. cases, cases included and loss off, 25 1/2c. Hens are selling at 8c, springs at 9c, turkey hens at 12c, gobblers 12c, old toms at 10c, nothing under 6 pounds is wanted. Young ducks 8 1/2c, old roosters 20c, young roosters 25c each.

Receipts of cattle at this market last week were 42,500 most of which was stockers and feeders. Trade in dressed beef was some slower than the previous week and prices were at least 15c lower, the top for the week being \$5.10 against \$5.40 last week. The unusually large supply was the main cause of the decline. The supply of stockers and feeders was far above the normal, but the supply was good and prices ruled about steady with the previous week despite the large supply. Shipments of stockers and feeders to the country last week were 500 cars against 361 the previous week. Some good feeders sold as high as \$4.40. There was a fair supply of fat steers which sold at lower prices in sympathy with fat steers. Last week's hog receipts were 48,000, which is a good run for this season of the year. The supply was of good quality and prime heavy hogs were the topsy kind as has been the condition for the past five weeks. The week opened with a weak tendency but gradually gained strength throughout the week, Monday's top being \$4.95 and Saturday's \$5.07 1/2. All weights and grades shared in the week's advance. The bulk of hogs for the week sold at from \$4.80@4.95. The top for the week was \$5.07 1/2. Prospects are for even a better trade in hogs next week.

The good prices of the previous week attracted a liberal supply of sheep for this week and consequently the decline in prices of from 15@25c has been experienced. The total supply for the week was a little in excess of 19,000. Owing to the limited supply of sheep at Kansas City, the prices have been higher than at other points and the liberal supply this week brought the prices only to the level with other markets. The heaviest decline was on yearlings which was fully 25c. Good to choice lambs sold at about \$5@5.75. Medium kinds sold around \$4.80. Yearlings \$4.65@5. Fat wethers sold at \$3.90@4.30 and fat ewes at \$3.65@4.

H. H. PETERS.

South St. Joseph Live Stock Market.

South St. Joseph, Mo., January 25, 1904. Nothing real toppy was included in the beef steer line last week, and long-fed were scarce, although lots of desirable kinds sold at \$5, but the general quality averaged fairish. The overcrowding of the markets east the first half of last

SWINE.

REGISTERED DUROC-JERSEY SWINE—Choice young stock for sale. R. H. Britton, Lebo, Kans.

POLAND-CHINA high-class boars, \$15 each; pedigree furnished. A. F. Wright, Valley Center, Ped-gree furnished.

FOR SALE OR TRADE—For bred sows—Standard Perfection, winner of first in class at Hutchinson in 1903; he was sired by Proud Perfection, dam by Missouri's Black Chief. Also Corrector I Know, he by Corrector, dam by Perfect I Know, also some young males. Wm. Maguire, Haven, Kans.

FOR SALE—7 registered Berkshire boars, large bodied, heavy boned. E. D. King, Burlington, Kans.

DUROC-JERSEY boars; special prices on all sold before January 1, 1904. Pedigree furnished. H. A. Coppins, El Dorado, Kans.

TWO WELL-BRED HERD BOARS FOR SALE By W. E. Nichols, Sedgewick, Kans.—Young U. S. 2591 S, sired by Hill's Black U. S. 11882 S, he by Old Black U. S. 4209 S. The dam of Young U. S. was Mable 66160 S, she by Shortstop Tecumseh 15922 S, her dam Tecumseh Girl 37756 S. Young U. S. was farrowed September 24, 1899. He is a fine breeder of solid colored, broad backed, heavy hammed, short-faced pigs. T. C. U. S. 243040 S, sired by the noted old T. C. U. S. 41718 O, that was shown in 13 shows, and won 13 first prizes in the state show at Ohio. Either Price his dam was bred by Peter Mow, Orange City, Iowa. These hogs are not for sale because of any fault of their own, but I cannot use them longer. If you need a first-class reliable sire at the head of your herd, write me at Sedgewick, Kans. W. E. Nichols, breeder of Poland-China hogs.

FOR SALE—Choice Poland-China boars and sows, none but choice stock shipped. Herd boar Royal Perfection, by Chief Perfection 2d, and Chief Tecumseh 2d. S. H. Lenhart, Hope, Kans.

DUROC-JERSEY SWINE—3 yearling herd boars, fine lot of good males and bred girls, also pigs in pairs Pedigree furnished. Write for prices. M. H. Alberty, Cherokee, Kans.

POULTRY.

WHITE WYANDOTTES exclusively. Eggs for hatching, one setting \$1. 100 eggs for \$5. Cockerels all sold. Mrs. E. F. Ney, Bonner Springs, Kans.

SHEEP.

FOR SALE OR TRADE—Registered Cotswold ram, from Hardings flock. Price \$20; will trade for registered Cotswold ram, or good ewe. A. L. Bushnell, Mound Valley, Kans.

HORSES AND MULES.

FOR SALE—One high-grade black Percheron stallion, coming 4 years old; large size and fine action. For price address H. O. Peck, Wellington, Kans.

FOR SALE OR TRADE—One Percheron stallion, age 5 years, dark gray, weight 1,700 pounds; record No. 24173. Meyer Bros., Hill City, Kans.

11-WORTH COUNTY JACK FARM—14 jacks and 21 Jennets on hand.—Write time for prices. O. J. Corson, Route 2 Potter, Kans.

FOR SALE—Jacks, Jennets, recorded saddle stallions, 4 standard-bred stallions. Poland-China girls, all first-class stock. Chas. Guffin, Scandia, Kans.

FOR SALE—A good jack, 7 years old, sound, good size, heavy bone, color dark, with mealy points. Is a good foal getter; can show tocks. Price right if sold soon. One half mile from Elmdale, Chase Co., Kans. Call on or address J. M. Brough, or J. F. Garner, Elmdale, Kans.

FOR SALE—Registered Percheron stallion, Bright 22874, a dark gray, foaled in 1901, and fine bred. Inspection or correspondence invited. Address Chas. H. Layman, R. 2, Maple Hill, Kans.

FOR SALE—Honor 6894 by Red Wilkes, or his 3-year-old son, stallion; or would trade for draft stallion; can not use both. O. P. Updegraff, Topeka, Kans.

FOR SALE—Six registered Percheron and French Coach stallions. H. C. Staley, breeder, Rose Hill, Butler Co., Kans.

FOR SALE OR TRADE—For good jack or Shorthorn cows, one 3-year-old saddle stallion. Geo. Manville, Agency, Mo.

TO TRADE—For registered Hereford cattle or Percheron fillies, one standard registered stallion, 8 years old, 18 1/2 hands high, fine driver and saddler. No better bred horse in Kansas. H. T. Mineman, Dighton, Kans.

FOR SALE OR TRADE—For stock, English Shire stallion, 8 years old, weight 1600, a good horse, Henry Haven, Route 3, Belleville, Kans.

JACKS FOR SALE—Two 3-year-olds and one yearling; will sell cheap; write for description. O. B. Madinger, Watena, Kans.

PATENTS.

J. A. ROSEN, PATENT ATTORNEY
418 Kansas Avenue, Topeka, Kansas.

week, and breaking prices there to the tune of 40@60c, or about back to the low point of the season, had the effect of causing local buyers to shave values here 10@15c on the good kinds and 20@25c on common and medium grades. Prices for cows and heifers broke sharply early in the week, but under reduced supplies the week closed up with values 10@15c lower, and bulls and stags showing a similar loss. Not only were receipts of stockers and feeders of the largest number for weeks, but the country trade was the heaviest for some time, but the market broke 10@15c, in sympathy with the adverse turn in the market for fat cattle. The week closed up with a gain of 10@15c for hogs last week, and prices ruled 5c higher to-day, with a top of \$5.12 1/2 and the bulk of sales from \$4.90@5.10. The proportion of good heavies continues to largely predominate the receipts, which indicates that farmers are of the opinion that to feed hogs at the prevailing prices of hogs is a good proposition. The centering of supplies in the East, where, according to reports, there is an unusually large number of sheep ready to go to market, caused a terrific pounding of the markets, and tended to make local buyers bearish, although they wanted the supplies at the lower trend of values, which was generally 15@25c. During the break Colorado lambs sold at \$5.80, Western yearlings went at \$5.20, Western wethers at \$4.40, and Colorado ewes at \$3.80. GUS FRIDLEY.

SEEDS AND PLANTS.

FOR SALE—English blue-grass for spring \$5 per 100. Write to D. O. Buell, Robinson, Mo.

50,000 PEACH TREES, \$10 per thousand, trees at wholesale. Baldwin Nursery, Seneca, Mo.

FOR SALE—Emmer (Speltz) at \$2 per cwt. Miller, Route 2, Rantoul, Kans.

ENGLISH BLUE GRASS—New crop, fine price low. Send sample. Refer to First Bank. J. G. Hinsh, Eureka, Kans.

WANTED at Willis Nurseries, Ottawa, customers for the best selected lot of nursery in the West. Catalogue free on application.

WANTED—Sweet corn, Kaffir-corn, can't millet seed, alfalfa, red clover, timothy and grass seeds. Correspond with us. Kansas House, F. Barteldes & Co., Lawrence, Kans.

WANTED—Sweet corn, Brown Dourrah, len corn, milo maize, cane and Kaffir-corn, you amount you have to offer and send sample will give you the highest market price. A. A. Seed Co., Box 50, Clarinda, Iowa.

FARMS AND RANCHES.

FARM FOR RENT—50 to 100 acres of rich top land in the world; crop rent, improve fair; choice potato land; weeds grow. Address H. M. Kirkpatrick, Wolcott, Kans.

FOR SALE—Either of two good farms in Kansas, one 300 acres, handsome prairie; other acre rich bottom farm, with improvements on ground, large, substantial buildings, running fuel, and tame meadows on each; rural mail telephone. Either at a bargain until crop season. Address Box 189 Garnett, Kans.

THREE FARMS to rent, sell, or trade; also hands wanted. Baldwin Nursery, Seneca, Kans.

FOR EXCHANGE—80 acres of land for a Percheron stallion, or a good jack. C. A. Peairs, Okla. Emporia, Kans.

FOR SALE—160 acre farm, good improvements, abundant supply of excellent water, close to 4 miles to church, post-office and cream station. H. V. Gilbert, Wallace, Kans.

IMPROVED FARM LAND for sale in Haman Co., Kans., at \$4 to \$10 per acre. Write for Eakin & Eakin, Jetmore, Kans.

FOR SALE—A 160-acre farm, two miles from bondale, Kan., in Osage County. This is a fine of good land, and \$4,500 takes it if sold soon. I have two back Percheron stallions. Will sell or will trade for yearling or 2-year-old steers on or address Col. W. Q. Hyatt, Carbondale, Co. County, Kans.

160 ACRES nice smooth land, 60 acres cultivated no house; price \$2000. 160 acres, fair improvement half cultivated; price \$2,500. 160 acres nice land cultivated; price \$3,200. 160 acres, 140 cultivated nice improvements; price \$3,000. And many other try us. Garrison & Studebaker, Florence, Kans.

120 ACRES, new buildings, Osage Co., \$2,600. gain. Farm, R. F. D. 2, Williamsburg, Kans.

MISCELLANEOUS.

WANTED—A reliable man to work on farm. particulars write E. J. Walinger, Gas Adm. Co.

WANTED—You to send for free sample paper "Jesus Was Christ, Is," an optimistic religious Smith Book Supply, Topeka, Kans.

WANTED—Some party with a stout slope dish haul hog hair from our plant each day. Scatter and return to us. Can handle on shares. Chas. W. Packing Co., Topeka, Kans.

HONEY—Pure extracted at 10 cents per pound. Send for free sample. A. P. Wright, Valley Center, Kans.

WANTED—By March 1, place on farm or ranch in northern half of Kansas, by young married couple, 27 years old, first class, all-round farmer, sober, reliable, and a good worker, first class references. Write \$30 per month, house, fuel, and cow. Address F. Jones, Everest, Kans.

WANTED—By a man of experience, with references, position as superintendent of farm, ranch. F. A. Birch, Zeandale, Kans.

WANTED—Men to learn barber trade. Start on easy terms. Tools, diplomas and positions given. W. Moler Barber College, St. Louis, Mo.

WANTED—Married white man to work on farm near Topeka. Must be a practical farmer and have worked on farm last year; house, fuel, garden, chickens and pl.s furnished free, with liberal wages. Write 311 West 7th street, Topeka, Kans.

ALFALFA comb and extracted honey 7 to 8 cents per pound. A. S. Parson, 306 North 12th street, Rocky Ford, Colo.

WANTED—To sell or trade for any kind of stock one 600-pound capacity Sharps separator, almost new. L. A. Abbott, R. R. 1, Wamego, Kansas.

PALATKA—For reliable information, booklets and other literature, address Board of Trade, Palatka, Florida.

VIEWS OF TOPEKA FLOOD—Having purchased the balance of the edition of the "Views of Topeka Flood" of which many thousand sold at 25c each, we are prepared until the supply is exhausted to send them prepaid to any address on receipt of 5c. Address, Kansas Farmer Co., Topeka, Kans.

The Stray List

Week Endin January 14.
Greenwood County—C. D. Pritchard, Clerk. STEER—Taken up by W. P. Kirk, South Salem, Dec. 17, 1903, one 1-year-old red and white steer, with red in left ear, lazy & on right hip. STEER AND CALF—Taken up by George Gardner, in Quincy tp., Nov. 30, 1903, one 2-year-old red steer, valued at \$18; also black calf, 10 months old. HEIFER—Taken up by H. W. Holderman, in Quincy tp., Nov. 30, 1903, one 3-year-old heifer, with white top of shoulder and belly, valued at \$18.

Week Ending January 21.
Greenwood County—C. D. Pritchard, Clerk. STEER—Taken up by Charles A. Provo, in Quincy tp., January 2, 1904, one 2-year-old roan steer branded W on right hip.

When writing advertisers, please mention this paper.

The Apiary.

Conducted by A. H. Duff, Larned, Kans., to whom all inquiries concerning this department should be addressed.

National Bee-keepers' Association.

Objects of the association: To promote and protect the interests of its members. To prevent the adulteration of honey. Annual membership fee, \$1.00. Send dues to treasurer. Officers: W. Z. Hutchinson, Flint, Mich., president; J. U. Harris, Grand Junction, Colo., vice-president; George W. K. Chicago, Ill., secretary; N. E. Platteville, Wis., general manager and treasurer.

Kansas State Bee-keepers' Association.

Officers: Dr. G. Bohrer, Lyons, Kans., president; E. W. Dunham, Topeka, Kans., vice-president; O. A. Keene, Topeka, Kans., secretary; J. J. Measer, Hutchinson, Kans., treasurer. Annual membership fee, \$1.00. Send dues to treasurer. Official organ, Kansas Farmer.

Organization of Kansas Bee-keepers.

Every bee-keeper of either large or small proportions will welcome the organization of the bee-keepers of this state, of which a full report of the annual meeting was given in the KANSAS FARMER of January 7. Any one who may be in the least interested in bees, and has not received a copy of this issue of the KANSAS FARMER, should send for one, and at once become a member of the association. The apiary department of the KANSAS FARMER is open at all times for the discussion of this important and interesting industry. Every member is invited to become a contributor to it, as this department belongs to the association. In this we do not mean to be understood that any one outside the association can not have a say in this department, for during the past eight years many interesting communications from bee-keepers, not only in this state but other States, have appeared in these columns. But from this time forth it is the desire to make it more interesting and it is the duty of the members of the association to help to make it so.

Now is a good time to discuss late winter management, for late winter and early spring is a critical time, and much depends upon the management of this time in securing a profitable crop of honey the following honey-harvest. Seasonable articles are always best, but any good article is acceptable at any time. Many small bee-keepers have not thoroughly posted themselves in all the details in up-to-date bee-keeping, and to those who would rather seek than to give information, this department is the place to get it by asking questions.

The migration of birds is being studied in a new manner by German ornithologists. Hundreds of thousands of crows are being captured at Rossitten, in East Prussia, and, after being tagged with a number and the date, are again liberated. It is requested that when one of these birds is killed, the tag and the date and place of killing shall be forwarded for record.

Eighty Bushels Macaroni Wheat Per Acre.

Introduced by the U. S. Department of Agriculture. It is a tremendous cropper, yielding on good land eighty bushels per acre, and on dry, arid lands, such as are found in Montana, Idaho, the Dakotas, Colorado, etc., it will yield from 40 to 50 bushels. This wheat and speltz and Hanna barley and Bromus inermis and billion-dollar grass makes it possible to grow and fatten hogs and cattle wherever soil is found. JUST SEND 10c AND THIS NOTICE to the John A. Salzer Seed Co., La Crosse, Wis., and they will send you free a sample of this wheat and other farm seeds, together with their great catalogue, alone worth \$100.00 to any wide-awake farmer. F. P.

A Successful Veteran.

You might hardly feel like calling him a veteran if you should see him, because he stands straight, moves quickly and has a clear bright eye. But when a man has been hustling at the same business for more than forty years, if he isn't a veteran what is he? Then, too, he has succeeded, as you can readily see from the broad acres devoted to growing evergreens and other ornamental shade and forest trees, shrubbery, etc., for it is D. Hill, of Dundee, Ill., whom we are talking about. Mr. Hill has grown and shipped many millions of trees in his lifetime and has millions more coming along. His name is a household word all over this country and in many foreign countries. Write for his catalogue, "Millions of Trees," and mention this paper. Address as above.

In South Dakota

The Horn of Plenty has this year been turned upside down. For the sixth consecutive year South Dakota leads all other states in the production of the greatest wealth per capita. Corn, wheat, hay, oats, cattle and gold are some of the factors in the new wealth of 1903, amounting to \$146,450,000. A trip to South Dakota via the

Chicago, Milwaukee & St. Paul Railway

can be made quickly, comfortably and inexpensively. If you are interested write for a copy of the new book on South Dakota.

M. F. SMITH,
Commerolal Agent,
245 Main St., Dallas.

G. L. COBB,
Southwestern Passenger Agent,
907 Main St., Kansas City.

P. S.—Between Kansas City and Chicago, the train of trains is The Southwest Limited of this line. Leaves Kansas City, Union Station, 5.55 p. m., Grand Avenue, 6.07 p. m. Arrives Chicago, Union Station, 8.55 a. m.

For Pain

Take a Dr. Miles' Anti-Pain Pill, and the Pain will disappear Like Magic.

Not by paralyzing the nerves and glands, like opium, morphine, cocaine, and other dangerous drugs, but by increasing the natural secretions.

This action is obtained as a result of modern discoveries in medicine, making it possible to relieve pain without bad after-effects.

You can safely depend upon Dr. Miles' Anti-Pain Pills to relieve and cure such pains as Neuralgia, Headache, Stomach-ache, Menstrual Pains, Rheumatism, Backache, Toothache, etc.

They will also, by their calming action on the nerves, almost instantly relieve such distressing feelings as Dizziness, Car-Sickness, Indigestion, Irritability, Sleeplessness, Nervousness, etc.

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At the Minnesota State Fair our French Coach stallions won every possible first prize and grand sweepstakes. At the Ohio State Fair our stallions won fourteen first prizes out of a possible fifteen. At the Indiana State Fair our Percherons won three first prizes. At the Kansas State Fair our Percheron and French Coach stallions won every first prize, including grand sweepstakes. Our last importation and the fourth for us in 1903, arrived in Columbus, Tuesday, Dec. 8. During the year we have imported from France four times as many Percheron and French Coach stallions as have been brought over by any body else. Ours are the very best, we import more of them, sell more of them and therefore can furnish our customers a better horse for the money than can be bought elsewhere.

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Well, well; Cheer up; Get Busy—Iams' peaches and cream are ripe. They were sensational "show horses" at the Nebraska State Fair. (He had a snap.) Had a whole barn full of prize winners there. Iams won first on four-year-old Percheron in class of thirty-two (an easy victory). Also championship sweepstakes Percheron stallion ever all, and many more prizes. All the principal prizes in Percherons, Belgians, and Coaches. Iams kept his great 5100-lb. show pair and the best stallion in every class out of the Nebraska show-yard and were not shown for prizes. None of the special train of 100 stallions received August 23, 1903, were shown at Nebraska State Fair, and among these he had the first and second prize four-year-old Percheron at largest French horse show at Chartres, and many Percheron winners at leading "horse shows," as well as winners at leading "horse shows" of Belgium and Germany. At Iams'

SWEEPSTAKES STUD

Visitors thronged his barn at Nebraska State Fair and said: Hello Tom! Say, Iams has the best horse show I ever saw. Yes; see those four 2000-lb. two-year olds. Iams is a hot advertiser, but he has horses better than he advertises. Hello Mr. Iams Zeke. Say, this is the best string of stallions I ever saw; they are sure peaches and cream. See those six 2200-lb. three-year olds—all alike, too. They are all wool and a yard wide, the "wide-as-a-wagon" sort. "Mother, this is Iams' great show of horses. His horses are all black and big ton fellows. He always has the best. Semantha, here in Iams' show herd. Everybody wants to see his horses. We came from California to see Iams' 5100-lb. pair of stallions. That's them, here are the greatest pair in the U. S. Yes, and worth going 2,000 miles to see. Hello Louie, here is Iams' 2400-lb. sweepstakes Percheron stallion ever all "Dec!" I don't wonder at his competitors wanting this horse barred out of the show-ring. He is a sure winner at his Kitty, see those fine coaches of Iams'. Georgio, dear, they are lovely; they can look into the second story window. Yes, Kitty, Iams has more registered draft and coach stallions than any man in the U. S., and all good ones. Georgio, dear, buy your next stallion of Iams. His horses are much better than the one you paid those Ohio men \$4,000 for, and Iams only asks \$1,000 and \$1,500 for "toppers." Iams has

147--BLACK PERCHERONS, BELGIANS AND COACHERS--147

90 per cent blacks; 50 per cent ton horses—Iams speaks the languages, buys direct from breeders, pays no buyer, salesman or interpreters. Has no three to ten men as partners to share profits with. His twenty-two years successful business makes him a safe man to do business with. Iams guarantees to sell you a better stallion at \$1,000 to \$1,400 than are being sold to stock companies for \$2,500 to \$4,000 by slick salesmen, or pay your fare and \$25 per day for trouble to see them, you the judge. Iams pays horses' freight and buyers' fare, gives 50 per cent breeding guarantee. Write for eye opener and catalogue. References: St. Paul Bank, First State Bank, and City National Bank.

FRANK IAMS, ST. PAUL, NEBRASKA.

60 IMPORTED Belgian, English Shire and Percheron STALLIONS



We won all first and sweepstakes on Shires and first and sweepstakes on Belgians at the last Nebraska State Fair. We were also big winners on Percherons in the 3-year-old and 4-year-old classes. All we ask is that we have the chance to show you our horses and quote you our prices before you buy. Our horses are thoroughly acclimated and not hog fat. Our guarantee is the best and most liberal given. We will take your note at 6 per cent interest on 1 and 2 years' time, so that your horse has a chance to prove himself before you pay for him. If we don't show you the best horses, we'll give you money on the most liberal terms, we will pay your railroad fare for coming to see us. Long Island phone No. 840. Call us up at our expense. Office in Lincoln hotel. Barn at 9th and B street.

WATSON, WOODS BROS. & KELLEY COMPANY, LINCOLN, NEBRASKA.

LINCOLN IMPORTING HORSE CO., - A. L. SULLIVAN, Manager.



Our recent importation is doing elegant; gaining some flesh and becoming acclimated to this Western country. We can show the largest number of stallions of any concern in all the West, consisting of Percherons, English Shires, Belgians, German Coaches, etc.; over fifty to select from and all grand individuals. We are quoting low prices with the best of guarantees.

SHIRES! SHIRES! HEFNER HAS 10 Shire and Hackney Horses



On hand of last year's importation which he will sell on the following terms

One-half cash or bankable paper due in one year, with interest. Other half due when horse has earned it. You settle for one-half the horse only; the other half must run until the horse earns it. Just the terms you want. I mean to dispose of these horses at once to make room for October importation and I know the wide-awake buyers will be promptly on hand, as these horses are sure to suit. They are heavy-boned, massive, shapely horses, with two good ends and a good middle. Best of feet and action. These are 1,800- to 1,950-pound horses, each and every one fully guaranteed a sure foal-getter. Remember, you take no possible chances when you deal with Hefner. My terms should convince you that my horses are certainly right in every particular. I know they will suit you. These are 20 per cent better than "Top-Notchers," and just the sort "peddlers" are selling at \$3,000 to stock companies. Form your own stock company and come buy one of these grand Shires for your own use. I know my horses are the genuine, honest, reliable sort and cannot fail to please you and give the most satisfactory results; hence these unheard of terms. Write for information. Do so immediately, as these horses will soon go on these terms and prices.

O. O. HEFNER, Nebraska City, Nebraska.

THIRD ANNUAL GRAND FOUR DAYS COMBINATION SALE

Wichita, Kansas, February 2, 3, 4 and 5, 1904.

Percheron Horses, Hereford Cattle, Shorthorn Cattle, Poland-China Hogs



PERCHERON HORSES

February 2, 1904,

Fifty Percheron Stallions and Mares. Also a few Shires and Trotters.

Consigned by J. W. & J. C. Robison, Towanda, Kansas; Avery & Son, Wakefield, Kansas; Snyder Bros., Winfield, Kansas; Charles L. Covell, Wellington, Kansas.

SHORTHORN CATTLE

February 3, 1904,

Fifty Thoroughbred Shorthorn Bulls and Heifers.

Consigned by J. W. & J. C. Robison, Towanda, Kansas; J. F. Stodder, Burden, Kansas; T. K. Tomson & Sons, Dover, Kansas; Harrington Bros., Clearwater, Kansas.



HEREFORD CATTLE

February 4, 1904,

Fifty Thoroughbred Hereford Bulls and Heifers.

Consigned by Robt. H. Hazlett, Eldorado, Kansas; W. L. Bass, Eldorado, Kansas; J. Condel, Eldorado, Kansas.

POLAND-CHINA HOGS

February 5, 1904,

Eighty Thoroughbred Poland-China Hogs.

Consigned by Snyder Bros., Winfield, Kansas; Elm Beach Farm, Wichita, Kansas; H. E. Lunt, Burden, Kansas; and other prominent breeders.



Sale held under cover, beginning at 12:30 p. m. each day, at Riverside Sale Barn, Diver's Stock Yards, West Douglas Ave., Wichita, Kansas. Apply to any of the consignors for catalogue of day's sale wanted. REDUCED RATES ON ALL RAILROADS ENTERING WICHITA.

.... For Further Information Address

Col. R. E. Edmonson,
Col. J. W. Sparks,
Col. R. L. Harriman,
Col. W. M. Arnold,
Auctioneers.

J. C. ROBISON, Mgr., Towanda, Kans.

FOUR DAYS CIRCUIT SALES OF REGISTERED DUROC-JERSEY BROOD SOWS.

Tuesday, Feb. 2.

In Sale Pavilion at Humboldt, Neb., I will sell

34—Choice Brood Sows and Gilts—34

the best of my herd, mostly the get of

VAN'S HERO 7487,

and safe in pig to Valley Chief 15211, Red Chief I Be 15981, St. Patrick 2d 23811 and Grey 23813. Breeders from a distance stop at Park Hotel. Catalogue ready. Address

W.M. BRANDOW, Humboldt, Neb.

Wednesday, Feb. 3.

At my farm, 7 miles southeast of Frankfort, Kans., I will sell

40—Sows and Gilts—40

Consisting of 22 spring gilts, 10 spring yearlings, 7 fall yearlings, and

BESSIE H.

The sweepstakes sow at the Nebraska State Fair last fall. Most of the offering is closely related to this sow and bred to Eclipse, son of Improver 2d, first prize and sweepstakes boar at Lincoln and Kansas City this year. Free transportation and entertainment for parties from a distance. Write for catalogue at once.

JOHN O. HUNT, Marysville, Kans.

Thursday, Feb. 4.

I will sell at my farm, 4 miles south of Beattie, Kans.,

40—Brood Sows and Gilts—40

Consisting of 3 aged sows, 7 fall yearlings, and 30 spring gilts. Many of these are sired by

ST. PAUL 10745,

A son of Lady Paul, a litter sister of Oom Paul, and daughter of Jumbo Red. The offering will be bred to this boar and Field Marshall Jr. 21097. Catalogue for the asking. Free transportation from Frankfort or Beattie and entertainment.

C. E. PRATT, Frankfort, Kans.

Friday, Feb. 5.

At my farm, one-half south of Fairview, Kans., I will sell

50—Sows and Gilts, Bred—50

These are the tops of my herd, all fine cherry colored, and bred to

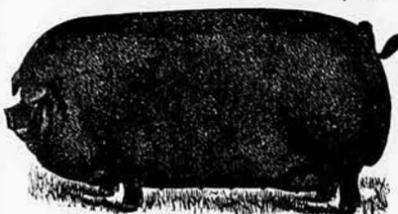
ONWARD, BEN BUTLER, and SHAMROCK,

three of the best boars, from a pork-producing standpoint, in Kansas. Entertainment and free transportation to and from farm. Write for catalogue at once.

J. B. DAVIS, Fairview, Kans.

Breeders and others interested in Duroc-Jerseys should attend this Circuit of Sales, as it will include the tops from Four of the Best Herds in Northeast Kansas and Southeast Nebraska. Write for Catalogue at once.

PUBLIC SALE OF Duroc-Jersey Bred Sows



At the J. B. Davis Farm, Fairview, Brown Co., Kans.

At 1 p. m.,

Friday, Feb'y 5, 1904

I will offer for sale 40 head of Duroc sows, eligible to record, and bred to recorded Red boars. All are healthy and thrifty. Also 2 high-grade Red Polled bull calves about 11 months old, good thrifty fellows.

Terms: 6 months time at 8 per cent per annum from date of sale on sums of \$20 and over. Good security or late bank reference required; 2 per cent discount for cash. Sums less than \$20 cash without discount. Free lunch at noon.

Cols. T. C. Callahan, C. H. Marion,
Eli Zimmerman, Auctioneers.
C. D. Graham, Clerk.

J. B. DAVIS.

PUBLIC SALE OF 40 Head Standard-bred Trotting Horses

Thoroughbred Runners and Saddle Horses,

At Mt. Vernon Stock Farm, on February 18th, 1904.

In our New Sale Pavilion, regardless of weather.

In this sale we will undoubtedly sell some of the highest classed Standard Bred horses that will be offered at public auction in America this year. Their breeding can't be questioned; their quality is unsurpassed, being smooth, close made, strong boned, high acting sort, with such blood lines as the Wilkes' and Mambrinos coursing through their veins, claiming near kinship to John R. Gentry, Kanka Kee, Fanny V. E. M. R., and Edgar Ripple, can their blood lines be questioned? Our runners are by the noted Per Blaze by Imp. St. Blaze Adamant Dick Whittington.

In this grand offering we will sell our stallion show team, Larned Boy and S. W. S., also Eva Hoover, by Myron McHenry, record 2:15. MILAN BOY, out of the great brood mare, Pawnee Queen. Milan Boy's sire is that noted sire, Looking Forward, one of the greatest horses in the West. In fact we expect to make an offering that will be a credit to ourselves and a profit and joy to our purchasers.

Our past record is: We sold last year 32 horses for \$16,460.00, our yearlings alone averaging \$474.00. We hope to break the record this year by selling better horses. Illustrated catalogues will be ready about Feb. 1. Send for one and mention Kansas Farmer.

S. S. SPANGLER, Milan, Mo.

Grand Combination Sales

New Sale Pavilion, Ottawa, Kansas.

Wednesday, February 10th, 1904,

SHORTHORNS

60 BULLS AND FEMALES

From the herds of E. S. Kirkpatrick & Son, Wellsville; N. Manrose, Ottawa; C. S. Nevlus, Chiles; C. F. Wolf & Son, Ottawa.

Thursday, February 11th, 1904,

POLAND-CHINAS

60 BRED SOWS AND GILTS

From the herds of Dietrich & Spaulding, Richmond; J. R. Killough & Son, Ottawa; C. S. Nevlus, Chiles; J. N. Woods, Ottawa.

Remember the dates and come. Catalogues and other information may be had of
DR. O. O. WOLF, Ottawa, Kans.
J. R. KILLOUGH, Ottawa, Kans.

POLAND-CHINA BROOD SOW SALE

At Osborne, Kansas, February 2, 1904.

The consignment will consist of FIFTY TOP SOWS AND GILTS from the herd of F. A. Dawley, Waldo, Kans. They are strictly up-to-date in breeding, and as this will be my introductory sale I mean to put in the best. There will be sows by Perfect I Know 19172, Corrector 26466, Perfection's Likeness 28537, Eclipse Model 27737, a worthy grandson of Missouri's Black Chief, B. B. Model 29590, by Unique 22466 and Anderson's Model 43611, Sunshine Success 71667 A., by Ideal Sunshine, and several others of up-to-date breeding.

Most of the consignment will be bred to my phenomenal herd boar, WOODBURY 72051 A., by King Perfection 50017 A., and out of a Winning Sunshine dam, second dam by Chief Tecumseh 3d. Woodbury is of the type that people are clamoring for to-day—broad, arched back, without a wrinkle, glossy coat, great heart girth, very low heavy hams, and unusually large flinty bone. He is pronounced by "field men" to be one of the best boars in the State. There will be a couple of his gilts in the sale. Watch for them. The younger gilts will mostly be bred to Perfection's Profit, Woodbury's chief assistant, by G's Perfection 77181 A., the sweepstaker of Iowa and Illinois State Fairs in 1903. A few will be bred to Sunflower Perfection, a worthy son of Perfection's Likeness 28537, Highroller, a show-pig by Woodbury, out of an Eclipse Model dam, and Queen's Best by Top Liner 62233 A., half brother to Corrector, out of a perfect I Know dam.

No Postponement on Account of Weather, as Sale Will be Held Under Cover

Every animal fully guaranteed. . . Send bids to either auctioneer or field men, in my care. . . For Catalogues address

Col. Lafe Burger,
Col. J. M. Clark,
Auctioneers.

F. A. DAWLEY, Waldo, Kansas.

W. F. GARRETT'S MODEL SALE

At Concordia, Kans., Feb. 6, 1904. Sale will Commence at 10:30 a. m.

50 Royally-Bred Duroc-Jersey Bred Sows and Gilts 50

5 Tried Brood Sows that are the equal of those found in any herd in the country.

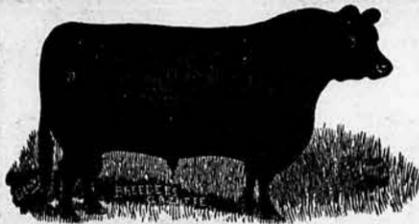
40 Spring Gilts representing the best blood and individuality of the best herds in the West.

5 Fall Yearlings such as are seen but a few time in a man's short career.

A Special Attraction is ETHEL, the 750-pound sow; other good ones will also be sold. consequently it will pay you to attend this sale. Write and get my catalogue, then come to the sale. Bids sent to either of my auctioneers at Concordia, Kansas, will receive prompt treatment.

W. F. GARRETT, Portis, Kansas.

Col. F. F. Luther and Col. G. V. Valandingham, Auctioneers.



COMBINATION SALE!

At Kansas City, Mo., Fine Stock Sale Pavilion, February 17, 1904.

45-Head High-Class Aberdeen-Angus Cattle---45

From Some of the Representative Pioneer Herds of the Country.

EVERYBODY From a Good Farmer To a Fancy Breeder... HAS BUSINESS THERE

Families represented are COQUETTE, DRUMIN LUCY, QUEEN MOTHER, NOSEGAY, KINNARD FANNY, VINE OF TILLYFOUR, EASTER TULLOCH DUCHES, VINE OF BOGHEAD, EASTER TULLOCH LUCY, JILT, and other desirable strains. This is not in any sense a cull sale, such as some that have been held at Kansas City in recent years, but a sale of good typical animals, representing the annual increase from our herds. As we contemplate making these sales an annual affair, we can not afford to offer anything but the very best, and in the best breeding condition. The females are the best herds in the country, and numbers of others with calves at foot and bred again, giving you a chance to secure three head at the price of one. Among the bulls are several heri-headers, capable of use in good catt'e than right how. Contributors to this sale are: J. H. Bea & Son, Carrollton, Mo.; W. J. Turpin, Carrollton, Mo.; Jas. B. Withers, Missouri City, Mo.; Berry Lucas, Hamilton, Mo.; R. S. Williams, Liberty, Mo.; E. E. Axline, Oak Grove, Mo. For Catalogues address
 Jas. W. Sparks, J. N. Harshberger, Auctioneers.

BERRY LUCAS, Manager, HAMILTON, MISSOURI.

RUPTURE
 Our 24-page book free describes the greatest invention of the 20th Century, for the relief and cure of Rupture. Shows interesting photos from life and contains new and valuable information. Greatest trial offer ever made by any firm. You will be interested. Write today.
DENCE & MERY, 141 Mary Block, Toledo, O.

Are You a Strong Man?

If you are not as vigorous as you used to be, and feel that your vitality is slipping away from you—no matter what your age may be or what causes your weakness—I want you to write me (Geo. S. Beck, 44 Main St., Springfield, Ohio,) in strict confidence, mentioning this paper, and I will tell you on my solemn oath about the "Wonder-Worker" that made me a strong man and has brought virile strength to more than 300,000 men in past five years.

CRITERION HOTEL

BROADWAY AND 41ST STREET,
 NEW YORK.
 HANDY TO EVERYWHERE.
 EUROPEAN PLAN.
G. T. STOOKHAM,
 Formerly Manager Midland Hotel, Kansas City.

\$1.25

Topeka Semi-Weekly Capital and Kansas Farmer for one year only One Dollar and Twenty-five Cents.