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Cards of four lines or less will be inserted in the Breeders' Directory for \$15 per year or \$8.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent to the advertiser during the continuance of the card.

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#### AND POLAND-CHINAS.

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(Breeders' Directory continued on page 16.)

## Agricultural Matters.

### EXPERIMENTS WITH CHINCH BUG INFECTION IN 1894.

By Chancellor F. H. Snow, State University, Lawrence. Read before the annual meeting of the Kansas State Board of Agriculture.

During the year 1894, field experiments for the destruction of chinch bugs by the artificial introduction of contagious disease have been prosecuted upon a larger scale than in any preceding year. No fewer than 8,000 packages of infection were sent out to individual farmers in Kansas, Missouri and Oklahoma territory. The States of Nebraska, Iowa, Missouri and Illinois having followed the example of Kansas in the establishment of distributing stations, the demands from those States upon the Kansas station was very much smaller than it otherwise would have been; although from the State of Missouri the demand was larger than in any preceding year.

In addition to the distribution of infected material from the central station at the State University, forty-four auxiliary distributing stations were established in as many different counties in Kansas and Missouri, thirty-two of these stations being located in Kansas and twelve in Missouri. It was anticipated that the establishment of these sub-stations would reduce the demand upon the central station, but this anticipation was not realized, as large numbers of farmers apparently preferred to make certain that the infection was genuine by obtaining it from the laboratory of the central station.

The demand for infection from the laboratory from the southern third of the State of Kansas was far less than in the preceding years. Not a single application for the establishment of a sub-station was received from the counties of Barber, Harper, Kingman, Sedgwick, Sumner, Butler, Cowley, Elk, Chautauqua, Montgomery, Neosho, Labette, Crawford and Cherokee. In the year 1893 individual farmers from the above-named counties sent in applications for infection to the number of 1,303; in the year 1894 less than 15 per cent. of that number, or a total of only 195 applications, were received from the same area. A trip to Labette county the last week in June convinced the writer that the falling off the number of applications from this district was not from loss of faith in the good effects of the infection, but from the almost entire disappearance of the bugs. Indeed, the majority of the farmers attributed the small number of chinch bugs to the good effects produced by the infection in the preceding year. That the uninjurious numbers of chinch bugs in the counties named was not due to meteorological causes, is indicated by the fact that substantially the same conditions of temperature and rainfall prevailed over the whole of eastern Kansas up to the time of the writer's visit to Labette county.

That the chinch bug area has moved to the northeast, is indicated by the fact that a much greater number of applications for infection was received from the northeastern counties in 1894 than in any preceding year. From the following counties, in 1894, 1,123 applications for infection were received, as compared with 462 applications in the year 1893: Johnson, Douglas, Wyandotte, Leavenworth, Jefferson, Atchison, Doniphan, Brown, Pottawatomie, Nemaha, Marshall and Washington. There was thus a decrease of 85 per cent. in the amount of infection sent to the southern counties in 1894, and an increase of 140 per cent. in the amount sent to the northeastern counties.

A large proportion of the thirty-two sub-stations located in Kansas were established by the County Commissioners of the counties in which they were located. Among this class were stations in Allen, Barton, Dickinson, Lyon, Miami, Mitchell, Osborne, Ottawa, Reno, Rush and Saline.

No sub-station was allowed to be established unless the individual who was to take charge of the station should first have visited the laboratory of the central station for the purpose of obtaining instruction as to the identification of the true parasitic fungus as

compared with other fungi readily mistaken for the genuine parasite by an uneducated observer, and also as to the proper method of propagating the infection at the sub-station.

It is estimated that each of the forty-four sub-stations supplied an average of 300 farmers with infection. This gives a total of more than 13,000 farmers supplied with infection from the sub-stations. If to these be added the number supplied from the central station, it appears that upwards of 20,000 farmers in the chinch bug area were supplied with infection during the year 1894. Reports have been received at the central station from upwards of 3,000 experimenters. About 60 per cent. of these reports were favorable, and indicate an immense saving of crops, consequent upon the use of the infection sent out from the central station. The reports from the sub-stations are variable in their character. Inasmuch as the majority of these sub-stations were not established until late in the season, the dry weather and hot winds of July and August seriously interfered with the infection sent out from such stations. The sub-stations which were established early in the season reported much more favorable results. The sub-stations should be established at a very early date in the season in order to secure the best results. As a rule, the agents in charge of the sub-stations reported that, where the experimenters carefully followed the directions, successful results were obtained. It is too often the case that the experimenter departs from the letter of his instructions at almost every point, and charges failure to some defect in the character of the infection. Persistent effort in carrying out the details of the method is as essential to success in field experiments for the destruction of the chinch bug as in any other legitimate agricultural enterprise.

An improvement adopted the present season in the infection boxes has been the spreading over the bottom of each box a layer of moist soil about an inch in depth. This seems to afford conditions for the propagation of the *Sporotrichum* more in accordance with the natural conditions which prevail in the field.

During the season of 1894, for the first time since the beginning of our experiments, the chinch bugs have attacked fields in the immediate vicinity of our laboratory. This gave us the first opportunity of conducting an experiment which could be under our own personal supervision from beginning to end. Inasmuch as this may be taken as a standard example of the manner in which the *Sporotrichum* works in the field I will append the following notes:

The field experimented upon was a corn field 100 rods in length, a portion of which joined the University campus, and the remainder a wheat field from which the wheat was cut on June 20. When the wheat was cut, it was noticed for the first time that chinch bugs were abundant in the wheat. They moved immediately from the wheat field into the adjacent corn field belonging to another owner. The bugs were first noticed by him in the corn in large force in A and B, blackening the stalks, on Saturday, June 23. The bugs were in about twenty rows in field A, and about ten rows in field B. A strip of potatoes between corn in field B and the wheat field had hindered the bugs in their progress into B. The contents of one of the laboratory boxes of the 24x26x6 inches dimension was taken out, earth and all, and used for the infection of these fields, on the morning of Saturday, June 23. In field A, the infection was put in the axils of the leaves and at the bases of the stalks of every hill of rows 4, 5, 7 and 9. In field B, the same was done for rows 2 and 3.

Search was made before distributing the infection for possible *Sporotrichum* bugs, already spontaneously in the field, but none were found. Previously to June 23, there had been frequent rains, so that the ground was moist at this time. On the night of June 23, heavy rain fell, and again on the afternoon and night of June 24. The afternoon rain was accompanied with heavy hail. Some of the stones were an inch in diameter. The night rain of the

24th was driven by a strong west wind, so that the corn was laid flat in places. The field was visited on the afternoon of the 25th, and the bugs were found in as good condition and as numerous as on the 23d. It was the intention to scatter more infection the 25th, but a rain storm came and further infection was deferred. On the morning of June 26, a bucket of soil was taken from the infection box and scattered in each hill of rows 9, 10 and 15 of field A. At this time the bugs appeared in good condition, and no signs of the spread of the infection were apparent. The bugs had advanced somewhat into a third field, C, and infection was scattered down row 15 of this field for the few rods the bugs extended, and also in different places in row 15. The morning of June 26 was warm and clear.

On the morning of June 28 a bucket of earth from the infection box was scattered at every alternate hill through row 18 of field A, and at intervals of every two or three hills through rows 1 and 2. Only a few *Sporo.* bugs could as yet be found. The bugs were working in great force. Under clods and fallen stalks and leaves large numbers of the bugs were gathered for molting. Most of the bugs on the standing corn were black larvae and pupæ, but there were a few red larvae and a few old-winged and newly-molted-winged individuals. The morning was clear and warm. A slight shower on the night of the 27th. Earth moist in the field.

July 2.—Bugs from the infection boxes sufficient to infect each hill for two rows were scattered in field A where bugs were thickest out to the fifty-second row, the bugs having extended to that distance. A few white fungus bugs could be found at nearly every hill. The bugs were apparently not more than half as numerous as when the field was first infected, but they had scattered as far as the fifty-second row, and this may account for the apparent decrease. Bugs were continually hatching and molting.

July 5.—There was a heavy rain on the morning of the 4th. Bugs covered with *Sporotrichum* can be found in great quantity under fallen corn stalks and clods. One and one-half gross of pill boxes were filled from the field to-day. The victims are chiefly old bugs, but not all.

July 9.—More *Sporo.* bugs were scattered along the advance line of the chinch bugs. The bugs had made very little headway since the 2d of July. From two to three gross of infection boxes are filled with *Sporo.* from this field daily. The bugs, both old and young, seem to be but sparingly present in the field. Here and there a very few live bugs may be found in the axils of the leaves and under clods.

July 13.—The *Sporo.* is continually increasing in the field, but there is a larger number of live bugs on the corn in places than could be seen on the 9th.

July 16.—There was a heavy rain on the 15th. There are plenty of *Sporo.* bugs and pickers are still at work and have not ceased since they began on the 5th.

July 18.—*Sporo.* is increasing over the field, but the bugs are numerous in occasional spots. These bugs are of all ages, but adults greatly predominate. The dead bugs or mummies gathered by the pickers now include large numbers of little red bugs, as well as the pupæ and the adults.

July 22.—A visit to the field shows the live bugs reduced to a satisfactory minimum; probably not more than 1 to 2 per cent. remain of the number which blackened the stalks for from two to three feet above the ground for twenty rows when the infection was first introduced. The entire field promises an abundant crop of corn, and even the outer rows where the attack was most severe, are well eared and luxuriant in foliage.

From this field the pickers had already gathered 7,000, and might have gathered 25,000, boxes of *Sporotrichum* covered bugs, as a reserve stock for early distribution to the farmers for use in the wheat fields in the spring of 1895. If in every township in the State of Kansas infested with chinch bugs a similar gathering should be made by the Township Trustees and distributed to the

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## AYER'S Hair Vigor

Prepared by Dr. J. C. Ayer & Co., Lowell, Mass.

Take Ayer's Sarsaparilla for the Complexion.

farmers early in the spring, the chinch bug would soon be reduced to an uninjurious minimum.

Fourteen farms were visited by my assistant, Mr. Marcy, in Douglas county. The field of Jacob Flory, of Willow Springs, had been infected earlier than any of the other fields visited, namely, immediately at the time of cutting the rye. This field was in better condition than any of the other fields which had been infected with *Sporotrichum* only after the bugs had made some progress in them. Mr. Elm, who had no faith in the infection and did not use it, owned a piece of corn adjoining the east side of a wheat field. Mr. Marshall, who used the infection, owned a piece of corn adjoining the wheat on the west and south, and being joined on the south by a field of oats. The bugs went into Mr. Elm's field from the wheat field and into Mr. Marshall's field from both the wheat and oats. Mr. Elm's corn was almost entirely destroyed. Mr. Marshall's field suffered marked injury only in the first few rows bordering the wheat and oat fields. The contrasting results in the infected and non-infected fields were very striking and convincing. *Sporotrichum* was very abundant in Mr. Marshall's corn field, while in Mr. Elm's field it was discovered in two places only.

The last visits to the fields in the county were made towards the end of July, after the bugs had molted and scattered. The number of live bugs in infected and non-infected fields at this time was about the same, but the non-infected fields had suffered much greater damage than the infected fields.

At the time of the earlier visits through the county, before the bugs had molted and scattered, the larger number of bugs in the non-infected fields was very noticeable.

The method employed in the laboratory for propagating the infection for distribution was found efficient for supplying the large demand of the past year, and would probably answer for any demand, however large.

*Sporotrichum* has been made to grow abundantly and bear fruit on potatoes, squash, gelatine and horse dung. It is possible that this material may be used to good advantage for the distribution of infection to farmers. The method already employed, however, is efficient and entirely practicable in the hands of farmers.

*Sporotrichum* has been found destructive to bed bugs, hen lice and hop lice, and various other species of insects, and its use as a destroyer of insect pests may be undoubtedly much further extended.

## Six Years of Subsoiling.

By Scott Kelsey, Topeka, in March Report Kansas State Board of Agriculture.

My farm adjoins Oakland on the east, about three miles from the center of Topeka, and contains 187 acres, all in the Kaw valley. I first occupied it fifteen years ago, and found it produced about thirty bushels of corn per acre, and other crops in the same proportion. I believed the soil on this farm could do better, if given a chance, and at once commenced plowing deep, my previous experience in Indiana having satisfied me of its importance and value. I have tried to improve on my methods of cultivation every year since, and, as a result, have averaged over sixty bushels of corn per acre for the fifteen years, and have never had a variation of over twenty bushels per acre between the best and the poorest crops, except in 1894. It was my privilege to introduce the first lister into this part of Kansas, in April, 1881, and for several years I was almost the only farmer in the county planting and cultivating corn one way only. I found that listing corn suited the soil on my farm better than check-rowing and have continued it ever since.

Notwithstanding the increase in corn and wheat yields, I was still of the opinion I needed to go deeper into the soil than I had yet been able to do. I went to Kansas City in the spring of 1888, and, after much difficulty, found probably the only subsoil plow in the city, and bought it at reduced price because the dealer wanted to get rid of it. I subsoiled twenty acres by following the surface plow during the spring of 1888. The results were a crop of corn enough better in quantity and quality to encourage me to go on. I did not measure and weigh the corn on the subsoiled land to determine the exact difference, but always considered that the increase was at least 20 per cent., and the corn ears were always better filled out and heavier where the land was subsoiled. I am well satisfied that I get much better results from manure plowed in surface soil when a subsoiler follows than where manure is applied to land that has never been subsoiled.

In fall plowing, I noticed a dryness in the subsoil of the land that had been longest in cultivation, but when I came to land that had only been in cultivation a few years, I found a marked change, the subsoil being more mellow and moist, which led me to infer that land, no matter how uniform the texture after sod is first subdued, will, with continued cultivation at uniform depth, become compacted or hardened immediately below the surface cultivation. When subsoiled, the dryness of the under soil disappears, and the whole seems to be uniformly mellow and moist as deep as plowed. In husking corn we could always tell to a row when we came to subsoiled land.

During 1893 and 1894, I have given more attention to the quantity of corn gathered from subsoiled land. One piece of land containing thirty acres, plowed and subsoiled to a depth of twenty inches in the fall of 1890, and again in the spring of 1893, gave a yield of eighty-five bushels per acre for the season of 1893, and the same piece of land, without subsoiling, reproduced sixty-five bushels per acre for the season of 1894. The extreme dryness of 1894 did not seem to seriously affect it. Another tract of twenty-five acres that was subsoiled in the fall of 1882, and has not been subsoiled since, is of the same quality as that subsoiled, and having equally as good cultivation and care during the season of 1894, gave a yield of only thirty-five bushels per acre, and the corn was of inferior quality and chaffy. When the dry weather set in, this corn began to fire at the bottom, and evidently was suffering from lack of moisture, while the corn on land thoroughly subsoiled in 1890 and 1893 maintained a good color until maturity. It did not seem to be affected by dry weather; matured fully, and made good, sound corn.

In the spring of 1894, I planted twenty-eight acres in early potatoes, about one-half being on land subsoiled in the fall of 1892 and again in the fall of 1893; the other half had never been subsoiled. The potatoes averaged 100

bushels per acre, and I did not notice much difference in the yield on the land subsoiled or that not subsoiled. Evidently, crops maturing before the hot weather sets in do about as well on surface plowing as on subsoiled ground. A portion of this twenty-eight acres of early potatoes was sown to millet after the potato crop had been "laid by," all at the same time, in the same way, with the same seed, and came up alike; but during the July heat the millet on the surface-plowed land all died, and I did not harvest a pound from it. That on the subsoiled land did not seem in the least affected by the dry weather, and I gathered from it a yield of one and one-half tons per acre.

It is during July and August that the value of subsoiling is made manifest.

Part of my land was planted to trees, by nurserymen. The trees were all ways lifted with a tree-digger, that runs twenty inches in the ground. Corn planted on such ground always gave larger returns the first two seasons after the tree-digger had been used. My neighbor, Mr. Taylor, just across the road on the south, planted corn, in 1894, on land where the tree-digger had been used the previous autumn. The corn "suckered" badly and averaged five stalks to the hill, and yet Mr. Taylor informs me that it yielded fifty bushels per acre, and if the stand had been thinned 50 per cent. the yield would have been at least twenty bushels per acre greater.

I am well satisfied from my six years' experience here that subsoiling is profitable on my farm, and in the Kaw valley. I also find that the good effects of subsoiling last about three years. I have, therefore, decided to subsoil, if possible, one-third of my farm each season. I run the surface plow eight inches deep, and follow with the subsoiler, loosening it eight to twelve inches deeper. This puts it in condition to readily receive all the water that falls during a heavy shower, and the surplus readily finds its way into the soil below the plowing, to be stored there for use of the growing crops in the dry weather and while the grain is maturing.

I prefer subsoiling in the fall and early winter, as I have more time then. I get more out of the winter rains and snows, and I believe the soil is in better condition for spring planting. Where subsoiling is done in the spring, it needs good rains following to produce best results for that season.

I am a strong believer in subsoiling, in deep plowing, in thorough cultivation and in keeping the soil pulverized to the greatest depth possible, having found by experience that it pays.

In ten years, the wheat crop on my farm has averaged twenty-four bushels per acre, including one season of complete loss by freezing. The corn crop has averaged over sixty bushels per acre on all my subsoiled land, since I began subsoiling. Having introduced potatoes as one of my crops, I have just marketed the crop of 1894 from twenty-eight acres, for which I realized \$1,495.71, besides twenty tons of millet grown on the same land worth \$100, making returns of \$1,595.71 from this twenty-eight acres, for an extraordinarily unfavorable year.

When fevers and other epidemics are around, safety lies in fortifying the system with Ayer's Sarsaparilla. A person having thin and impure blood is in the most favorable condition to "catch" whatever disease may be floating in the air. Be wise in time.

## New Dining Car Service.

It is a pleasure to note the addition of another important feature to the already competent train service of the Nickel Plate Road. The Dining Car service of this popular low-rate line has recently been augmented, by which dinner will be served on train No. 6, leaving Chicago at 2 p. m., daily, and breakfast and dinner on train No. 2, leaving Chicago daily at 9:20 p. m., with direct connections for New York and Boston. Breakfast and dinner will be served on train No. 5, arriving at Chicago at 9:35 p. m., from New York and Boston.

For full information regarding routes, rates, maps, folders, etc., address your nearest ticket agent or

J. Y. CALAHAN, General Agent,  
Chicago, Ill.

## The Stock Interest.

## THOROUGHbred STOCK SALES.

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

SEPTEMBER 6—Walter Latimer, Garnett, Kas., Poland-China swine.  
OCTOBER 4—Winterscheidt Bros., Horton, Kas., Poland-China swine.  
OCTOBER 9—Geo. W. Nail, Odessa, Mo., Poland-China swine.  
OCTOBER 22—F. M. Lall, Marshall, Mo., Poland-China swine.  
OCTOBER 23—C. G. Sparks, Mt. Leonard, Mo., and G. L. Davis, Elmwood, Mo., Poland-China swine.  
OCTOBER 30—L. N. Kennedy, Nevada, Mo., Poland-China swine.

## Cottonseed Meal is Dangerous.

EDITOR KANSAS FARMER:—I read, some time ago, with considerable interest the article of one of your contributors upon the use of cottonseed meal as a feed for stock. In it he says the cottonseed is as yet an experimental feed, having "been fed but about six years." He further says, "it is a very one-sided food and must be mixed with great care." As an untried feed and one that must be handled as carefully as dynamite, it seems to me to be an unsafe thing to take any chances with.

In the second paragraph he says it "will lay on flesh faster than any known food, but about sixty days is the extent of the animal's power to stand the strain and they should then be marketed." If this be true, as it no doubt is, it seems that it is a dangerous feed, for if it cannot be eaten by cattle after sixty days, it has caused a diseased condition of the cattle. If the cattle are not fit to feed longer, one of two things must happen—either the feeder must sell his stock and take what he can get for them or they will die on his hands. If they die, he is the loser. If he sells them the consumer is the loser, for he gets diseased beef, not fit to eat, and that is likely to cause him sickness. It does not seem right or honest for feeders to put their calculations entirely on a money basis, when they know that by feeding this stuff they will endanger the health of the ones who eat the beef or pork. The feeder himself would not place it before his own family, and why sell it to others if not fit for him to eat?

Careful inquiry at the Kansas City stock yards develops the fact that cattle fed on cottonseed meal come to the yards in sick condition, and that when they are slaughtered there are found in the stomach and intestines ulcers and suppurating sores, about the size of a man's thumb-nail. In other words, it is found that the reason the cattle cannot stand the strain of this feed is because it destroys the stomach and sooner or later—not to exceed ninety days on the average—will cause blood-poisoning, which means death invariably. This condition of things is not found in animals fed on any other manufactured food.

To me it seems like tempting providence to experiment with a food that is known to be so dangerous, and in these hard times we cannot afford to take the tremendous chances of having our cattle and hogs die on our hands from feeding them this dangerous stuff.  
Topeka, Kas. L. L.

## "Black-Leg."

This disease is one quite familiar to most stockmen of Kansas, and one which causes considerable loss from year to year. It is peculiar in its nature, and as observed in this State is confined to young cattle, and attacks only those that are in good condition, or fat. It seems probable that the constitution of the animals in this condition is weakened so that the germ can gain entrance and grow sufficiently to produce the disease.

The principal symptoms are lameness, fever, swelling along the back, but especially about the muscles of the hip or shoulder. There is a formation of considerable gas under the skin, so that rubbing the skin firmly causes a peculiar crackling sound. The tumors mentioned often contain a black gaseous fluid. The animal dislikes to move, and when exercised there is a stiffened, stilted action with marked lameness.

"Black-leg" is caused by a parasitic germ; that is, a germ that grows nat-

urally upon grass or other forage plants, and when taken into the system of a susceptible animal (young and in good condition) locates and grows most vigorously in the superficial muscles and in loose connective tissue between the skin and the flesh, causing the formation of gas, turning the blood very dark in color, and forming the tumors of black tarry-looking material.

It is not transmissible from one animal to another except by direct inoculation, nor is it transmitted by contact. Where several animals in a herd take the disease they are supposed to get the germs from the same source, either in the food or water.

The treatment of sick animals is not satisfactory; some recover, but more die. As soon as animals are taken sick, the well ones should be taken off the infected pasture so they will not get the germs from the food or water. The treatment generally practiced on the sick animals is purging, bleeding, putting setons, or "rowels," in the dewlap, running them, etc. The most rational and satisfactory treatment is preventive, and the following remedy has given excellent results. It is not announced as a sure preventive, but I have yet to hear of a failure. Take equal parts of sulphur, hyposulphite of soda and common salt; mix thoroughly. If the young cattle are salted with this, say twice a week, not giving enough to purge them, experience seems to show that it will prevent "black-leg" among young cattle.—Prof. N. S. Mayo, D. V. S., in the *Industrialist*.

## How to Compute a Ration.

Many queries come in on this subject. I give here a few hints to show how each may himself figure his rations for his stock. The ratio required (of flesh and blood-formers to heat and force-formers) by young stock is about 1 to 4 or 5; by milch cows, work horses, etc., in moderate weather, is 1 to 6 or 7; by stock animals or horses at rest in winter is about 1 to 12. The ratio contained in, for wheat bran, 1 to 4; best clover hay, about 1 to 4 or 5; oats and wheat (each), 1 to 7; corn meal, 1 to 10; corn fodder, 1 to 15; timothy hay, 1 to 12 or 13; straw, 1 to 32 to 35. These are the more common feeds on most farms now.

Now suppose you want to balance straw (1 to 32) with clover hay or prairie (1 to 4) for stock animals at rest in winter (requiring 1 to 12). First find how far each given feed is from the requirement of the stock, one below and the other above, and you will find that the number of pounds of each will be inversely as its distance from the requirement. For example, put it thus:

The stock animals at rest in winter require a ratio of 1 to 12.

Straw contains a ratio of 1 to 32; 20 points above.

Clover contains a ratio of 1 to 4; 8 points below.

Now take them inversely and feed as many pounds of straw as the points of clover vary from the requirement, i. e., 8 pounds of straw to every 18 pounds of clover. You can prove it by trial, thus:  
20 lbs. clover (1 to 4) multiplying, equal 20 to 80  
8 " straw (1 to 32) " " " " 8 to 256  
(Adding) 28 lbs. of mixture (1 to 12) ... 28 to 336  
Dividing by 28 we get the required ratio. 1 to 12

The point is to take the feeds that cost you least, for example, corn fodder, straw, clover hay, etc., and adjust them so as to get as cheap a feed as possible within 1, 2 or even 3 points of the requirement. If you wish to use three feeds, combine two first and then their sum with the third. For example, corn (1 to 10) ground half and half with oats (1 to 6 or 7) would give a ratio of about 2 to 16 or 1 to 8, and this mixed feed could be used to balance straw, corn fodder or timothy hay. A little practice will make the work easy and do the "average farmer's" brain much good.—W. I. Chamberlain, in *Ohio Farmer*.

A child was cured of croup by a dose or two of Ayer's Cherry Pectoral. A neighbor's child died of the same dread disease, while the father was getting ready to call the doctor. This shows the necessity of having Ayer's Cherry Pectoral always at hand.

"The Farmer's Ready Reference, or Hand-Book of Diseases of Horses and Cattle." Descriptive circular free. Address S. C. Orr, V. S., Manhattan, Kas.

# Irrigation.

## Tame Fish.

As a great majority of those farmers who will attempt the raising of fish are also irrigationists, it will not be supposed that the fish-raising is the chief object to be sought. Fish culture will be, with them, but a side issue, like the raising of bees or of poultry by the alfalfa farmer and the raising of truck by the orchardist. This being true, there are yet some considerations worthy of attention by the pond-builder that will at once insure greater success in growing fish, and at the same time not interfere with the chief object for which the pond was built.

Among the considerations may be named the shape of the pond. If it is desired that the fish shall not only increase in size, but shall multiply in number as well, then some provision must be made for the protection of the fry from destruction by the mature fishes. It is also necessary that some provision be made for the spawning of the breeding fish. To accomplish both of these objects, it is necessary that there shall be a considerable expanse of shallow water. The spawners of all varieties of pond fish require a shallow depth of water which will be readily warmed by the sun, and wherein may grow an abundance of plant life in which to deposit their spawn. The carp and other fishes, being vegetable feeders, will need this plant growth for their better sustenance. And it will prove an harbor for the animal life necessary for the carnivorous fishes. In addition, this shallow water will become the nursery for the fry of all varieties, and protect them from the greedy maws of over-affectionate parents or relatives.

In stocking a new pond the variety of fish to be selected is of importance. Until nature can adjust herself to the new conditions created by the building of the pond it is earnestly recommended that German carp only be used. Being vegetable feeders, the carp are more easily fed and cared for until the pond becomes self-sustaining, and, as they are bottom feeders also, their services as puddlers will be valuable. Also, the fry of the carp make a most excellent food for the black bass, crappie, catfish and other and better varieties with which it may prove desirable to stock the pond.

German carp may be readily and easily obtained from the Fish Commissioner, from long-established ponds, or from a few of the streams of the State. The better way will probably be to secure them from the owner of a pond where they are breeding. Almost every neighborhood in eastern Kansas has them, and the writer knows of one place where the ditches along the railroad fairly teem with them.

It will also be necessary that some portions of the pond be made deeper than the bottom of the gates in order that the fish may be retained in the pond when the gates are opened.

A very desirable addition to the appearance of the pond may be made by the judicious planting of water-growing plants in the shallow margins, and of trees and shrubs on the ground outside the embankment. These cost but little, and may be made the source of a very considerable profit in fruit returned, besides their value as shade for the pond.

This is a new era for western Kansas, and the works of the pond-builders shall occupy the sites of those of the mound-builders, and the windmill shall accomplish in round measure what the timber culture act failed to do, and the bee, the hen, the cow and the fish shall be prominent among the agencies which shall assist the resident farmer in his conquest of the "Great American Desert."—Secretary I. D. Graham, in *Industrialist*.

Every farmer in Kansas, and especially the breeders and stock-raisers, should have the greatest live stock journal in the world, the *Breeder's Gazette*, of Chicago, price \$2 a year. We make a special offer of it and the *KANSAS FARMER*, both papers one year, for only \$2. Subscribe now through this office.

## Evaporation Table for the United States and Other Regions.

By Charles W. Irish, Irrigation Engineer, of California.  
Evaporation by months in inches.

Month	January	February	March	April	May	June	July	August	September	October	November	December	Annual
At Boston, Mass., by D. Fitzgerald, C. E.	2.41	3.81	5.05	6.55	10.73	13.15	15.22	14.90	12.20	9.36	4.41	2.92	100.30
At the Croton Water Works, New York, by J. J. R. Cross, C. E.	2.01	2.80	5.91	7.68	8.22	9.62	11.78	11.40	9.19	8.62	5.43	1.84	81.50
Average for the whole United States.	1.66	2.48	3.23	4.75	5.66	6.04	4.93	5.30	4.72	4.21	3.24	2.46	48.35
At Madrid in Spain.	1.50	2.00	3.00	5.23	6.75	10.25	13.50	11.00	6.00	3.75	1.50	0.50	65.00
The five hottest months in India.	.....	.....	.....	12.25	11.60	12.17	10.19	15.12	.....	.....	.....	.....	61.24

### EXPLANATION OF THE EVAPORATION TABLE.

The rates given on line 1 are for a region ranging from the Black Rock desert in Nevada southward and including a portion of California and Arizona to Yuma.

Line 2, for a region triangular in shape, ranging from Idaho Falls westward to Portland and Red Bluff.

Line 3, for a region extending from Winnemucca to Cheyenne southward to Tucson and Amarillo.

Line 4, for a region including the central valleys of California from Red Bluff southward to San Diego.

Line 5, for a region triangular in shape, extending from Cheyenne northwesterly to Walla Walla and Medicine Hat.

Line 6, for a region, hour-glass in shape, extending from Cheyenne to San Antonio, thence eastward, including Palestine and Fort Smith, St. Louis, Columbus, Chattanooga, Meridian and all of western Florida.

Line 7, for a region, lane-shaped, extending from Corpus Christi, Palestine, Shreveport and Vicksburg to Pensacola.

Line 8, for a very irregular region, south, extending eastward from Havre, Miles City, Cheyenne, Pierre, Wichita, Omaha, Fort Smith, Keokuk, St. Louis, Sandusky, Cincinnati, Columbus, Albany, Chattanooga, Wilmington, Jacksonville.

Line 9, for a region extending southeasterly from Miles City to Huron, Moorhead, Omaha, Red Wing, Keokuk, Milwaukee, Sandusky, Port Huron, Detroit, Northfield, Portland, Boston.

Line 10, for a region including the great lakes and extending from thence eastward to the mouth of the St. Lawrence river, and including Moorhead, Port Arthur, Sault Ste. Marie, Rockliffe, Quebec, Chatham and Halifax.

These results are to be considered as approximations only, they being based upon thirty-six determinations carried on for two years (1887 and 1888), combined with all other reliable information and observations to be obtained.

### Rainbow Trout.

EDITOR KANSAS FARMER:—Will you please to inform me through the FARMER where I can get a supply of rainbow trout, black bass and channel catfish to stock a small dam with that is fed by spring?

Palmer, Kas. THOMAS BROWN.

In answer to Mr. Thomas Brown's letter regarding fish supply to stock ponds, will say, that he should write to the United States Fish Commissioner, Hon. Marshall McDonald, Washington, D. C., for an application blank, on which he will find instructions how to get a supply from the fall distribution, which usually takes place in Kansas in October. The Commissioner will only have rainbow trout and black bass for fall delivery. At least I have been so informed. Channel cat can, I think,

be had of ex-State Fish Commissioner J. W. Wampler, of Brazilton.  
J. H. CHURCHILL.  
Dodge City, Kas.

### Potatoes by Irrigation.

EDITOR KANSAS FARMER:—I will tell you just what I know by experience and what I have seen my neighbors do. I raised a small patch for my own use last season.

The first thing is to irrigate the ground well—soak it down a foot or eighteen inches. Then, as soon as dry enough, plow it as deep as possible, the deeper the better. After planting, cultivate the ground well, throwing the dirt to the potatoes each time you cultivate. This throws up a ridge, so that when you water your potatoes the water will not touch the vines, but will sub-irrigate to the roots. Potatoes should not be irrigated until the bloom begins to drop. Then two good irrigations are plenty to make a good crop; but should your ground get dry, so as to stop the growth, then you had better let them alone, for then if you put water on them it will start a second growth, that makes them knotty and rough.

As for alfalfa sod being any better than any other ground, it is because it is very rich ground. Any ground that is well manured is just as good as alfalfa sod. Mr. Neeley raised as fine potatoes as anybody ever saw on old ground well manured. They went about 250 bushels to the acre. He irrigated them three times. His potatoes took first prize at our county fair. The Odway Land and Water Co. had in sixty acres last year that averaged 150 bushels to the acre with two irrigations. They used a subsoiler. The most of this ground was in oats the year before. The main thing is not to let the potatoes stop growing after they once set on. It won't do to flood them, as that makes the ground bake. Potatoes should be planted about six to eight inches deep.

T. A. PARSONS.

Rocky Ford, Colo.

### A Chance to Make Money.

I have had my first streak of luck and I want to tell you about it. A little over four weeks ago I began selling dish-washers, and have cleared in that time \$400. Isn't that pretty good for the first month? I am sure I can do better every month right along, as every washer I sell helps to sell others. I can wash and dry the dishes for an ordinary family in two minutes, and as soon as people see such a machine they will buy it quick. This is a business any one can do well at, in any locality. You can get full particulars by addressing the Iron City Dish-Washer Co., E. E. Pittsburg, Pa. Don't wait till some one else gets your home territory, but start to work at once.

MRS. W. HENRY B.

## IRRIGATE!

All right; you need CHEAP Power. One Cent per Horse-Power per Hour is CHEAP. Weber Gasoline Engines run anything. "Economy is Power" is our motto. For Catalogue and testimonials, address Weber Gas and Gasoline Engine Co., 459 Southwest Boulevard, Kansas City, Mo.

## SAVED FROM NICOTINE.

Little Charley Fogleman Used Tobacco Since Babyhood, and His Father Smoked and Chewed for the Past Twenty Years—Both Set Free at Asheville, N. C.

"Is that true?" asked the *News* man at Pelham's Pharmacy, as he laid down a letter in the presence of a dozen interested customers.

"Yes, it is. It was written here on one of our letter heads, and signed by J. C. Fogleman," promptly answered the proprietor.

"You know him, don't you?"  
"Certainly; he lives at No. 5 Buxton street. We all know Fogleman is a man of his word."

"I am glad to hear it. There are so many misleading statements published nowadays that when this came in this morning's mail I came right over to ask you about it. I read the letter three times, but you read it, and you will agree with me that it is almost too good to be true." This is what the letter said:

OFFICE OF PELHAM'S PHARMACY, 24 Patton Ave., ASHEVILLE, N. C., September 12, 1894.  
GENTLEMEN:—My little boy, now eight years, began chewing tobacco when three years old by the advice of our family physician, in the place of stronger stimulants. Four or five weeks ago I began giving him No-To-Bac, which I bought at Pelham's Pharmacy, and to my great surprise, and, it is needless to say, my delight, No-To-Bac completely cured him. He does not seem to care for tobacco and is very much improved in health, eats heartily and has a much better color.

Finding such remarkable results from the use of No-To-Bac I began myself, and it cured me, after using tobacco in all its various forms, for a period of twenty years.

I take pleasure in making this plain statement of facts for the benefit of others.

(Signed) J. C. FOGLEMAN.

"Yes, I know it's a fact, and it's one of the strongest, truthful testimonials I ever read—and it's true, for I sold him the No-To-Bac."

"What's that?" asked Chief of Police Hawkins, whose manly form attired in the new police uniform, like Solomon in all his glory, came in the door.

"Why, No-To-Bac cures!"

"Cures? Why, I should say so. I have used it myself. It cured me."

"Would you object to making a statement of the fact for publication?"

"Certainly not," and the Chief wrote as follows:

ASHEVILLE, N. C., September 25, 1894.  
PELHAM PHARMACY:—I bought one box of No-To-Bac from you some time since. After using No-To-Bac I found I had lost the desire for tobacco. I was cured. I have used tobacco—chiefly chewing—for eight (8) or ten (10) years.

H. S. HAWKINS.  
Everybody looked astonished and wondered what would next turn up.

"Suppose it don't cure you?" some one asked. "Then they do the right thing when No-To-Bac won't cure." "What's that?" asked the *News* man. "Every druggist in America is authorized to sell No-To-Bac under an absolute guarantee to cure or money refunded. No-To-Bac is made by the Sterling Remedy Co., general offices in Chicago, Montreal and New York, and their laboratory is at Indiana Mineral Springs, Indiana, a big health resort they own; it's the place where they give *Mud Baths* for rheumatism and skin diseases.

You ought to know the President, Mr. A. L. Thomas, of Lord & Thomas, of Chicago."

"Yes, of course I do. We get business from them right along, and they are as good as gold. Well, give me their advertising books, and I will make a statement in the paper about what you have told me, for I know there are thousands of good North Carolina people who are tobacco spitting and smoking their lives away, and No-To-Bac is an easy guaranteed cure and they ought to know it."



HAVE YOU HEARD—  
How cheap you can buy the CURRIE GALVANIZED STEEL WINDMILL? If not, write for price. It will astonish you. CURRIE WINDMILL CO., Manhattan, Kansas.

## Are You Saving a Home for Your Children?

If you are not, you are not treating the children right. If you are not earning enough, go into Northern Wisconsin, where you can get steady work and own a farm of your own in five years. Write for information about farming there to FRED K. ABBOT, Land Commissioner W. C. R. R., Milwaukee, Wis.

## DRAIN TILE

W. S. DICKEY CLAY MFG. CO.,  
20th and Main Sts., Kansas City, Mo.

## IRRIGATION.



**HON. T. A. HUBBARD,**

President Kansas Improved Stock Breeders' Association.

T. A. Hubbard, proprietor of Rome Park stock farm, breeder of Poland-China and Large English Berkshire hogs of the most fashionable strains, is located at Rome, Sumner county, Kansas, on the Hunnewell branch of the A., T. & S. F. railroad, adjoining depot. This farm has attained a reputation throughout the country and is one of the most fitting monuments to the industry and perseverance of its proprietor, with whose name we introduce this sketch.

Mr. Hubbard makes a specialty of fine horses, cattle and hogs, especially hogs, in which he has met with unqualified success and has done much to raise the standard of this industry in Kansas.

He may properly be called a self-made man, one who has been endowed by nature



HON. T. A. HUBBARD.

with fine abilities and who has been fortunate in choosing that wise course which has enabled him to increase his talent tenfold. Mr. Hubbard was born in McKean county, Pennsylvania. He lived there and in Alleghany county, New York, until he was eleven years old, when he removed with his parents to Barry county, Michigan. His father, Jeremiah Hubbard, was born in Vermont. His mother, Eliza Sherman Hubbard, was born in Connecticut. Young Hubbard was raised by Christian parents, who both died in Barry county, Michigan.

Upon the outbreak of the civil war, Mr. Hubbard was only seventeen years old, but after watching the conflict for a time, he resolved to assist in the preservation of the Union. On October 1, 1861, he enlisted in Company B, Thirteenth Michigan Infantry. His regiment served under Generals Buell, Rosecrans, Thomas and Sherman. Mr. Hubbard made a splendid record as a soldier, and July 25, 1865, at Louisville, Ky., he was discharged from the service with the rank of First or Orderly Sergeant.

He came to Kansas in 1872, pre-empting the northwest quarter of section 26, township 33, range 1 west of 6th principal meridian, in Sumner county, Kansas, July 4, 1872, and now owns 640 acres of well-improved land.

In 1882 he commenced the breeding of thoroughbred Poland-China and large English Berkshire hogs. He now has one of the largest and best herds in the United States. Mr. Hubbard has been very successful as a breeder and an exhibitor, at both county and State fairs. In 1886 he had a wonderful herd on the road, winning the general grand sweepstakes for the best boar, best sow and best herd, any age or breed, at Sumner, Cowley and Sedgwick county fairs and State fair at Topeka, with more than half the class premiums, all except sweepstakes on boar at Winfield, and in 1887 his herd was awarded the general grand sweepstakes for best herd, any age or breed, at Bismarck and Topeka in very sharp competition, and a large list of class premiums, and he has been very successful ever since. Mr. Hubbard breeds high-grade Kentucky Short-horn cattle and Percheron horses and Partridge Cochinchickens, and it cannot be denied that the live stock interests of the Sunflower State have been greatly augmented by his labors and efforts, and in recognition of this fact the representative breeders and members of the Kansas Improved Stock Breeders' Association, at their last annual meeting in January, at Topeka, unanimously chose him as President of the association for the year 1895.

Mr. Hubbard is a public-spirited citizen and exceedingly popular with the people, and therefore has held many honorable public positions. In 1875 he was elected to the State Legislature, and was re-elected. While a member of the "General Assembly" he was on various important commit-

tees, including Ways and Means, Railroads, Public Buildings, and Chairman of the Committee on Roads and Highways. He was one of the original Plumb men, voting for Plumb every time for nine days, until he was elected United States Senator. He was elected Register of Deeds of Sumner county in 1879 and re-elected in 1881, over the combined or fusion opposition by a very complimentary vote of 901 majority. He was appointed a delegate to the third Deep Harbor convention, Farmers' Congress at Sedalia, Mo., and World's Farmers' Congress at Chicago, Ill. In 1890 President Harrison appointed Mr. Hubbard Supervisor of Census for the Fourth District of Kansas, and he had the appointing of about 500 enumerators and the control of one of the largest districts in the United States, and that fall was a candidate for Congress from the great Seventh district, receiving twenty-five votes in convention, but was defeated by Col. Hollowell. He has served as President of Sumner county fair, and under his management it was successful, clearing \$1,200 after paying all premiums and expenses.

Mr. Hubbard is an active member of various organizations. He is a member of St. John's Commandry No. 24 K. T., also Chapter and Blue lodge, and Wellington Lodge No. 24 A. O. U. W., also James Shields Post No. 24 G. A. R., and has been a prominent member of the State Board of Agriculture since 1876. He has also been a member of the Swine Breeders' Association and of the Improved Stock Breeders' Association from their infancy, helping to organize each.

**Gossip About Stock.**

W. E. Gresham, Burrton, Kas., writes that "Quality herd now has about seventy youngsters of first-class individuality and breeding, by Darkness Quality and Ideal U. S. (by Ideal Black U. S.), both first-prize winners, Kansas State fair, 1894. The great Darkness F. 73223 O., dam of World's Fair litter, is raising a good litter; U. S. White Face (by Black U. S.) has nine good ones by Quality; Bessie Wilkes ten by Ideal U. S. that are second to none; Beauty S. five by Ideal U. S.; Black Rose six by Quality. More to follow soon."

H. A. Burton, of Salisbury, Tex., writes as follows concerning one of our advertisers: "The bottle of Gombault's Caustic Balsam I ordered some three months ago came all right. I am liable to order almost any time, for I am running a 2,000-acre horse ranch here, and a 480-acre horse farm in Cass county, Iowa, where I was when I ordered my first trial bottle. My first bottle almost performed miracles. It took a hard calloused leg down in five or six applications. The lump was nearly as large as the horse's knee, and I put him in races afterward and he didn't show any lameness."

Hillhurst stock farm, Walter Latimer proprietor, Garnett, Kas., is a new advertisement appearing in this number of the KANSAS FARMER. Don't fail to read it, and don't forget his sale date, which is Friday, September 6, 1895, for on that date Mr. Latimer will offer as fine and well bred lot of Poland-Chinas as ever placed on public sale in the West. Col. Sawyer will be master of ceremonies, and that forecasts good luck to every purchaser. Breeders who expect to exhibit stock at the different county and State fairs this coming autumn, will consider their best interests by consulting Mr. Latimer, as he is an experienced breeder and understands what the essential points are in order to come out victorious. His herd comprises about sixty head and they are all strictly "up-to-date" Tom Corwin and I. X. L. strain. Mention the KANSAS FARMER when you write. Send your address to-day and have your name entered for a sale catalogue, to be sent you as soon as issued.

Col. Eli Zimmerman, of Hiawatha, Kas., the first to breed registered Poland-Chinas in the banner county of the State, reports, among other things, that everything, from an agricultural standpoint, is very promising in Brown county. The prospect for grain, grass and fruit was never better. All kinds of live stock came through the winter in good condition, and still more gratifying, the Brown County herd of Poland-Chinas presents eighty-seven youngsters for care and attention. The individuals belonging to the March and April farrows are right up with the times—in fact, a little better, as they are all legal tenders and mortgage-lifters, sure. The three breeding boars have proven themselves extra good sires, and as they were untried some little risk was taken, but as the old saying goes: "All's well that ends well," and Eli says he'll "git thar," sure, if no misfortune overtakes the herd before sales day, next October. Model Wilkes' 13944 S. sons and daughters are of a better type and finish than was expected of him, while the get of Black U. S. Nemo 13945 S., a son of the \$275 sow, Lizer's Nemo, makes an elegant cross on the young Wilkes sows. The young fellow, Sunset Chip 13942 S., has a strong string to his credit, and individually he is growing out broad and deep and

will weigh 800 pounds on reaching his maturity. There are ten aged sows and gilts yet to farrow later on and if no misfortune overtakes the Brown County herd it will surely sustain its reputation. "A word to my fellow breeders: Take care of your pig crop. As everything now points, there will be a big demand for them this fall. I have two extra fall pigs that I could spare, one a son of Billy Wilkes and one a grandson of Short Stop. I will ship either or both on inspection and will price them at \$25 each."

The FARMER takes pleasure in calling the attention of its readers, especially those interested in poultry, to the new advertisement of Mr. Geo. W. Null, the very successful breeder, of Odessa, Mo., forty miles east of Kansas City, on the main line of the Chicago & Alton railroad. On reference to his "ad." the reader will at once understand the high-class turkeys, Barred Plymouth Rocks, Light Brahmas and Indian Games. For Kansas people the location is very accessible, and shipments need be but a short time on the way to their destination.

The well-known and successful Franklin county swine breeders, J. R. Killough & Sons, of Richmond, Kas., report their herd in splendid condition and a fine crop of spring pigs coming on. The twenty-five aged brood sows and bred gilts are of the best breeding obtainable and are headed by Upright Wilkes 13246 S., assisted by J. H. Sanders Jr. 13729 S., a son of the World's Fair winner, J. H. Sanders 27319 O. The reader will at once recognize that the blood that is being incorporated in the herd (Wilkes and Sanders) is of the highest merit and belongs to the best and most fashionable in modern Poland-China ethics. Notwithstanding their trade has been very satisfactory during the past year, they yet have some choice fall and winter pigs of both sexes that are ready to go out at very reasonable prices. The spring pig crop being greater than ever before on the farm, the room is needed for their development, hence a low price will be placed on the older offerings aforementioned. The firm renews their advertisement for another year in the KANSAS FARMER and report that the "Old Reliable" has brought very satisfactory returns during the past year.

We would not kill the calves nor sell the cows this spring; it will be surprising if the cattle market does not duplicate the recent hog market before next winter's snow begins to fly.

**No Change to Chicago.**

The through service offered the traveling public by the Union Pacific system and Chicago & Alton railroad is unsurpassed. The Perfect Passenger Service of the C. & A. with the well-known excellence of the service of the Union Pacific assures the traveling public that they "are in it" when they patronize this popular joint line from Denver to Chicago and intermediate points. Pullman Palace sleeping cars, dining cars and free reclining chair cars without charge.

For all information apply at 525 Kansas Avenue. A. M. FULLER, City Agent, Topeka.

**\$100 Reward \$100.**

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is catarrh. Hall's Catarrh Cure is the only positive cure known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer one hundred dollars for any case that it fails to cure. Send for list of testimonials. Address, F. J. CHENEY & CO., Toledo, O. Sold by Druggists, 75 cents.

**Leather gets**

hard and brittle—use Vacuum Leather Oil. Get a can at a harness- or shoe-store, 25c a half-pint to \$1.25 a gallon; book "How to Take Care of Leather," and swab, both free; use enough to find out; if you don't like it, take the can back and get the whole of your money.

Sold only in cans, to make sure of fair dealing everywhere—handy cans. Best oil for farm machinery also. If you can't find it, write to VACUUM OIL COMPANY, Rochester, N. Y.

WHAT WE SAY WE DO WE DO DO

"He had an honest look." You've heard of him. Perhaps you've seen him. Possibly you've dealt with him. And you're sorry for it now. Still you've learned something. You're never going to forget what it was that caught you. It was *that honest look*. In buying your harvesting machinery don't put too much confidence in an honest look.

McGORMICK

light-running steel binders and mowers not only have the honest look, but they have something better—reputation—character. This they have earned by long years of public service. There's stability in the very name "McCormick" and machines having that name can not be sold as cheaply as others, because they have other and more intrinsic value than "an honest look."

Seen a McCormick Catalogue? There's an agent in your town—ask him for one.

WHAT WE SAY WE DO WE DO DO

DR. ORR'S BOOK.—Readers of the KANSAS FARMER will be pleased to know that arrangements have been made whereby they can obtain this concise and well nigh invaluable "Farmer's Ready Reference or Handbook of Diseases of Horses and Cattle" in combination with this paper at a slight saving in cost.

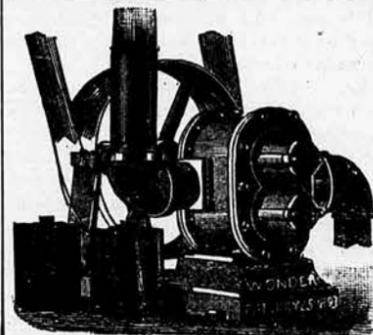
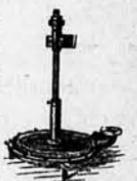
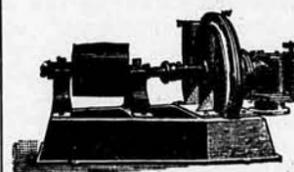
The separate prices of these are:  
 Dr. Orr's Book.....\$1.25  
 KANSAS FARMER, one year..... 1.00

Total.....\$2.25  
 Two dollars sent either to the Kansas Farmer Co., Topeka, or to Dr. S. C. Orr, Manhattan, will secure both, making a saving of 25 cents.

**IRRIGATION MACHINERY.**

If you want the most practical, efficient and cheapest irrigation pumping machinery, write for catalogue of Centrifugal and Triplex Pumps, Engines, Boilers, Gasoline Engines, etc., to

IRVIN VAN WIE,  
 717-726 W. Fayette St., SYRACUSE, N. Y.



**WONDER PUMP.**

FOR IRRIGATION PURPOSES.

Now in successful use throughout the West. For full particulars address the

NATIONAL PUMP CO.,  
 308 W. 8th St., Kansas City, Mo.

## The Home Circle.

### To Correspondents.

The matter for the HOME CIRCLE is selected Wednesday of the week before the paper is printed. Manuscript received after that almost invariably goes over to the next week, unless it is very short and very good. Correspondents will govern themselves accordingly.

### FROM AN OLD RITUAL.

O, dwellers in the dust, arise,  
My little brothers of the field,  
And put the sleep out of your eyes!  
Your death doom is repealed.

Lift all your golden faces now,  
You dandelions in the ground!  
You quince and thorn and apple bough,  
Your foreheads are unbound.

O, dwellers in the frost, awake,  
My little brothers of the mold!  
It is the time to forth and slake  
Your being as of old.

You frogs and newts and creatures small,  
In the pervading urge of spring,  
Who taught you in the dreary fall  
To guess so glad a thing?

From every swale your watery notes,  
Piercing the rainy cedar lands,  
Proclaim your tiny silvery throats  
Are loosened of their bands.

Oh, dwellers in the desperate dark,  
My brothers of the mortal birth,  
Is there no whisper bids you mark  
The Easter of the earth?

Let the great flood of spring's return  
Float every fear away, and know  
We are all fellows of the fern  
And children of the snow.

—Harper's Bazar.

### PROFESSIONAL NURSES.

Many of Them Earn from Twenty-One Dollars a Week Upward.

Nursing as a profession is not a new field for women, yet on inquiry it has been found that the demand for trained nurses far exceeds the supply. This fact ought to be of interest to those who are asking: "What can a woman do to earn her own living?" Many of the professions have become so overcrowded that the chances of obtaining a position are very small unless the young woman has influence to work in her behalf. A good trained nurse is almost certain to be engaged all the time, and the possession of a diploma from any first-class training school is a guarantee that the graduate can earn a livelihood and in most cases a very handsome one.

This is a profession to which many of the noblest and most intellectual women



A HOSPITAL NURSE.

of the past century have given their lives. Who has not heard of Florence Nightingale? Here is her recommendation of nursing: "I give one-quarter of a century's European experience when I say that the happiest people, the fondest of their occupation, the most thankful for their lives, are in my opinion those engaged in sick nursing." Surely it is no small privilege where work is so well suited to a woman's capacity and one that is free from close competition.

It is a mistake to think that it is a waste of time and money to obtain an education before entering upon hospital work. The cultivation of the mind is of no less value to a trained nurse than to women engaged in other pursuits, and a well-educated, even a college-educated woman, can do more, and gain more in consequence. Nursing pays better than almost any other work in which women are at the present time engaged; but let no young woman take it up solely on this account. It must in itself possess an attraction. The successful nurse must first love the la-

bor. It is not easy, but very hard at first, when one is mastering the principles which lie at the basis of all good nursing. There ought to be a natural ability for nursing and a strong inclination to help the sick combined at the start, but after that earnest, steady work will count for more than any so-called genius. The nurse whose heart is not in her work will pass many a weary day from which a little forethought would have saved her. But if a girl thinks that she has a liking and taste for the work, then by all means let her go in and use every opportunity to fit herself for it.

Twenty-one years ago it was said that no refined, educated woman could go through the training required to make her a trained nurse, while to-day not one of our hospitals of any importance is without its training school. Few people realize the value of skillful nursing. It is essential to the success of every hospital, and there is no physician who would not be glad to have such care for all his patients. A hospital-trained nurse is a luxury beyond the majority of people, and she earns anywhere from \$21 a week upward; this outside her board, lodging and washing, of course.

The height of good nursing consists in what is done for the patient's comfort outside of the doctor's orders; the ready tact, patience, that peculiar power of soothing pain and suffering, the knowing just what to do at just the right time. The nurse must have good, sound health; be truthful, honest, trained in habits of neatness and punctuality, kind-hearted and refined. —American Agriculturist.

### CARE OF THE PIANO.

The Better the Instrument Is Treated the More Melodious It Is.

A musical instrument may be regarded in the light of an exotic, costly and requiring constant and careful attention.

It is also like a race-horse; the better its treatment the more it responds to the hand, and even in the evening of its old age is a thing of beauty with a past record of great things accomplished.

Frequently, though, a costly and beautiful piano grows worthless and tuneless because it has been neglected. Like a race-horse, also, it needs to be kept covered after use.

In frosty weather, especially, always close it when not in use, and, if possible, throw a cover over it. Keep in a moderately warm room, not too near the source of heat, and let the temperature be even. Not cold one day and hot the next, but warm all the time—say 60 or 70 degrees the year round.

Always place the piano against an inside wall, and a little out from it.

Shun the itinerant tuner who comes unrecommended, and of whom you have no previous knowledge. As soon intrust your own ills to a quack as your delicate, high-strung instrument to an ignoramus who had much better be shoeing horses or sawing wood than meddling with pianos.

Do not allow children to drum on it. True, Prof. Banghard may expend a like amount of strength upon his keyboard—I doubt if it thoroughly enjoys either treatment. But if the right keys are struck it will not affect it nor you so seriously as where children amuse themselves and wreck the Christian tempers of all listeners, but those of their fond mammas, by their soul-distorting sounds.

Resolutely avoid littering the tops with bric-a-brac, for it unquestionably affects the tone.

A well-known maker recommends frequent wiping off of the case with chamois skin wrung out of tepid water, and where the case is very highly polished and dark, this is not only necessary but productive of good results and little else will answer to remove the dust that settles resolutely in the rightly named fret work.

But if you are afraid to try this and you want to remove finger marks and blue mold, take salad oil and vinegar, and rub on a very little of this mixture with a soft rag and with vast perseverance, mighty muscle and a soft woolen rag—rub until your arm threatens to drop from the socket; then survey your work with a critic's eye, and you will doubtless pronounce the result good. —L. E. Chittenden, in Chicago Record.

Highest of all in Leavening Power.—Latest U. S. Gov't Report

# Royal Baking Powder

ABSOLUTELY PURE

### SELF-ROCKING CRADLE.

A Novelty That Will Be Welcomed by Many Tired Mothers.

A cradle set in motion by clockwork mechanism is certainly a novelty, and will be welcomed by many overworked mothers and nurses. In outward appearance this novel cot is much the same as the ordinary wire net bassinette, suspended between two upright supports, the motor being inclosed in a metal casing, which is fixed in the front part of the cot. The mechanism is wound up with a key and started by a button, when it will produce a steady and noiseless rocking motion at a very slow and gentle speed, lasting from one to forty minutes. The swinging motion can be stopped and restarted at will by a simple contrivance, and the



clockwork is constructed to rock a child up to thirty pounds in weight, corresponding with the age of eighteen months. The rocking motion is not affected by the movements of the child. —London Queen.

### ABOUT DINNER-GIVING.

Some Hints for Ladies Who Like This Form of Hospitality.

Dinner-giving should not be a great tax on any good housekeeper; her domestic affairs should be so arranged and in such good running order that the mere fact of having a few extra persons to entertain is of very little moment. Table decoration, to be in good taste, should be very simple. There was a time, only a few years ago, when we ran into tremendous extremes in this regard, says a writer in Harper's Bazar. At dinners favors were sometimes given, which for many persons it was an embarrassment to accept. But we have seen the folly of all this, and have modified our ways, and now we entertain in a more temperate and certainly in a much more refined manner. Any ostentatious display of wealth is vulgar, and is generally so considered.

Candles are used for lighting dinner tables, chiefly because the light is supposed to be softer and more becoming. These are placed either in single candlesticks, disposed in some regular way on the table, or in low candelabra. Shades are used or not, as one prefers. If they are used, the table decorations should be kept harmonious in color. There is an asbestos lining which can be bought separate from the shades, and can be readily used. This prevents any danger of their burning. The candles themselves should be very cold, and if they are laid in an iced chest all day, they will burn evenly, without any of that disagreeable melting which is so disfiguring to the candle and so damaging to the candlestick. There are all sorts and kinds of devices used as a substitute for candles, but the best taste is to have the real thing, and with just a little thought given to the subject the wax candles ought to burn satisfactorily. Small

lamps are often used, and sometimes there is no light on the table itself, illumination depending entirely upon a drop-light, which, with a handsome shade, casts a mellow glow on the table, and is absolutely no trouble at all to arrange. I have seen a pretty effect produced, when there was a chandelier directly over the table, by arranging an open Japanese umbrella so that the light was softly diffused through this medium, and at the same time one's head was protected from the heat of the gas.

Flowers should be odorless, if possible, when used for a dinner-table decoration, as strong-scented blossoms are apt to make some persons feel faint. Of course violets, roses and the like would not come under the head of heavy perfumes. The floral decoration should be kept low, so as not to obstruct the view across the table. A boutonniere is often placed at each gentleman's plate, and a long-stemmed rose at each lady's. It is a pretty fashion, sometimes observed, to put a few violets in each finger-bowl. The center piece can be so arranged as to be fashioned of a number of bouquets, so that after dinner the man or maid can pass a tray upon which these bouquets are placed, and each lady may select her own.

Besides the flowers and the candles there are also placed on the table quaint silver bonbon-dishes containing candies, cake, etc.

### Homes for the Homeless.

The opening of two Indian reservations in northeastern Utah to settlers opens up over three and one-half million acres of fine agricultural and stock-raising land for home-seekers.

The Uintah and Uncompahgre reservations are reached by the only direct route, the Union Pacific system, via Echo and Park City. E. L. LOMAX, G. P. & T. A., U. P. system, Omaha, Neb.

**WILL YOU** distribute Circulars and samples for us? We compensate. Salary and expense to travel. Send stamp. ADVERTISING BUREAU, 447 6th Ave., NEW YORK CITY.

THOS. B. SHILLINGLAW, Real Estate and Rental Agency, 115 East Fifth St., Topeka, Kas. Established in 1884. Calls and correspondence invited.

**LIGHTNING WELL MACHINERY Works.** LARGEST. All kinds of tools. Fortune for the driller by using our Adamantine process; can take a core. Perfected Economical Artesian Pumping Rigs to work by Steam, Air, etc. Let us help you. THE AMERICAN WELL WORKS, Aurora, Ill.; Chicago, Ill.; Dallas, Tex.

**FRUIT EVAPORATOR** THE ZIMMERMAN. The Standard Machine. Different sizes and prices. Illustrated Catalogue free. THE BLYMYER IRON WORKS CO., Cincinnati, O.

### CENTROPOLIS HOTEL.

Fifth and Grand Ave., Kansas City, Mo. A strictly first-class house at moderate rates. Central location. Half block from new million dollar court house and half million dollar city hall. On direct Fifth street cable line from Union depot and stock yards. 225 choice rooms, all newly decorated. Lighted by electricity. Rates, \$2 per day. Rooms with bath, and parlors, \$2.50 per day. E. K. CRILEY & CO., Proprietors.

Buy direct from MANUFACTURER and save all Middlemen's profits. 15 days' trial in your home before you pay for the same.

# ORGAN

You take no risk. We will send our beautiful catalogue, giving full description and illustration of our organs FREE full address. BEETHOVEN P. & O. CO. P. O. Box No. 678 Washington, N.J.

**POUR** By Pressing the Lid.



Tea and Coffee Pots that pour by the lid without lifting or tipping. Simple beyond belief. Practical and artistic. Send for pamphlet. THE ASBURY-PAINE MFG. CO., Phila., Pa. This is a good thing—ditto.

## The Young Folks.

### EVERLASTING SUMMER.

It needs not woods with violets paved  
Nor roses in the lane,  
Nor lilies by cool waters laved,  
Nor gorses on the plain,  
Nor songs of birds in bush and brake  
Nor rippling wavelets' chime,  
Nor blue and cloudless skies to make  
For me the summer time.

My lady's cheeks twin roses are  
That bloom the whole year round;  
My lady's throat is whiter far  
Than whitest lily found.  
When thick and fast fall hail and sleet,  
The blue of summer skies  
I find where'er my glances meet  
My lady's azure eyes.

When blackbirds' notes shake not the dew  
From lilac blooms away,  
When larks sing out in heaven's blue  
At dawning of the day,  
When orioles no more rejoice  
High in the chestnut tree,  
My lady's sweet and joyous voice  
Brings summer back for me

—Chamber's Journal.

### GOOD-MORROW.

Pack, clouds, away, and welcome, day,  
With night we banish sorrow;  
Sweet air, blow soft, mount, lark, aloft  
To give my love good-morrow.  
Wings from the wind to please her mind,  
Notes from the lark I'll borrow;  
Bird, prune thy wing, nightingale, sing,  
To give my love good-morrow;  
To give my love good-morrow,  
Notes from them both I'll borrow.

Wake from thy rest, robin redbreast,  
Sing birds, in every furrow;  
And from each bill let music shrill  
Give my fair love good-morrow.  
Blackbird and thrush in every bush,  
Stare, linnets and cock-sparrow,  
You pretty elves, amongst yourselves,  
Sing my fair love good-morrow;  
To give my love good-morrow,  
Sing birds, in every furrow.

—Thomas Heywood.

### CHILDREN IN CHINA.

They Are Taught to Be Polite and to Revere Their Ancestors.

The children of the well-to-do Chinese, in the winter, and in the north of China, wear quaint frocks of silk, of satin, or of brocade, made thick and warm with a padding of cotton-wool, and deftly embroidered, and garments of fur. In the summer they wear thinner silks and lovely Chinese crepes.

Almost every Chinese child of high station carries a fan. Fans are the rattles of Chinese babyhood. A Chinese nurse diverts her young charge with views of her swiftly-moved, gayly-painted fan. With that same fan she cools for him the torrid air of the Chinese summer; and when he grows strong enough to walk, and totters about, with Asiatic masculine arrogance upon his well-developed yellow legs, his apple-faced mother, if forced to criticise his momentary mode of life,



RICH CHINESE MERCHANT AND HIS DAUGHTER.

is very apt to score his yellow shoulders with her pink perfumed fan. Though, to be honest, a Chinese child is almost never struck.

Many Chinese children who have scarcely a garment, and rarely have an ample dinner, have fans, and are expert in their use, for in China the manner in which a fan is carried, opened, used and moved is almost as significant as it is in Korea. The nakedest Chinese boy will almost be sure to own a kite. Chinese children are as skillful as Japanese children in kite flying, and are almost as fond of it as are the children of Siam.

It is more than religion with the Chinese to obey as their ancestors have obeyed, and in all things to follow in the footsteps of those ancestors. This held China together for centuries; but now the reluctance of the Chinese to make use of methods and implements of war that were unknown to and unused by their ancestors threatens to

make China, if not a nation of the past, at least a nation torn and dismembered.

Courtesy is one of the first lessons taught to the children of China. Almost every Chinese child, rich or poor, is taught how to address his parents, his superiors, his fellows and his inferiors. Except among the very poorest classes a considerable portion of each day is devoted by the child to the study of etiquette. Boys and girls are educated together until they are about ten. Then, unless the poverty of the family is such that they are obliged to assist in the struggle for bread, the boys go to school or have a tutor and the girls are taught at home by a governess.

A large proportion of the Chinese are born, live and die on boats. Strangely enough, none, or nearly none, of them can swim. But almost every Chinese child is an expert fisher, and exceedingly fond of the sport. Fish and rice form very largely the diet of every Chinese child. Except among the very poor the children and the women eat apart from the men.

The children of the wealthier people eat considerable poultry and unlimited fruit. Among the poorer Chinese the girls are taught to cook, to do all sorts of household work, and to sew roughly. I have eaten some delicious dinners cooked by a Chinese girl of twelve. Indeed, cooking is the great national talent of the Chinese.

The boys of the poorer classes are taught one or more of a thousand ways of earning a living. I remember one merry little fellow who lived alone with his grandfather, who was blind and lame, and the small fellow (I think he could not have been over eight, perhaps not so old) was the real breadwinner of the family. They had a hatching-establishment, a small hut with a very low roof, on which the sun in summer beat down fiercely. Near the hut was a good-sized pond, divided by boards and stakes into small sections. On the floor of the hut they hatched ducks' eggs, and when the ducklings were sufficiently hatched they were put afloat upon the pond. People came for miles, bringing from a dozen to some hundreds of eggs. Those eggs were wrapped in coarse napkins, put on the floor of the hut, and left there until the sun had done the natural work of the mother duck. The process, if I remember, took the better part of a month. I have seen the floor of the hut completely covered with eggs. But it was said that the small boy never made a mistake. At all events, his customers seemed satisfied to a man that they invariably received the result of their own eggs.—Pall Mall Budget.

### Horse That Remembers Sunday.

A Maine man has a horse that knows the day of the week. One Sunday he hitched up, and, having assisted his wife into the carriage, got in himself. He was busied for a moment in arranging the robe, and before he had taken up the lines the horse started out of the yard into the street. The man was going to church, and as the horse took that direction, he decided to let it go without guidance, to see what it would do. The route was altogether different from week-day driving, but nevertheless the horse went straight to the church, turned up to the church door and brought the carriage in position at the church steps. Since then he repeats the performance every Sunday, but how he knows the day is a mystery.

### A Business Proposition.

"Mamma," said Willie, "do you pay Jennie fifteen dollars a month for looking after me?"

"No, sixteen," said mamma. "She is a good nurse and deserves it."

"Well, I say, ma, I'll look after myself for ten. You'll save six by it."—Harper's Young People.

### Taking No Chances.

First Boy (skating)—It's most dinner time.

Second Boy—It won't do for us to eat anything.

"Why not?"

"This thin ice is crackin' all the time, and if we weighed any heavier we'd go through. I promised mamma I wouldn't take any chances, and I won't."

### When Tabby Rings the Bell.

A cat belonging to Mrs. Mary Brown-well of Wilmington, Del., has a habit of ringing the bell whenever it wants to be let out of the cellar.

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### CANINE COMRADES.

Why One Is Fond of Water and the Other Hangs Back.

Here is an object lesson for us, little folk. What can we learn from it? What do we see? Sky, mountains, river, house, a point of land covered with growing grasses, and two dogs. Two dogs, and yet how very unlike they are. You and I have seen wolves and foxes far more like each other. Let us see if we can mention any difference in appearance, and give reason for it.

Ponto is covered with a thick coat of long and silky black hair; his head is very large and full; long, pendant ears,



THE COMRADES.

beautiful bushy tail, and huge, webbed feet.

Traf, has very short hair of a warm fawn color, trim legs and tail, rather small feet, sharp ears, almost erect, narrow head, and a long, pointed nose. One evidently is very fond of water, the other hangs back in fear. There must be a reason for all this. Can we explain it? Let us try.

Ponto is a Newfoundland dog; he belongs to a cold climate; of course he must have warm clothing. His native home is an island in the ocean, therefore he was made with an intense love for the water, and broad, flat feet that serve as paddles in propelling him through the waves, enabling him to swim with great rapidity. Traf, on the contrary, is from a land of sunshine and flowers; he loves to lie at full length upon the soft rug before the grate while Ponto is rolling over and over in a snow bank. He is very fond of running, and can far outstrip his shaggy mate in the race; for this reason his hair is short that it may not lessen his speed, and his nose is sharp to cleave the air. Ponto follows his prey by the sense of smell, or scent, as it is called. Traf, with contracted nostrils, and therefore less acute smell, discovers his prey by sense of vision. This enables him to discern objects at a greater distance, while his speed soon brings him near. These same powers afford to each a means of protection from enemies.

Dear children, if the great Creator of all things has taken such care to provide for the safety and happiness of the animals, how careful we ought to be not to treat them with unkindness nor cruelty; and how earnestly we should endeavor to make the best use of the superior powers that He has bestowed upon us.—Humane Journal.

### One of Clay's Parallels.

When Henry Clay was stumping Kentucky for reelection to congress he met at one of his addresses an old hunter of wide political influence who stood up in the meeting and said: "Harry, I've always gone for ye but since you voted so-and-so I'm going agin ye."

Clay paused and said: "That's a good rifle you've got, my friend, isn't it?"

"Yes."

"You think a great deal of that rifle, don't you?"

"Yes."

"Well, did she ever miss fire?"

"Yes."

"Why don't you throw her away then?"

The old man thought a moment and said:

"Harry, I'll try ye agin."—Life's Calendar.

### Meals Served on Shingles.

According to a Pacific coast paper, it is now the custom at church sociables in the lumber districts to serve refreshments on shingles. Plates, saucers and other dishes are not overly plentiful, and shingles do very well as substitutes, and if they are broken or mislaid, no one cares. Slightly-cupped shingles will hold puddings, and even soup, if not too thin, and those on which cake and sandwiches are served are covered with a Japanese napkin. It is said that the odor of the red cedar mixed with the aroma of the coffee is extremely appetizing, to say nothing of the novelty of such a spread. The girls take home the shingles as mementoes, each bearing date of the affair.

## That Plate means Columbia

THE BEST BICYCLE

The Standard Bicycle of the World.

On the steering-head of every Columbia bicycle of this year's make that name-plate appears. It is unique, handsome, and indicates much—satisfaction and highest enjoyment to the rider.

No other bicycle has ever equalled a Columbia. No other bicycle ever shall equal a Columbia. The greatest bicycle factory in the world says so.

New Price \$100

HARTFORDS, next best, \$80 \$60.

\$50 for boys' and girls' sizes.



POPE MFG. CO.  
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An Art Catalogue of these famous wheels at any Columbia Agency, or will be mailed for two 2-cent stamps.

WM. TAYLOR,

Agent for Columbia and Hartford Bicycles  
TOPEKA, - KANSAS.

## A Hard Fall.

August 30th, 1894.

The Dr. J. H. McLean Medicine Co.,  
St. Louis, Mo.

Gentlemen: While gathering pecans during the fall of 1892, I had the misfortune to fall a distance of sixty feet, out of a pecan tree. Was terribly bruised and my hip dislocated. A physician set the dislocated hip and prescribed some medicine for external application. I had previously used your Volcanic Oil Liniment and knew its wonderful healing virtues, I told the doctor I preferred to use it. He admitted it was good, and I used it with the most brilliant results. Was out of bed and at work again before any one expected it. I consider it the best liniment in the world, and always recommend it.

Yours truly,

ELI WASHBURN,  
GATESVILLE, TEX.



# KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Wednesday by the

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

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

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

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

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

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

Address all orders—

**KANSAS FARMER CO., Topeka, Kas.**

If you want one of the finest magazines published, send us \$2.25 for KANSAS FARMER and *Cosmopolitan*.

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

One dollar and sixty-five cents will pay for the KANSAS FARMER and the twice-a-week *New York World*. Everybody should read.

We want our readers to secure for us thousands of new subscribers for the KANSAS FARMER and we will pay well for such work. If you will get up a list, write this office for liberal terms.

The following State fair dates, for 1895, are announced: Kansas, at Wichita, October 1-5; Nebraska, at Omaha, September 13-20; Michigan, at Grand Rapids, September 9-14; South Dakota, at Sioux Falls, September 20 to October 4.

The Chicago cattle market made a gain of 10 cents to 25 cents per hundred last week, the top being \$6.35. Hogs declined to the middle of the week, when they began advancing and closed Saturday 10 cents to 15 cents higher than the week before.

Any of our subscribers who are about to renew subscription will find something interesting by reading the advertisement of "Samantha at Saratoga." If you have already renewed your subscription it will tell you how to get the book at the reduced rate.

The April edition of H. M. Green & Co.'s "Vest Pocket Market Statistics" contains very much information in very small space. The person who desires to keep posted on market figures should secure these vest pocket books as rapidly as they are published. A note at the foot of the title page says: "We distribute this book to our customers free. If you appreciate it and desire a copy, you can obtain it by applying at our place of business, or by informing us by mail that you wish a copy." This is hint enough to write to H. M. Green & Co., Rialto building, Chicago.

The annual meeting of the American Southdown Breeders' Association will be held in the Secretary's office, at Springfield, Ill., on Wednesday, May 29, 1895, at 10 o'clock a. m. At this meeting the regular annual election of officers, as well as other necessary matters pertaining to the association, will receive attention. The attendance of breeders is desired. If unable to attend, they are earnestly requested to present, in writing, any suggestions they have to offer for the benefit of the association and its work in the Southdown interests. Views as to fees for registry and transfer are particularly desired.

## BETTER TIMES PREDICTED FROM WALL STREET.

The close watch, which the dealers in securities and speculators in money keep on all changes in the financial, commercial and industrial situation, in this and other countries, is essential to enable them to keep on the winning rather than on the losing side of investments and sales. This close observation is even more important to them than the efforts they make to shape events. To take advantage of the turns in the tide is to them wealth, whether the turn is of their or of others' making. There are at the financial centers numbers of agents, or brokers, who make a business of keeping watch and doing the thinking for a clientage, which is large or small, invests much or little, much according to the profits the broker is able to make for them. These brokers send out circulars purporting to give forecasts as to the probable course of the markets for investments. The properties in which they deal are usually stocks and bonds of incorporated companies, such as railroad, large manufacturing and mining companies. It should never be forgotten that it is the object of these brokers to make money for themselves, and for this purpose it is necessary for them to induce buying as well as selling. It is not at all impossible that one kind of circular be sent to those who, having none of these properties to sell, can become customers only by buying, while another and entirely different circular may be sent—possibly under the name of another firm—to those who have these properties and can only be induced to pay commissions by selling. Still another condition is to be expected and discounted. Most of these brokers are not only agents but are also dealers. Their information may be colored by their interest in either buying or selling. With allowance for these possible motives we may gain some information of present developments and of probabilities for the immediate future by studying their circulars.

Under date April 27, Henry Clews, of New York, says:

"The past week's business in Wall street has more than maintained the late recovery in activity, confidence and prices. It has become broader in certain quite important respects. Investment and speculation are now extending to the better class of stocks which had been neglected during the earlier movement in second-rate issues. The Grangers [certain railroads] are feeling the effects of the general improvement in commercial and agricultural prospects, and the transactions in that class of stocks show a considerable increase, with a pronounced upward tendency in prices.

"The foreign interest in our investments is steadily assuming increased importance. Somewhat unexpectedly, Germany has appeared among the buyers of the better class of stocks, and during the week some quite important purchases on Berlin account have been made. This new feature can hardly be viewed as a merely temporary spurt. It has been the result of previous inquiry and appears to be the outcome of a purpose, on the part of German investment houses, to return at least in a tentative way to their former encouragement to the employment of capital in the United States. The great fall in the prices of our securities pending the depression of the last two years has afforded an exceptionally favorable opportunity for buying; and there can be no doubt that the important endorsement of American credit by the Rothschilds, in the pending syndicate operations, has had a material influence, among German investors, in strengthening confidence in our future. With characteristic caution, they have waited for facts confirmatory of this recovery of confidence, and have found such evidence in the rise in prices of several of our leading staples, which they construe as satisfactory proof of the beginning of a return of commercial activity and of normal conditions of business. This change of feeling at Berlin has been the subject of inquiry by cable and letters by foreign bankers here; and their replies generally confirm the view above expressed.

"It is reasonable to suppose that this German movement has also been encouraged by the increased interest in our securities shown by London; which still continues to follow the recovery in prices here without any attempt at realizing. It is not easy to over-estimate the real significance of this return of London and Berlin to American investments; nor is the change a matter of wonder. In neither country is there in process any important internal development calling for new capital; and as

to investment in the colonies and in the raw populations to which such enormous sums have been unproductively loaned within the last twenty years, they must have had experience enough of that kind. Outside their own territorial limits, these two nations, with their immense annual savings, can find nowhere the safety and the solidity of investment that is afforded by the United States."

The writer quoted has nearly always contended for the "protective tariff" policy. There is some indication that Wall street may be changing front on this question, which has been a bone of political contention doing service in many campaigns. He says:

"Public opinion here has turned in favor of a freer commercial policy; we have reached a point of ability for economical production which in many departments surpasses their own [foreigners'] industries; we are bent upon a sound [in Wall street "sound" means gold] reconstruction of our currency system; and when the silver question has been moved out of the path of confidence, we may count upon ten years of prosperity unequalled in our history. The men who control the course of investment in Great Britain and Germany are not ignorant of this outlook; and the probability is that, from this time forward, they will err not on the side of distrust of this country, but from a willingness to lend that may tempt us into undue borrowing."

The "free trade" leaning is unmistakably indicated in the following reference to wages under the present tariff law:

"The restoration of wages, which is gradually going on, is an evidence of not only an improvement in business, but carries with it the faith of employers that the change is of a substantial and permanent character. Such testimony comes from many mercantile interests, especially cotton and woolen factories. I can cite no better corroborative instance than that of the Washington mills, which during the depression about a year ago stopped their works, which comprised machinery a mile in length. These works are now running night and day to keep up with the orders for the goods they manufacture. It is well to note in this connection that the goods of this mammoth concern are of the finest quality of woolen fabrics made in this country, showing that the present demand represents a return to more extravagant outlays from a quarter that has been exercising rigid economy for a prolonged period. There are a larger number of buyers of goods now in New York than ever known before in any previous month of April. Every section of the country seems to be proportionately represented, and the buying is on quite an increased scale over what has been witnessed for many months past. This is the reason why the jobbers in dry goods, hardware, groceries and in all other lines of trade feel so much more jubilant than they have done for over a year. People in trade will soon begin to realize as of old that success begets success. It takes a return of prosperity, however, to bring it about, which is now generally felt to be forthcoming."

## NICARAGUA.

A little country in Central America, extending from the Caribbean sea to the Pacific ocean and from a little south of the eleventh, nearly to the fifteenth parallel of north latitude, is just now occupying a large place in the world's attention. This country contains about 58,000 square miles and about 250,000 people. Great Britain has a grievance against this little country and for this she has demanded an indemnity which the country has failed to pay and asked for arbitration. Declaring that there is nothing to arbitrate, Great Britain has seized Corinto, the principal port of Nicaragua, with the avowed purpose of collecting the indemnity from the import duties. Promptly the Nicaraguans have abandoned Corinto and declared the port closed. This town is on an island in a morass and is connected with the main land by bridges. The British hold one end of these bridges while the Nicaraguans are intrenching at the other and threaten to burn them should an attempt be made to cross.

The pluck of the little country cannot but call out the admiration of the world and may drive the invaders to more extreme measures than they had contemplated. Whether the historical "Monroe doctrine" of this country is likely to be brought into service again in this controversy is quite uncertain. This doctrine is to the effect that we should regard any attempt of European powers to extend their system to any portion of this hemisphere as dangerous to our peace and safety, and that

we could not view any interposition for the purpose of oppressing governments on this side of the water whose independence we had acknowledged, or controlling in any manner their destiny by any European power, in any other light than as a manifestation of an unfriendly disposition towards the United States.

This doctrine saved the Republic of Mexico from a monarchy soon after the close of our late war. It has never yet caused us a fight and its efficiency in protecting plucky little Nicaragua from British domination at the present time depends upon the firmness and diplomacy with which the administration shall press the doctrine. It is said that the interference with our trade may be urged as a reason why we should interfere. At present there seems to be no decision as to what should be the course of this country in the premises.

## ADVANCING WHEAT.

That speculation conspires with the natural tendency of the market, and that as far as wheat is concerned the tendency is upward, is well illustrated by last Saturday's market review by the *Modern Miller*. Its paragraph on wheat says:

"May wheat at Chicago closed last Saturday at 60 cents and July 61 cents. To-day the May delivery closed at 63 cents and July at 64½ cents. These are the facts in the case, briefly stated, after a week's operations in wheat. Talking about sentiment undergoing a change in the market, that is not a strong enough adjective to express the revolution that has taken place within seven days. Individuals are lost sight of; weather conditions do not count. A great many people were foolish enough to entertain the very amateurish proposition that because a certain seller, who is somewhat famous in depressing values, was forced to cover outstanding contracts, was responsible for the advance, and that with the culmination of such operations the market for wheat was without force or inherent merit of its own. After such a theory was fully exploded a new one made an entrance, but the exit was quicker than the entrance. The great drought now prevailing in the Southwest was used as a lever in advancing prices. Forgetting that the wheat was winter-killed and not drought-stricken, professionals worked on the theory that rains, and they are badly needed, too, would work a transformation in the price. Well, rains did arrive, they were timely, but too scattered and meagre to benefit the plant materially. A feeble effort to depress prices on the appearance of the weather map to-day met with such stout opposition that the effort was soon abandoned. Sellers are overlooking the redistribution of stocks that is now taking place, the transferring of supplies from accumulative sources to originating points because of a milling necessity. The legitimacy of the inquiry cannot be questioned in the light of late developments. St. Louis buying wheat at Kansas City, Peoria sending wheat to St. Louis, Chicago shipping to Cairo, Ill., Indiana millers anxious buyers at Chicago. Walls of possible corners are heard. The whole situation is that the demand has caught up with the supply, the new crop is not yet harvested, the outlook is dubious and active markets can confidently be expected, with the promise bright for the fortunate holder."

The telegraphic review of the Chicago market for the week given in the *Modern Miller* also shows that prices are expected to continue to advance. It shows the strength of the position of wheat by the following citation of facts:

"CHICAGO, April 27.—The majority of the professional wheat traders are of the opinion that there is more or less Armour manipulation in the matter. If, however, manipulation has anything to do with the present price then it is one that extends from New York to Duluth, and no one would be foolhardy enough to claim that a deal involving every market in the country would be undertaken by any one with money to lose. There was not a Western market which yesterday was not at a premium over Chicago. There was not a seaboard market last night which was not at about its full premium. New York closed 5 to 5½ cents over Chicago, Baltimore 5½ cents over, Toledo 3 cents over, St. Louis 1½ cents over, Detroit 2½ cents over, Duluth 4½ cents over, Minneapolis 3½ cents over.

"McIntire-Wardwell, probably the leading export house at New York, wired their Chicago correspondent as follows last night about the cash wheat situation at the seaboard: 'A good many offers of wheat made last night were found to be accepted in the morning cables. There was an improved demand for export, and at least thirty loads were actually worked, while freight en-

agements were made for considerable more. Probably the main cause of the strength abroad is the less free offerings of Argentine wheat. Argentine cargoes are strong and selling 21 cents per bushel higher than they were this time last year. Another feature is the demand from interior mills for cash wheat. There were bids from interior Pennsylvania and Virginia for Toledo No. 2 red, which, of course, is much higher than any of the seaboard markets can pay. This demand is said to be universal; so it looks as if interior mills were now drawing their wheat direct from the visible supply, which will soon melt away under these conditions. The legitimate situation seems to be growing healthier all the time, though speculation continues only moderate."

To this may be added Monday's Associated Press dispatch as to wheat, which shows the tendency of heavy capitalists to take the "bull" side of the market.

"CHICAGO, April 29.—July wheat sold at 65½ on the board of trade to-day, making an advance within the past week and scoring the greatest rise during the present flurry.

"The July options closed ¼ cents higher than Saturday at 64½. The high point of the day, 65½ cents, was touched at an early jump. This particular splurge came with great suddenness. The market at the opening gave indications of weakening, the routine news of the day being against the price and was liberal professional selling at the start. Armour & Co.'s brokers, however, began buying heavily, and their purchases resulted in a scare of shorts that quickly advanced prices 2½ cents. Armour's people continued to buy on every break, their purchases aiding materially in the closing strength."

The inventive genius of the practical men of this age and nation is doubtless equal to the requirements. Just now the demand for suitable implements with which to stir the subsoil without too great labor for the team is pressing. Our friend Perine, of Topeka, made great advances in this line and mentioned the fact in the KANSAS FARMER. He was forthwith so overwhelmed with orders that he has been compelled to move into a large building and engage in manufacturing on a great scale. And now comes T. Woodard, of Garland, Kas., with a simple attachment which he has used on his plow and which he claims thoroughly breaks up the subsoil with the addition of only one horse to the regular plow team. A photograph of Mr. Woodard's attachment is before us. It is made entirely of steel and costs about \$10. A patent has been applied for. No doubt we shall hear more from this invention.

In making up his biennial report, Secretary Coburn had the very difficult task of keeping the book down to such size as he could have printed with the means at his command and at the same time using the vast amount of invaluable materials which his industry and interest in the work had accumulated. The last 215 pages of the book, which are given to the presentation of scientific and practical papers, contain information the want of which has been sorely felt and which answers many inquiries for which diligent search has been made. It is impossible to see how the Secretary could have improved his selection. And yet he has much material which it must have cost him a pang to omit. We write this commendation, knowing that only one in a great many who read it will be able to obtain a copy of the book. Secretary Coburn's reports are not exceedingly useful to the politician, and it is therefore only by the most persistent efforts that he is able to secure their publication even in limited numbers. It will be well for farmers in future to take such a hand in nominations and elections as will make it plainly apparent that their interests are not to be placed in the background, and to take pains to have it understood that State publications in their interest must not be cut off. For the present, our advice to every farmer is to secure a copy of the 1893-94 report if possible. Twenty cents in postage cannot be better invested.

Hall's Vegetable Sicilian Hair Renewer is, unquestionably, the best preservative of the hair. It is also curative of dandruff, tetter and all scalp affections.

Agents wanted for Gearhart's Family Knitter. For particulars address J. E. Gearhart, Clearfield, Pa.

Weekly Weather-Crop Bulletin.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending April 29, 1895.—T. B. Jennings, Observer Weather Bureau, Director: CONDITIONS.

A warm, dry week has given abundant opportunity for plowing and planting. The temperature has averaged about 6° excess daily, while the deficiency in rainfall for last week has continued over into this and been increased, though fair showers have fallen in Hamilton, Gove, Sheridan, Ottawa and the central portions of Sumner and Coffey counties.

RESULTS.

EASTERN DIVISION.

All crops are beginning to show the need of rain. In the northern counties conditions are more favorable than in the central or southern. Oats, grass and corn are not pushing ahead as fast as usual, while wheat, generally, is not as promising as a week ago, though there are some exceptions. Corn is being cultivated for the second time in the south and the first cultivation has begun in the central counties. Stock is generally on pasture but water is getting lower every day.

Brown county.—Good week for corn planting and farmers have pushed the work rapidly; peaches, cherries and most varieties of apples bloomed well.

Johnson.—Favorable to all kinds of crops, but rain is beginning to be needed.

Douglas.—Wheat beginning to show effects of drought; corn that is coming up is not a good stand; grass showing effect of the dry weather, too.

Pottawatomie.—Fine growing week; corn over half planted; ground in fine condition; oats look well; what wheat

ing slowly; wheat rather retrograding.

MIDDLE DIVISION.

A very large acreage of corn is being put in. Conditions are favorable for all crops in the northern counties, but change toward the southern, where the wheat is not making progress and much of it is being replanted to corn. The need of rain is felt more in the southern part for all crops. Fruit here, as in the eastern division, promises an abundance.

Phillips.—Corn planting progressing finely; very dry; everything needing rain.

Cloud.—Everything looking fine, but rain needed very soon.

Clay.—Corn planting progressing well, the early planted coming up finely; wheat, oats, barley and rye are doing well; abundant promise of fruit; ground becoming dry.

Ottawa.—An ideal week for all growing crops except lack of rain; best prospect for all kinds of fruits.

Dickinson.—Dry; wheat, oats and rye suffering for rain; much corn planted but does not sprout on account of dry ground; trees loaded with fruit.

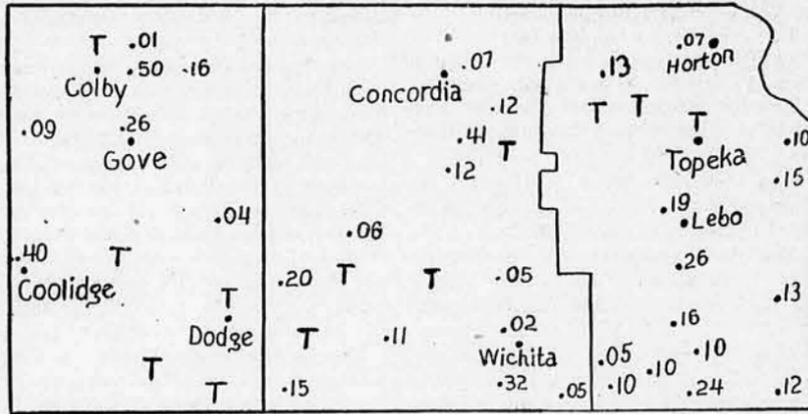
Saline.—Everything suffering for rain, especially small grains, which are receiving a set-back; pastures good; gardens making no headway.

McPherson.—Everything growing finely despite the drought; wheat still being planted to corn where thin; need rain soon.

Barton.—Wheat doing well, considering the drought; barley and oats doing well; alfalfa ten inches high; plenty of grass for cattle, but we need more rain.

Harvey.—Most of the corn not coming up on account of the drought; oats at a standstill; wheat losing ground, some already ruined; pastures doing no good; need rain; fruit prospects best ever known here.

Reno.—Dryest for years; faith, hope



ACTUAL RAINFALL FOR WEEK ENDING APRIL 27.

there is left is not doing well; cattle on pastures; fruit prospect never before equalled; air full of chinch bugs.

Riley.—Corn planting progressing rapidly; oats and tame grasses have made fair progress, both needing rain; prairie grass as far advanced as it usually is by May 10 and is growing rapidly; stock all out on pasture; fruit setting finely.

Geary.—Need of rain quite apparent, yet vegetation is well advanced.

Coffey.—Oats and grass have made but little headway; flax all in but not coming up well; corn on new ground and that planted deep coming up well, other corn plantings waiting for rain, which is badly needed; cultivating corn has begun in southern townships; chinch bugs plentiful.

Lyon.—Fruit prospects very fine; oats suffering a little for rain; all else looks well.

Osage.—Wheat in eastern and southeastern part is in fine condition.

Bourbon.—Chinch bugs numerous; some fields of wheat about gone, oats being injured, and bugs commencing to attack young corn.

Woodson.—Some corn being cultivated; bugs appearing in oats; stock water getting scarce; rain needed.

Wilson.—Dry; oats promise a complete failure; wheat becoming spotted; corn generally looks well and much of it is being cultivated; rye heading out short; flax is up; meadows and pastures growing; we need a good, soaking rain.

Elk.—Needing rain for small grain; corn doing well.

Labette.—Crops, except wheat, are needing rain; oats thin in many fields; fruit prospects fine; some corn being cultivated the second time.

Montgomery.—Drought unbroken; wheat firing in spots; oats doing very poorly; corn growing slowly; stock water getting scarce.

Chautauqua.—Everything encouraging for a full crop except moisture; grass doing finely; oats and corn grow-

and—failure will be our condition without rain.

Stafford.—All spring crops doing well; corn coming up; pastures splendid; gardens growing fast; wheat backward.

Pawnee.—Good week for listing corn; getting dry for oats and barley; wheat failing.

Sedgwick.—Very dry; much of the wheat has been replanted to oats or corn; corn beginning to show effects of drought; grass and oats need rain.

Kingman.—Wheat unpromising; the grass is growing slowly, though stock require but little feed; corn looks fairly well; fruit promises an abundance.

Kiowa.—Hard week on most crops; everything has stopped growing; some corn up and a good stand; fruit trees promise an abundance.

Cowley.—Drought has injured wheat and oats; some corn coming up, and some will not come until it rains.

Sumner.—Prospects for wheat no better, much of it being planted to corn, which is in fair condition; rain needed very much.

WESTERN DIVISION.

Conditions have materially improved during the week. Prairie grass making good headway and stock are improving on it. Small grains are doing better. Alfalfa is in excellent condition, though the report from Finney county shows a material difference between fields irrigated or not last year. All fruit prospects are good.

Norton.—Grass and small grain doing finely; corn planting progressing rapidly.

Decatur.—Crops progressing finely, though some winter wheat would be better for a rain, yet not suffering.

Graham.—Corn planting in earnest; spring grains looking fine.

Sheridan.—Pastures getting green and all crops progressing rapidly; alfalfa ten inches to a foot high.

Thomas.—Good growing weather, but we will need rain soon.

Trego.—Wheat in some fields looking better, while other fields are being planted to other crops; cattle improving on grass.

Gove.—Wheat looking some better; grass is elegant.

Wallace.—Crops look well, but we need rain.

Ness.—Crop prospects improving; wheat that was believed "blown out" is in many cases making a fair showing, with every prospect of a fair stand; oats and barley excellent.

Ford.—Fine prospect for fruit; will commence cutting alfalfa in ten days; prairies very green; will need rain soon.

Finney.—Oats looking well; alfalfa in fields well irrigated last year is pushing forward, but the growth is checked on unirrigated fields.

Hamilton.—Alfalfa doing well; wheat and other small grains scarce.

Grant.—Grass and small grain growing nicely; gardens doing well under windmill irrigation.

Meade.—Wheat, oats and barley doing fine; fruits of all kinds promise a bountiful yield.

Thayer's Berry Bulletin for May, 1895.

The fruit and vegetable garden require richest soils and best culture. Of all farm work it pays best for work done, and suffers most from neglect.

Cultivate often. It warms the soil in early spring. It allows even light rains to penetrate the soil and retains the moisture for use in summer.

Frequent cultivation stimulates an early, vigorous growth. The roots strike deep into the mellow soil, and the ordinary drought is harmless.

Remove the winter mulch from strawberries. Cultivate between the rows. Stir the ground around each plant, replace the mulch, and large berries, and lots of them may be expected. Cultivated berries are less liable to injury by frost or drought.

Most fruit gardens are deficient in potash. An application of wood ashes will supply this want and is especially valuable for light sandy soils.

In pruning the blackberry and raspberry, cut off the long slender laterals, forming an even, well-rounded bush. Remove all small, weak canes from the hill.

Severe pruning of laterals will not only improve size and quality of fruit, but greatly increases the yield.

If any plants newly set fail to live, put others in their places at once. This is especially necessary in the bush fruits which are to remain several years. Much labor and profit is often lost by this neglect.

Currant and gooseberry bushes are often injured by the borer. The egg is laid about June 1. When hatched, the young borer works its way into the cane, and remains until the following spring, eating out the pith and causing death of cane. As soon as the leaves start, the affected parts are easily discovered, and should be cut out and burned at once.

A quarter acre, rich and well cultivated, should yield from twenty to forty bushels of berries. A bountiful supply for most families, and a nice surplus to sell.

Picking, packing and marketing are important factors in selling berries.

For family use, leave fruit on the vines until fully ripe, and pick fresh for the table. For market, pick every day before too ripe. Never allow stems, leaves, dirt or imperfect berries in the box. Always have a uniform quality, and the box well filled.

If you would have a good market, offer only good berries, give good measure and always deal honestly with your customers.

Remember: It costs no more to raise good berries; it costs no more to pick and deliver good berries. Freight and express charges are just the same, and when sold good berries always go first and bring largest prices. Therefore, for most pleasure and greatest profit, grow only the best.

A new dining car service between Chicago and Buffalo via the Nickel Plate Road, has recently been placed at the disposal of the traveling public, which will enable patrons of this favorite low-rate line to obtain all meals on trains when traveling on through trains between Chicago, New York and Boston. For reservations of sleeping car space and further information, see your local ticket agent or address J. Y. Calahan, General Agent, Chicago.

**Horticulture.**

**THE WELLHOUSE APPLE ORCHARD—LARGEST IN THE WORLD.**

By Phil. S. Creager, Topeka, in Ninth Biennial Report Kansas State Board of Agriculture, 1896.

"Kansas is no fruit country," was the old cry of people, both in and out of the State. It was started before there had been tests to prove or disprove it, and has been kept up to a greater or less extent since orchards and vineyards and small-fruit plantations have, by their bountiful crops, given it the lie direct. It is echoed even yet by the few uninformed individuals who are not aware of the fact that Kansas ships strawberries to Nebraska, Missouri and Colorado; grapes to New Mexico and Arizona; peaches (sometimes) to the distilleries of St. Louis, St. Joseph and Lincoln; pears to the most critical and exacting of Eastern markets; and apples by the car load to "Old England" and other European countries.

"Kansas is no fruit country!" Perhaps not; but she has many men who have made fair fortunes raising fruit on her fertile prairies. She has orchardists by the hundred who realize more net cash from their plantations each year than the land on which they are planted would be worth with the trees removed. She has orchards whose product, by going into competition with the fruit from those regions, has made the commercial orchards in the famous apple-growing States of Michigan, New York, Illinois and Wisconsin practically valueless except for firewood, while the Kansas orchards still yielded their owners most remunerative returns. She has an 800-acre orchard in Reno county, a 500-acre orchard in Greenwood county, scores of 100-acre orchards in Doniphan, Atchison, Brown, Leavenworth, Douglas, Johnson, Miami, Wyandotte, Wilson and other eastern counties; and, most important of all, the largest apple-orchard plantation, under one management, in the world.

The last-mentioned plantation is owned by Fred Wellhouse & Son, of Fairmount, and is located partly in Leavenworth and partly in Osage counties. Mr. Wellhouse was one of the first men to attempt commercial orcharding on a large scale in Kansas, and he has made so flattering a success of it that he is known throughout America as the "Apple King of Kansas." His orchards now comprise about 1,500 acres, of which 440 acres in Leavenworth county are in full bearing, 800 acres in Osage are just beginning to bear, and the remainder, divided between the two counties mentioned, have yet to yield their first fruit.

The original plantation was an orchard of 120 acres, established near Fairmount, Leavenworth county, in 1876. Two years later, this looked so promising that another 160 acres was planted, making an acreage that was again increased in 1879 by the planting of another quarter section. The first fruit, 1,594 bushels, was gathered in 1880, four years after the first planting. In 1889, 1890 and 1891, the plantations were more than doubled in extent by the setting to trees of an 800-acre tract near Wakarusa, Osage county. Since that, smaller additions have been made to the orchards, until now the total area in trees is 1,500 acres.

**YIELDS AND PROFITS.**

During the fourteen years since the orchards came into bearing, there have been but two failures—in the seasons of 1892 and 1893—and the unfruitfulness of the trees for these two years is not chargeable to the unfavorableness of Kansas soil or climate, for the failure was general throughout the country, even in the most favored fruit-growing regions.

The following is an accurate statement of quantity of marketable fruit that has been gathered each year:

Year	Bushels
1880	1,594
1881	3,887
1882	12,037
1883	12,388
1884	11,726
1885	15,373
1886	34,909
1887	33,790
1888	21,044
1889	11,952
1890	79,170
1891	63,693
1892	Failure
1893	Failure
1894	47,374

The largest profit realized during any one year, as Mr. Wellhouse informs me, was from the 1890 crop of 80,000 bushels. The actual expenses that year were a trifle more than \$13,000, and the gross receipts from the sale of apples were \$52,000. The 1891 crop of 63,698 bushels sold for \$16,493, and the cost of gathering and marketing was \$8,853, leaving a net profit of \$7,640. The 1894 crop is not all sold at this writing (February 4, 1895), but its value, calculating from actual receipts and present market value, was \$18,716. As the cost of gathering and marketing was \$6,400, there is left a net profit of \$12,316.

The total yield up to date has been 351,235 bushels.

The gross sales have amounted to \$160,327.

The cost of gathering and marketing has amounted to \$59,991.

The net return has been \$100,336.

This percentage of profit will unquestionably be vastly increased as the plantations which so far have been solely a source of expense come into full bearing.

So far, the apples, culls and all, have cost about 25 cents per bushel, and as the average selling price has been 53 cents, the net profit has been the handsome one of 28 cents per bushel.

**WHERE THE CROPS HAVE GONE.**

The fruit from the Wellhouse orchards has been disposed of as follows:

The 1880 crop went to a Leavenworth firm, for \$1.50 per barrel.

The 1881 crop went to a Denver firm, for \$4 per barrel.

The 1882 crop went to a Denver firm, for \$2.48 per barrel.

The 1883 crop went to a Denver firm, for \$3 per barrel, and the culls to Kansas City, for 30 cents per bushel.

The 1884 crop went to a Denver firm, for \$2.04 per barrel, and the culls to Kansas City, for 15 cents per bushel.

The 1885 crop went to a Denver firm, for \$2 per barrel, and the culls to Kansas City, for 20 cents per bushel.

The 1886 crop went to Denver, for \$1.45 per barrel, and the culls to Kansas City, for 13 cents per bushel.

The 1887 crop was sold in Kansas City, Leavenworth, and other points, for \$2.11 per barrel, and the culls went to Kansas City, at 27 cents per bushel.

The 1888 crop was sold in Denver, Leavenworth, and other points, at \$1.81 per barrel, and the culls went to Kansas City, at 14 cents per bushel.

The 1889 crop was sold in Kansas City and Leavenworth, at \$2.40 per barrel, and the culls went to Kansas City, at 18 cents per bushel.

The 1890 crop was shipped to Chicago, Lockport, N. Y., Philadelphia, and Cincinnati, and sold for \$3 per barrel: the culls were sold to a New York man, at 20 cents a bushel.

The 1891 crop was sold to a Baltimore firm and in Leavenworth, for \$1.75 per barrel, the culls going to a New York man, for 15 cents per bushel.

The 1894 crop, sold to a Leavenworth firm—all but 2,200 barrels, which are yet in cold storage—for an average price of about \$2.50 per barrel. The culls were sold to an Arkansas firm, for 20 cents per bushel, and were evaporated at the orchards with the Wellhouse plant.

The disposition of the crops as given by no means indicates the places of their final consumption. The firms which purchased from Judge Wellhouse frequently re shipped to a great many different regions. Ryan & Richardson, the Leavenworth firm which bought the 1894 crop, shipped quantities direct to England. A great many apples have found their final market in the North, in Minnesota and the two Dakotas. The culls, wherever they may have been sold, have nearly always gone to evaporators.

**VARIETIES.**

The variety which Mr. Wellhouse has planted most extensively is the Ben Davis. This does not indicate that he considers it the best apple, but that his experience has been that its cultivation yields the greatest profit. The thrift, hardiness and early-bearing habit of the trees making it possible to quickly establish a paying orchard; the tendency towards heavy and reliable yield making the aggre-

gate crop during the life of a plantation large; and the size, color, freedom from blemish, and outward attractiveness of the fruit, making it ready of sale, combine to make the Ben Davis, in Mr. Wellhouse's estimation, easily first in the list of commercial varieties.

But there is another variety, the Gano, which seems to be making its way into the place heretofore occupied by the Ben Davis, which it strikingly resembles, and of which variety many authorities claim it is but an improved strain. The Gano is as large as the Ben Davis, of even finer color, and the trees are as thrifty and as reliable in yield. Of the 270 acres which were added to the Wellhouse orchards last spring, 100 were of Gano.

Leaving out the Gano, which has not been tested in large quantity, nor for a long time, Judge Wellhouse's second choice for a commercial variety is the Missouri Pippin, which in yield has so far been a trifle ahead of the Ben Davis. The Missouri Pippin bears very early and yields somewhat of profit before the Ben Davis has begun to yield any fruit, but its prime, decline and decay come early as well, and in later years it loses the advance over other varieties.

The proportion in which Mr. Wellhouse has planted other varieties very nearly indicates his preference for them in a commercial way. His orchards contain of

Variety	Acres
Ben Davis	620
Missouri Pippin	320
Jonathan	360
Gano	100
York Imperial	95
Winesap	60
Maiden's Blush	18
Cooper's Early White	16

- ARMSTRONG & McKELVEY, Pittsburgh
- ANCHOR, Cincinnati
- ATLANTIC, New York
- BEYMER-BAUMAN, Pittsburgh
- BRADLEY, New York
- BROOKLYN, New York
- COLLIER, St. Louis
- GORNELL, Buffalo
- DAVIS-CHAMBERS, Pittsburgh
- ECKSTEIN, Cincinnati
- FAHNESTOCK, Pittsburgh
- JEWETT, New York
- KENTUCKY, Louisville
- JOHN T. LEWIS & BROS. CO, Philadelphia
- MORLEY, Cleveland
- MISSOURI, St. Louis
- RED SEAL, St. Louis
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- SHIPMAN, Chicago
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- VLSTER, New York
- UNION, "

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Winesap	60
Maiden's Blush	18
Cooper's Early White	16

Cooper's Early White is the only variety that has not paid. Neither it nor Winesap are being planted any more.

York Imperial, though not thoroughly tested as yet, is looked upon with special favor as a commercial variety. The tree is thrifty, hardy and very productive, although difficult to raise in the nursery. The fruit is of good and uniform size, well colored, a good keeper, and preserves its quality as to crispness and flavor as long as it lasts, never becoming spongy or flat.

**METHOD OF PLANTING.**

Mr. Wellhouse sets his trees so that the north and south rows are thirty-two feet apart with the trees sixteen feet apart in the rows. There are three main reasons for adopting this plan: (1) With the trees so close together they form their own wind-break, making hedges or belts of timber unnecessary. (2) The dense shade makes the evaporation of moisture from the soil less rapid, and the danger from sun scald of the trunks and branches less imminent. (3) It is easier to secure a good permanent stand by the close planting, and the excess of trees, if there is any, can be removed as is desirable.

Trees are always set in trenches, rather than in holes, for several reasons. It is a more rapid and less expensive method, and it insures better drainage to the trees. Besides this, it loosens the soil to a greater distance around the trees than is the case where the holes are dug, as ordinarily. Mr.

Wellhouse's plan is to strike out a "land," about four ordinary furrows wide, where each row of trees is to be. From this land he turns two furrows each way, leaving a "dead" furrow. In the bottom of this "dead" furrow an ordinary listing plow is run, to a depth of fourteen inches from the surface, if possible. Very little digging is required in this trench to prepare for the setting of each tree.

Trees are never bought of nurseries, but are raised. The advantages of this course are that the proprietor always knows just what is being planted; the trees are always on hand when wanted, and in the best possible condition, and they can be grown for a small part of the amount they would cost if purchased from a nursery. Mr. Wellhouse says that trees of the common varieties can be raised to two years old from the graft for less than 2 cents each.

Grafts are always made on "piece" roots, "whole" root grafts never having given satisfaction. It is the endeavor to get a tree on its own roots as soon as possible, and this is accomplished only by using "piece" roots.

**CARING FOR THE TREES.**

Trees are always headed very low and the heads kept as dense as possible to protect the trunks and branches from sun scald. Mr. Wellhouse says that he invariably refuses employment to men who will confess to any knowledge of horticulture, for such persons always persist in disobeying orders in regard to pruning. They insist on trimming the body of the tree up high and thinning out the head, which is not desired under any circumstances. Men who know nothing about pruning do as they are told. Sparing the pruning knife also promotes early bearing, in hastening the maturity of the trees. Missouri Pippin and Ben Davis have always been made to bear the fourth year after setting through allowing them to grow practically at will.

There are two other strong reasons for heading the trees low: The heavy prairie winds have less opportunity to whip them about and injure them, and the fruit is much more readily gathered where it is borne near the ground.

Young trees are never wrapped to protect them from damage by rabbits, dependence being placed upon the use of traps. Two or three box traps per acre, built upon a plan invented by Walter Wellhouse, who is associated with his father, and costing 15 to 20 cents each, insure immunity at a tithe of the expense attached to wrapping. The traps are about twenty-two inches long, six inches wide, and six high. They are built of inch lumber, that which has been weather-beaten being much preferred as it is less likely to arouse a rabbit's alarm. One end is nailed shut, and the other is fitted with a wire door, hinged at the top and so arranged that it will be "tripped" at the slightest touch of a spindle inside. No bait is needed, as a rabbit will go into a dark hole anywhere. The rabbit when going in brushes against the delicately adjusted spindle, the door falls, and his days of girdling apple trees are over.

Young plantations are kept cultivated in corn until they begin to bear.

They are then seeded to clover and none of the growth removed from the land. After the clover goes to seed each year the ground is run over with a cutter devised for the purpose, which cuts all the clover and weeds and leaves them for mulching. The action of the cutter is also to cover much seed, which insures a new growth of clover. The cutter is built on a plan very similar to that of the ordinary stalk-cutter.

GATHERING AND PACKING.

The gathering of the apples is done by men in gangs of twelve to fifteen, each gang in charge of a foreman. An ordinary two-bushel grain sack, swung over the shoulder and kept open by a hoop in the mouth, is used by each man. He fills his sack as full as it can be conveniently carried, and empties into boxes on a wagon which is kept conveniently near. As soon as a wagon is loaded it is driven to the packing-house and another takes its place. Two or three wagons are required to haul away the fruit gathered by each gang of men; thirty to forty bushels per day is about the average made by the pickers. Fully five-sixths of the apples are within easy reach of the ground.

The foreman's duty is to see that the wagons keep pace with the pickers, so that there is no unnecessary carrying; to see that the men do not become too widely scattered, nor yet too much "huddled" to work to advantage; to see that the apples are picked "clean" and handled without bruising, and to keep the time of the men.

As soon as the apples are taken to the packing-houses, of which there is one for each block of trees, they are sorted into three, and sometimes four, grades. Those of the first grade, or "shippers," as they are called, are placed directly into barrels and packed in the usual way, by "facing" the bottom, filling, and forcing the head in with a screw press. The division between first and second-grade apples is made only in size, both grades including only sound fruit. The third-grade apples are the small ones and those which, while not sound, are still usable. The fourth-grade apples are left in the field or fed to hogs. It takes almost as many men to sort and pack the fruit as it does to pick it.

SPRAYING.

One of the most potent factors in making the Wellhouse orchards profitable is the scientific and carefully conducted system of spraying for insect and fungous pests. By the proper use of London purple, at an aggregate cost for the season of less than 25 cents per acre, the ravages of the codling moth worm, the leaf-roller and the tent caterpillar are reduced to an almost inappreciable minimum, and the canker worm is made practically harmless. Apple scab is also controlled, to some extent, by the use of a solution of copper carbonate before the blossoms open in spring. The trees in these orchards are sprayed three times: Once before the blossoms open, with a solution of six or eight ounces of copper carbonate to 150 gallons of water; once as soon as the blossom leaves fall, with a similar solution, to which has been added a pound of London purple; and a third time, ten days later, with a solution of a pound of London purple to 150 gallons of water.

To apply the spray, Mr. Wellhouse employs a machine of his own invention. It consists of a tank, mounted on wheels, and equipped with a pump. The pump is driven with a sprocket wheel, which gets its motion from the movement of the bearing wheels. A nozzle at one side of the machine directs a volume of finely-divided spray onto a row of trees as the machine is drawn along. As there is no means of stopping the spray while passing the intervals between the trees, of course there is some waste, but the cost of the spraying solution is so trifling that this is scarcely worth considering. Almost any of the smaller spraying machines does as satisfactory work, but where there is so vast a number of trees to be treated, such a machine as is in use in the Wellhouse orchards is indispensable.

The nineteen years' experience that Mr. Wellhouse has had in commercial

orcharding in Kansas has served to confirm him in the opinion that Kansas can grow apples as certainly, as easily and as profitably as they can be grown in any State. He has often asserted, and repeated to the writer within two days, that "When we learn what varieties are best adapted to our soil and climate, and learn how to take care of our trees, Kansas will be the apple orchard of this country. We shall grow more apples than any other State in the Union."

When he set his first plantation, and during the first years of his experience, it was much of a question in his mind whether the land would stand heavy cropping of apples without a manifest deterioration in the size and quality of the yield. The past few years have set his mind entirely at rest in regard to that point. He says that the crops borne by the trees set in 1876, nineteen years ago, are as large and of as fine a quality of fruit as when they first began to bear. The finest Ben Davis apples he ever raised were borne this year on trees that had already yielded twelve crops since 1880. Neither do the trees show any signs of decrepitude or decay, and there is nothing as yet to indicate that they may not go on bearing profitable crops indefinitely.

In the Dairy.

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

Good Butter Should Bring Good Prices. EDITOR KANSAS FARMER:—When one sees the large amount of butter passing over the counters of our grocery stores, at 8 cents per pound, in the way of trade, it is plain to see one of the leaks on the farm. No one can afford to make butter for any such price, and yet millions of pounds, perhaps, are sold at such prices every year in this State, and I always feel sorry for the man or woman when I see them selling or trading butter at prices below actual cost, when a little ingenuity and forethought in making and business principles in selling will bring a handsome profit.

Take up any of our market reports, and note the wide range of prices at which butter is quoted, from 4 cents per pound up to 20. A fair profit in the latter price, a dead loss in the former. The butter that is quoted at the lower price invariably costs the farmer more to produce than the higher-priced article does. The original material is the same in both. Yet how different the finished product.

I haven't a word of praise for 8-cent butter. People nearly always get for their produce what it is worth. There are exceptions of course. There are people who make fairly good butter, that, if sent to a butter market put up in the right shape, would bring good prices, but from habit or some other cause they trade it at the grocery or store for what they can get.

Some people have an idea that it is only a favored few who can get what looks to 8-cent butter-makers an extravagant price, when the fact is, I have never seen a place where a cow was kept where the conditions were such as to make it impossible to make good butter, and I don't believe that there is a hill so high, a valley so low or a place so barren that, if a cow can exist, but what good butter can be made. We are now making butter under most unfavorable circumstances, but we get the highest quoted prices, not in trade but in cash. I hope to have things changed soon, so as to be more convenient, when we expect to do still better.

Another peculiar feature in the butter market is that there is always a demand for the highest-priced butter. Lower grades sometimes drag prices down, but the demand is always ahead of the supply, yet farmers will continue to make an article in which there is no profit and for which there is no demand. Did any reader ever see a man, woman or child, with plate in hand, go from dealer to dealer inquiring for poor butter?

There is one of two things, either many farmers and farmers' wives don't

know how to make good butter or they are using very poor business methods. I believe the time is coming when butter, such as makes up the bulk of that commonly called "store butter," will be condemned by boards of health as unfit for human food, and I say God speed the day.

While agricultural papers generally are doing a good work in suppressing the sale of "oleo" in all its forms as butter, I believe it is just as necessary for all concerned for them to teach people the art of better dairy work and the making of fine butter.

Elm City, Kas. M. E. KING.

Dairy Notes.

Remember that the value of butter increases with the quality.

Milk from cows nearing the period of lactation does not churn as easily as milk from fresh cows.

The bill prohibiting adulterations in butter and cheese has been signed by the Governor of Missouri, and is therefore a law of that State.

An exchange truly says that creamerymen everywhere owe themselves and their patrons the obligations to use every effort in their power to stamp out and crush the monstrous fraud called filled cheese.

The great secret in fancy butter-making, says a dairy writer, is a studied purpose to keep all foreign substances out of the milk, cream and butter, and have only original material from start to finish and fancy butter results.

The New York Experiment Station has been making some practical tests with cows, as to the amount of water they drank. It was found that during lactation, or the milk-giving period, the average per month was 1,660 pounds.

Farmers, while butter is so low and cheese high in price, why not send \$1 to C. E. Kittinger, Powell, S. D., for his rennets and instructions for making cheese at home without other apparatus than you now have. Any woman can make cheese while attending to household work. The process is very simple and success certain. Mr. K. offers to refund the dollar to all who fall while following his instructions, and says no one has ever yet asked to have it refunded.

FARM RECORD.—Our "Farm Records" have been such a splendid seller because of their practical value that our supply is now quite limited. We have a number of the best binding only, which the KANSAS FARMER will deliver to any address for only one dollar.

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"Root Crops for Stock Feeding, and How to Grow Them." .30
"How to Grow Melons for Market." Compiled from Prize Essays. .30
"How to Grow Onions." With a chapter on Growing by Irrigation. .30
"Pansies, Poppies, and Sweet Peas." A bright booklet. .10

FARM CREAM SEPARATORS. Power and Hand. Send for Catalogue. P. M. Sharples, West Chester, Pa., Elgin, Ill. LOOK for our announcement in NEXT issue of this paper. It will show a cut of 1 style of DAVIS CREAM SEPARATORS. It would take several pages to give details about these peerless machines. Handsome Illustrated Pamphlet Mailed Free. AGENTS WANTED. DAVIS & RANKIN BLDG. AND MFG. CO. Sole Manufacturers, Chicago.

Invited to send for my latest price list of small fruits. Half million strawberry plants, 300,000 Progress, Kansas and Queen of West raspberry plants. B. F. Smith, Box 6, Lawrence, Kas. Mention this paper.

A. H. GRIESA, Prop'r Kansas Home Nurseries, Lawrence, Kas., grows trees for commercial and family orchards—the Kansas Raspberry, Blackberries, standard and new Strawberries—also shade and evergreen trees adapted to the West.

ESTABLISHED IN 1873. WILLIS NURSERIES.

Contain a general assortment of choice fruit trees and other nursery stock, which we offer for sale in lots to suit. Our prices are low—stock and packing the very best. Write for free catalogue and always mention name of this paper. A special lot of choice well-grown two-year-old apple trees for sale. Address A. WILLIS, Ottawa, Kansas.

Greenville and Gardner STRAWBERRY PLANTS.

El Dorado Blackberry. Other new and standard varieties of Fruits. A general line of Nursery stock. Address J. F. CECIL, Nurseryman, North Topeka, Kas.

FREE SPRAY PUMP

to one person in each place. We mean it, if you mean business and want agency send 10c. We will send a complete pump that will do the work of a \$10 spray. A. SPEIRS, R 54 North Windham, Maine.

PERINE'S NEW SUBSOIL PLOW. Specially designed to break up the hardest subsoil. It can be run 2 feet deep which lets in all the rain, storing it up for all crops, which insures against drouth and standing water on the surface. For further particulars address, PERINE'S PLOW WORKS, Topeka, Kas.

RETAINS RUPTURE WHEN ALL OTHERS FAIL. The Dr. Harvey Human Hand Truss. JUST LIKE USING YOUR FINGERS—YOU KNOW HOW THAT IS! For Descriptive Circulars Address E. I. PEARSON & CO., SOLE MANAGERS, Riato Building, KANSAS CITY, MO.

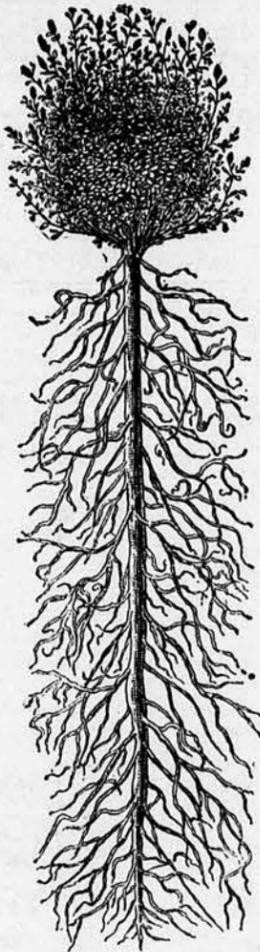
The Greatest Railroad on Earth—Santa Fe Route! Teachers and others going to National Educational Association meeting at Denver, in July, should remember that the Santa Fe offers as low rates as anybody else, with better service. Special inducements to small or large parties. Santa Fe Route. Through Pullman Sleepers and free Chair Cars—Chicago, St. Louis and Kansas City to Denver. One hundred miles' superb view of Rocky Mountains between Pueblo and Denver. Privilege of attending Summer School, Colorado Springs, on return trip. Low-rate excursions into the mountains after meeting is over. For descriptive pamphlets, address G. T. NICHOLSON, G. P. A., Monadnock Building, CHICAGO.

GARRIAGES, BUGGIES, HARNESS and Bicycles, at Factory Prices. Work guaranteed and 20 to 40 per cent saved. Our goods received the highest awards at the World's Fair. Our 1896 Mammoth Illustrated Catalogue is free to all. It shows all the latest styles and improvements and reduced prices. It has 200 pages and is the largest and most complete catalogue ever issued. Send for it. It's free. Alliance Carriage Co., Cincinnati, Ohio.

Broke the Record No Cultivator ever had such a remarkable run the first season. Sales nearly 20,000 in 1894 and this year will be greatly increased. The C. H. D. is simply the best Walking Cultivator ever made and as yet has no imitators. It sells at sight. For sale by one dealer in a town. See it before you buy. Write us for illustrated circular. Deere & Co. MOLINE ILL.

The Silent Subsoiler.

(From Biennial Report of Secretary Coburn.) There are some silent subsoilers that do their work with ease, and, in their way, as effectually as any team or plow ever hitched, although in some lands use of a subsoil plow is essential to the best beginning of such work.



AN ALFALFA PLANT AND ITS ROOTS.

and help to constitute an unfailling reservoir of wealth, upon which the husbandman can draw with little fear of protest or overdrafts. Its long, heavy roots disturb the subsoil, push and crowd the earth this way and that, thus constituting a gigantic subsoiler.

Publishers' Paragraphs.

PAID MUCH BETTER.—J. C. Suffern, specialty seed-grower, Voorhies, Ill., under date of April 25, 1895, says: "Enclosed find draft of \$38.27. I am using over forty leading agricultural journals and the KANSAS FARMER has paid me much better than any other."

We have received from Lord & Thomas, the well-known Chicago advertising agents, a copy of their "Pocket Newspaper Directory for 1895." It is a handsome morocco-bound book that will fit in, but not fill one's pocket or the pigeon-hole of his desk—full of terse and authentic information.

The wonderful growth of Sears, Roebuck & Co., of 171 and 173 West Adams street, Chicago, is a striking example of the merits close attention to business and following a policy of treating every customer at a distance exactly as they would like to be treated were they in a customer's place.

tells all. Their advertisement will be seen in our columns from time to time, and our readers will do well to correspond with this big house.

HART PIONEER NURSERY CO., of Fort Scott, Kas., has recently been reorganized and will henceforth be under the management of W. F. Schell, one of the original organizers of the company. The nurseries were established in 1865, and have grown to be second to none west of the Mississippi, and a merited saying is, that "if furnished by the Hart Pioneer Nurseries they are all right."

Removal of Ticket Office of New York, Chicago & St. Louis (Nickel Plate) Railroad.

On May 1, the Chicago city ticket office of the New York, Chicago & St. Louis railroad (Nickel Plate Road) will be moved to No. 111 Adams street, opposite the post-office.

"Among the Ozarks,"

the Land of Big Red Apples, is an attractive and interesting book, handsomely illustrated with views of south Missouri scenery including the famous Olden fruit farm of 3,000 acres in Howell county. It pertains to fruit-raising in that great fruit belt of America, the southern slope of the Ozarks and will prove of great value, not only to fruit-growers, but to every farmer and home-seeker looking for a farm and a home.

That Trip East

May be for business or pleasure, or both; but pleasure comes by making a business of traveling East over the Santa Fe Route as far as Chicago. Thirty miles the shortest line between Missouri river and Chicago; that means quick time and sure connections. Track is straight, rock-ballasted, with very few crossings at grade.

Some of the old Kansas friends of Henry Wallace, formerly editor of the Iowa Homestead, will doubtless like an opportunity to continue to read the emanations from his able pen. He is now editing Wallace's Farm and Dairy. By special arrangement we are able to send KANSAS FARMER and Farm and Dairy for one year for \$1.25.

A TRUE STORY

Last month I cleared, after paying all expenses, \$235.38; the month before \$186.86 and have at the same time attended to my regular business. I believe any one, anywhere, can do as well, as I have not a particularly good location and not much experience. When you have an article that every family wants, it is very easy selling it. It seems strange that a good, cheap dish-washer was never before placed on the market.

HIGH GRADE BUTTER

Advertisement for a butter separator, including an illustration of the machine and text describing its benefits and availability at C. E. Hill & Co.

The Fastest Miles at Different Ages. We print below two interesting lists of the fastest records, at different ages, from one year to twenty, held by both trotters and pacers:

Tables listing fastest records for trotters and pacers at various ages from yearling to twenty-year-old.

THE STRAY LIST.

- List of lost animals including horses, ponies, and mares with details of their owners and locations.

Big Book Bargains.

Books at Less than the Original Cost of the Paper.

- List of book bargains including encyclopedias, dictionaries, and various reference books with prices.

Who will secure the above prizes? When this lot is sold we cannot fill orders. Send money with order—we will pay the freight. Correspondence asked. Kellam Book and Stationery Co.

Advertisement for a suit, featuring an illustration of a man in a suit and text stating 'COSTS NOTHING TO SEE AND EXAMINE' and 'OUR OFFER'.

The Western Trail. Is published quarterly by the Chicago, Rock Island & Pacific Railway. It tells how to get a farm in the West, and it will be sent to you gratis for one year.

Kansas Tannery. ESTABLISHED IN 1889. Does a general tanning business, including robes, rugs, etc. Tanning Galloway hides for robes specialty.

Sunny Grand Valley of Colorado. The Home of the Peach and other Delicious Fruits. The land of perpetual sunshine, where there are neither blizzards, cyclones, nor malaria.

Advertisement for the Gordon Hedge-Trimmed, featuring an illustration of the machine and text from E. C. Gordon & Sons.

Advertisement for Hand Carts, featuring an illustration of a hand cart and text from Parlin & Orendorff Co., including a list of sizes and prices.

### The Veterinarian.

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

**CALF UNABLE TO STAND.**—A calf dropped April 7 is a week old and unable to stand. It lies flat, with its head back. Its body trembles and twitches at times. It takes milk from a bottle. What can I do for it?

Fletcher, Kas. J. P.

**Answer.**—Your letter was delayed somewhere and did not reach me in time for last week's issue. There is very little to do for your calf except to give it good nursing and allow nature to do the healing. The calf will probably be dead before this reaches you.

**PIGS DYING.**—What can be the fault with my sows? I bred fifty young sows, weighing 250 pounds each. I fed them one-third mill feed and two-thirds bran by weight. They were all in very good condition. Fourteen of the sows had 105 pigs, of which there are only twenty left. They were either born dead or died in an hour or two after birth. How can I avoid this trouble?

Kirwin, Kas. C. R. J.

**Answer.**—There is nothing in your description of the case that gives any clue to the trouble. As I do not know of what the mill feed consisted, I cannot say whether that caused it or not. Keeping sows too fat or keeping them too closely confined without exercise will often weaken their offspring. Breeding to a weakly or over-worked male will often do the same. Turn the remaining sows out where they can have plenty of exercise and green food.

Interesting circulars sent to farmers. Send name to Bureau of Immigration, Spokane, Wash.

#### Union Pacific Route.

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

#### Best Way to Sell Wool.

Another wool season is at hand, and one of the problems which no doubt confronts our readers who have wool is where and how to dispose of it to the best advantage possible. Like all farm produce it finds its way to the large markets for distribution, and the fewer hands it passes through before this distribution takes place the more money he realizes for his wool. Such being the case, it is certainly for the best interest of the wool-grower to ship his wool direct to the large markets or points of distribution in order that he may realize the most money possible for it. The necessity for doing this at present is much greater than if wool was bringing a good price, and when the profit to be gained by the grower of wool shipping direct to market is brought to his attention, as is intended by this article, we think he will take advantage of it. There can be but one possible obstacle, that is confidence in securing the right kind of a house to receive and sell his wool to the best advantage possible and one which will remit his money promptly. Confidence is certainly the foundation of all business transactions.

There are good reliable houses in the different wool markets to whom a grower can ship in confidence that he will be fairly and honestly dealt with and that his interests will be fully protected. One of these houses is Summers, Morrison & Co., Commission Merchants, 174 South Water street, Chicago. This house has a very large trade in wool, in fact they have revolutionized the wool trade to some extent by making prompt sales of all wool they receive and sending quick returns to the shippers. When they first started, a few months ago, that they intended to handle the wool trade in this way, older houses in the business said that it was impossible to do justice to the shippers; but this firm has demonstrated that it was possible, as their numerous shippers have testified. They have been handling wool in this way for the past five years and each year they increase their trade largely. They hold numerous testimonials from those who have shipped them wool and they are all unanimous in their verdict that the returns have been prompt and satisfactory.

If you will write this firm for prices and the prospect of the wool trade they will respond promptly.

### Horse Owners! Try 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 circulars. THE LAWRENCE-WILLIAMS CO., Cleveland O.

#### MARKET REPORTS.

**Kansas City Live Stock.**  
KANSAS CITY, April 29.—Cattle—Receipts since Saturday, 4,220; calves, 71; shipped Saturday, 84; cattle; no calves. The market was generally a dime lower on fat steers and steady on butcher stuff. The following are representative sales:

DRESSED BEEF AND SHIPPING STEERS.					
108.....	1.492	\$5.50	80.....	1.431	\$5.45
70.....	1.439	5.45	22.....	1.371	5.40
46.....	1.369	5.30	19.....	1.410	5.15
41.....	1.283	5.15	81.....	1.185	5.10
18.....	1.240	5.00	23.....	1.156	4.95
23.....	1.069	4.50	16.....	1.061	4.35
6.....	1.105	4.30	2.....	1.115	4.25
65.....	998	4.15	62.....	678	3.85

TEXAS AND INDIAN STEERS.					
68.....	1.137	\$4.20	36.....	1.159	\$4.20
98 of 1.....	1.122	4.15	42.....	1.082	3.60
53.....	811	3.10	2.....	925	3.00

SOUTHWESTERN STEERS.					
20.....	728	\$3.20	8.....	1,092	\$3.85

TEXAS AND INDIAN COWS.					
25 half.....	394	\$2.40	13.....	700	\$2.20
10 mix.....	595	2.00			

COWS AND HEIFERS.					
1.....	1,000	\$4.00	1.....	1,230	\$3.90
2.....	618	3.85	1.....	1,131	3.80
1.....	1,020	3.75	1.....	510	3.75
1.....	1,220	3.70	25.....	1,101	3.70
5.....	676	3.60	1.....	1,110	3.50
7.....	1,051	3.40	5.....	982	3.25
1.....	910	3.10	1.....	990	3.00
1.....	720	2.75	1.....	1,070	2.60
1.....	1,010	2.50	1.....	1,000	2.40
1.....	1,060	2.25	1.....	1,060	2.00

STOCKERS AND FEEDERS.					
1.....	900	\$3.75	20.....	1,162	\$4.45

Hogs—Receipts since Saturday, 4,924; shipped Saturday, 1,234. The market was 10 to 15c lower. The following are representative sales:

64.....	291	\$4.75	52.....	286	\$4.67 1/2	64.....	256	\$4.65
191.....	331	4.65	132.....	253	4.65	68.....	267	4.65
67.....	210	4.60	59.....	222	4.60	70.....	214	4.60
23.....	214	4.60	22.....	258	4.60	67.....	254	4.60
74.....	216	4.60	65.....	241	4.60	67.....	243	4.60
116.....	232	4.60	80.....	246	4.60	93.....	205	4.57 1/2
61.....	175	4.55	74.....	204	4.55	93.....	215	4.55
48.....	214	4.55	75.....	214	4.55	67.....	167	4.52 1/2
70.....	183	4.50	10.....	158	4.50	70.....	183	4.50
38.....	173	4.50	17.....	167	4.45	14.....	172	4.45
49.....	187	4.40	11.....	147	4.40	100.....	190	4.40
74.....	149	4.35	13.....	130	4.35	10.....	150	4.35
35.....	131	4.30	82.....	136	4.25	3.....	113	4.05
3.....	113	3.75	46.....	99	3.25	31.....	54	2.50
5.....	140	2.50						

Sheep—Receipts since Saturday, 4,581; shipped Saturday, 535. The market showed a lower tendency. The following are representative sales:

117 Ar. w.....	95	\$3.10	520 Ariz.....	99	\$3.10
549 Ariz.....	82	3.00	782 Tex.....	74	2.80

Horses—Receipts since Saturday, 143; shipped Saturday, 22. A good market is looked for to-morrow when the auction sales begin. There was little done to-day in private sales. The supply on hand is only fair and the request is for good horses. Mules are dull.

#### St. Louis Live Stock.

ST. LOUIS, April 29.—Cattle—Receipts, 3,400; shipments, 300; market slow and 10 to 15c lower, especially on southern stock; export steers, \$3.85@4.10; good to choice shipping, \$3.25@3.75; fair to medium, \$4.50; light, \$3.50@4.25; stockers, \$2.25@3.00; feeders, \$3.10@4.00; cows, \$2.25@3.50; fed Texas steers, \$3.2@4.75; grassers, \$2.50@3.85; cows, \$2.00@3.25. Hogs—Receipts, 4,400; shipments, 3,000; market 10c lower and weak; tops sold at \$4.00; bulk of sales, \$1.75@4.85; light, \$4.50@4.75. Sheep—Receipts, 600; shipments, none; market fairly active; clipped sheep most in demand; woolled, lower; clipped natives sold at \$4.10@4.20; native mixed, \$1.00; southwestern mixed, \$3.05.

#### Chicago Live Stock.

CHICAGO, April 29.—Hogs—Receipts, 38,000; official Saturday, 10,725; shipments, 6,758; left over, 1,500; market fairly active and 10c lower; light, \$4.60@4.90; mixed, \$1.55@4.90; heavy, \$1.45@5.00; rough, \$1.45@4.65.

Cattle—Receipts, 13,500; official Saturday, 429; shipments, 867; market slow; Texans, 10c lower.

Sheep—Receipts, 1,900; official Saturday, 1,997; shipments, none; market slow and 10c lower.

#### Chicago Grain and Provisions.

	April 29.	Opened	High'st	Low'st	Closing
Wh't—April...	64 1/4	64 1/4	64 1/4	64 1/4	64 1/4
May.....	62 1/4	64 1/4	62 1/4	63 1/4	63 1/4
July.....	63 3/4	65 3/4	63 3/4	64 3/4	64 3/4
Corn—April....	47 1/4	47 1/4	47 1/4	47 1/4	47 1/4
May.....	48	48 1/2	47 1/2	47 1/2	47 1/2
July.....	48 3/4	49 1/2	48 1/2	48 1/2	48 1/2
Oats—April....	27 3/4	27 3/4	27 3/4	27 3/4	27 3/4
May.....	28 1/4	28 1/4	28 1/4	28 1/4	28 1/4
July.....	28 1/2	29	28 1/2	28 1/2	28 1/2
Pork—April....	12 17 1/2	12 17 1/2	12 17 1/2	12 17 1/2	12 17 1/2
May.....	12 10	12 17 1/2	12 05	12 17 1/2	12 17 1/2
July.....	12 40	12 47 1/2	12 35	12 47 1/2	12 47 1/2
Lard—April....	6 80	6 80	6 80	6 80	6 80
May.....	6 77 1/2	6 82 1/2	6 77 1/2	6 80	6 80
July.....	6 95	6 97 1/2	6 92 1/2	6 95	6 95
Rlbs—April....	6 20	6 20	6 20	6 20	6 20
May.....	6 23 1/2	6 23 1/2	6 20	6 20	6 20
July.....	6 35	6 40	6 35	6 37 1/2	6 37 1/2

#### Kansas City Grain.

KANSAS CITY, April 29.—Wheat sold about 2c higher than Saturday morning. Buyers were slow to respond to the higher prices asked. There was very little wheat for sale. Almost all that is coming in has been sold in a few days.

of arrival. Hard wheat out of store was held at 64c and soft wheat at 65c.

The demand for wheat is entirely local now, so that quotations on the basis of Mississippi river are not practicable.

Receipts of wheat to-day, 36 cars; a year ago, 41 cars.

Sales of car lots by sample on track, Kansas City: No. 2 hard wheat, held at 64c; No. 3 hard, nominally, 62c; No. 2 red, 2 cars 65c; No. 3 red, 2 cars 64c, 1 car 64 1/2c; No. 4 red, nominally, 62c; rejected, nominally, 60c.

Most of the few samples of corn on sale were held for higher prices. There was almost no demand.

Sales by sample on track, Kansas City: No. 2 mixed corn, 2 cars 45c; No. 3 mixed, 1 car 44 1/2c; No. 4 mixed, nominally, 44c; No. 2 white, 2 cars 46c; No. 3 white, nominally, 45c.

Receipts of oats to-day, 7 cars; a year ago, 14 cars.

Sales by sample on track, Kansas City: No. 2 mixed oats, 2 cars 28 1/2c, 1 car 28c; No. 3 oats, 1 car 27c; No. 4, nominally, 26 1/2@26 3/4c; No. 2 white oats, nominally, 32c; No. 3 white oats, nominally, 31c.

Hay—Receipts, 49 cars; market steady; prairie unchanged; timothy, choice, \$9.00@9.50; No. 1, \$8.50@9.00; No. 2, \$7.50@8.00; fancy prairie, \$8.50@9.00; choice, \$7.50@8.00; No. 1, \$3.00@3.50; No. 2, \$5.00@5.00; packing hay, \$3.50@4.50.

#### Kansas City Produce.

KANSAS CITY, April 29.—Eggs—Receipts light; strictly fresh are quoted at 11c per doz.

Poultry—Supply light and market firm. Hens, 7c; springs, \$1.00@4.50 per doz.; roosters, 15c. Turkeys are scarce; gobblers, 8c; hens, 9c. Ducks, steady, 7c. Geese, dull and not wanted; alive, 4 1/2@5c. Pigeons, firm; \$1.00 per doz.

Butter—The market is better supplied with all grades of butter, and generally of better quality, than it has been for some time past. Extra fancy separator, 19c; fair, 15c; dairy, fancy, firm, 15c; fair, 11@12c; store packed, 13@14c; fair, packed, 8@9c; packing, weak, 5@6c; old, 4c; stale butter finds no sale.

Fruit—Apples, supply moderate; market steady on good apples; best fancy stand, \$5.00@7.00; common to choice varieties, \$2.00@4.00.

Strawberries—Florida, \$1.00@2.00 Texas and Arkansas, \$2.75@3.50 per case; Mississippi, \$2.50@3.00 per crate.

Vegetables—Potatoes, the market is firm; ordinary kinds, common, 40@50c per bu.; sweet potatoes, red, scarce, 25@30c per bu.; yellow, 2 1/2@30c per bu.; Utah and Colorado, market fair; choice mammoth pearl, white, best, 7 1/2@7c; No. 2, 6@6 1/2c.

Ask your neighbor to subscribe for the KANSAS FARMER.



**STEEL WEB PICKET LAWN FENCE,** Steel Posts, Steel Rails and Steel Gates; Steel Tree, Flower and Tomato Guards; Cabled Field and Hog Fence; Steel Wire Fence Board, etc. Catalogue free. DeKALB FENCE CO., 23 High St., DeKalb, Ill.

### "HARTMAN" WIRE FENCE

For FIELD and FARM

HUMANE—STRONG—VISIBLE—ECONOMICAL  
Holds but DOESN'T HARM your stock. Can be built to STAY TIGHT all seasons. Get circulars & estimates from dealers or HARTMAN MFG. CO., 277 BROADWAY, NEW YORK, N. Y. Factories: ELLWOOD CITY, Penna. For Beautiful Calendar, send 4 cts. in stamps.



### GO AWAY FROM HOME TO HEAR THE NEWS,

Last fall a wealthy New Yorker gave one of our salesmen an order for several miles of park fence for his game preserve in the Adirondacks. When asked how he came to do this without having seen the fence, he replied: "I met my friend Rutherford Stuyvesant in Europe and asked what fence he used on 'Tranquillity Stock Farms' in New Jersey. He answered 'Page Woven Wire exclusively' and assured me 'it was all the Co. claimed for it. The Adirondack fence stretched on trees, proved so satisfactory that the owner wants 18 miles more."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.  
In writing to our advertisers please say you saw their advertisement in the KANSAS FARMER

## WOOL SHIP YOUR WOOL

Direct to market. It is the only way to get its full market value, if you ship to the right house. Our shippers testify almost unanimously that ours is the right house. The case has been tried by a jury of more than one thousand prominent wool growers and a verdict rendered. We have been found guilty of selling other peoples' wool at a higher price than they could get at home and making prompt returns. The verdict has created consternation among Wool Houses here, but rejoicing among wool growers. We receive more shipments of wool direct from the growers than any house in this market. We make quicker sales and quicker returns than any house in this market. Don't dispose of your wool until you write for our Wool Report, giving prices and the verdict of the jury over their own signatures. Sacks furnished FREE.

**SUMMERS, MORRISON & CO.,**  
COMMISSION MERCHANTS,  
174 South Water Street, CHICAGO.

References: Metropolitan National Bank, Chicago, and this Paper.

# WE WOOL

ESTABLISHED 1866

Receive Consignments direct from the sheep owner. Sell direct to the Manufacturer. Always get Highest Market Price. Charge less commission. Report sales promptly and fully. Have been engaged in a successful wool business for 29 years.

Are reliable—Ask Chicago Banks or Mercantile Agencies. Make advances when desired. Furnish sacks free to shippers. Have hundreds of Testimonials from our customers. Would like to send you "Wool Letter." Write for it.

**SILBERMAN BROS., 208-14 Michigan St., CHICAGO, ILL.**

## RAW ROOFING

\$1.25 Per 100 Sq. Ft. [COVERS 10x10 FT.]  
Complete with nails and caps. Ready to put on. Anyone can lay it. Absolutely water-proof. Strong and durable. Put up in rolls of 250 and 500 square feet each.

## KEEP YOUR CHICKENS WARM.

Free from lice and vermin, by lining your buildings with CARBONIZED TARBED FELT. \$1.50 per roll, 400 Sq. Ft. each. For Wood and Shingle Roofs, Barns, Out-Houses, Etc., Etc. In barrels, 45c.; 1/2 barrels, 50c.; 5 and 10 gallon cans, 60c. will rid your fowls of vermin. Write for circulars and samples, and mention this paper.

**WE PAY THE FREIGHT!** **CAMPE'S SUPPLY CO., Kansas City, Mo.**

# PILES, FISTULA,

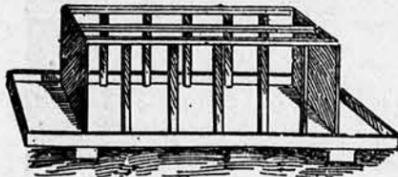
And all Diseases of the Rectum cured by Drs. THORNTON & MINOR, Kansas City, Mo. without knife, ligature or caustics—no fee accepted 'till patient is cured. Other Specialties: Diseases of the Skin and Women. Ask for our circulars. They contain testimony from leading business men and high officials—tell how to avoid quacks, sharpers and doctors who ask for fees or a note in advance. OFFICES: 30-31-32 Banker Building, 100 West Ninth Street.

## The Poultry Yard

### GOOD FEEDING RACK.

An Excellent Device for Keeping Food and Water Clean.

Feed and water for fowls may be protected from dirt and waste as shown in the cut below. The base is a board or plank 4 feet long and 1 foot wide. An upright piece of inch board 1 foot square is firmly nailed crosswise, 6 inches from the end. Thin boards 2 inches wide are nailed all around the edge. Three strips 1 inch square and 3 feet long are nailed to the top of the vertical boards, one at each upper corner, and the third midway between. On each side a series of vertical slats 3



TO KEEP FEED AND WATER CLEAN.

inches apart extend from the bottom board to the outer strip. These make a rack through which the fowls can extend their heads to reach the food which is placed inside. The ledge along the outer edge retains any scattered food. The drinking dishes are set at each end outside of the upright boards. The hens are kept from getting into the food with their feet, yet can reach it easily and withdraw their heads without danger of getting hung by the neck. It may be very cheaply constructed by anyone accustomed to the use of tools.

### GUINEAS ON THE FARM.

They Are Profitable Because They Cost Almost Nothing to Raise.

Guineas prefer to seek their food in the fields, and they seldom come home for food as long they can find a supply themselves. As a rule they mate, and it is best, therefore, to have the sexes equal. The hen steals her nest, but cannot refrain from making a noise when she comes off, which betrays her to the watchful farmer. Guineas are valuable on farms where the range is wide, as they destroy a very large number of insects and do not scratch up seeds. In fact, a flock of twenty guineas will consume a number of insects so large as to almost appear incredible, as they are active and always searching. They also consume grass and young weeds, as well as the seeds of undesirable plants and grasses. The hen lays about 125 eggs in a year, especially if they are taken from her before she begins to sit. The flesh of the guinea is rather dark but juicy, and of a "gamy" flavor. They may be raised to remain near the house by placing the eggs under hens and a few chicks to the brood when the young guineas are hatched. They will learn from the chicks and soon become accustomed to the same habits as the chicks, growing up with them. The eggs require four weeks for incubation, and are usually hatched under hens in the poultry house.—Prairie Farmer.

### SALABLE TURKEYS.

The Old-Fashioned Gobbler Gives Place to a Medium-Sized Bird.

All commission merchants agree that it is the medium-sized turkeys that sell the most readily and are the most profitable. The birds should dress eight, ten or twelve pounds, according to the proportion of toms and hens, they say, and should look plump and clean. These birds are the first selected, and the others go off more slowly. At over fourteen pounds a reduction in the price is demanded, while birds at eighteen or twenty pounds are almost unsalable at greatly reduced rates.

Of course there is some demand for large turkeys for hotels and boarding-houses, but the private family will have none of them, for two excellent reasons: First, the oven in the average city house is too small to accommodate such a lordly bird, and, secondly, the size of the family not being in proportion, its members would rebel at the turkey's too frequent appearance at meals. It would be well for the turkey raiser to keep both these points in view and regulate the size of his birds accordingly. He will save in feed and get better returns for his flock. The day of the enormous gobbler is past.



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### UNASSORTED STOCK.

Why Poultrymen Should Aim to Secure Uniformity in the Flock.

Go into any barnyard or poultry yard and the chances are that the stock will be found of all grades, shapes, colors and sizes. Among the lot will be found some excellent layers, but the whole lot will prove unprofitable, owing to too much "rubbish."

Yet there are hundreds who annually winter over and feed scrubs that show no signs of thrift, and which give the flock the appearance of being mixed to such an extent as to destroy even the prospect of better results in the future.

This is due to the failure of farmers to secure uniformity in the flock. There is no excuse for having a little of everything—good and bad—as the use of pure-bred males will overcome all such obstacles. We do not mean to claim that the farmer should use pure-bred fowls only, for the crosses are excellent, but if crosses are to be used, let some judgment be used in securing such crosses. Breed for just what you want, using certain males and females for that purpose, and not turn out the whole flock together and then trust to chance for the character of the offspring. There is too much useless material in nearly all flocks, but it can be bred out.—Prairie Farmer.

### AMONG THE POULTRY.

Hot meals are a stimulus to poultry. They warm them up.

KEROSENE applied to the legs is a good remedy for scaly legs.

OLD mortar, gravel or granulated bone are preventives of soft-shelled eggs.

UNLESS there is some variety of food the appetites of the hens will not be maintained in the best vigor.

TO MAKE the poultry business pay largely it must be carried on on a large scale. One hundred or 200 hens will not make anybody rich.

THE first cause of canker is generally a cold, but if taken in time can be easily cured by removing the hard, cheesy substance with a stick or any thing that will not cut, then applying sub-sulphate of iron to the parts affected. A few applications are sufficient.—Farmer's Voice.

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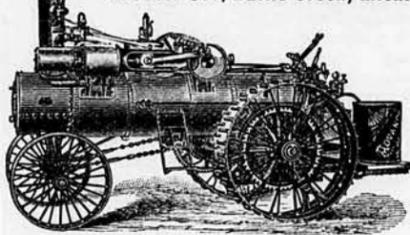
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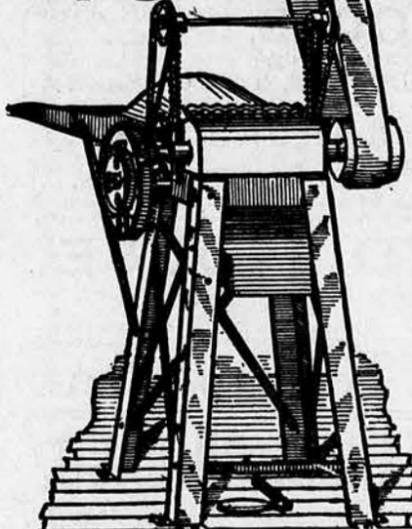
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