

# KANSAS FARMER

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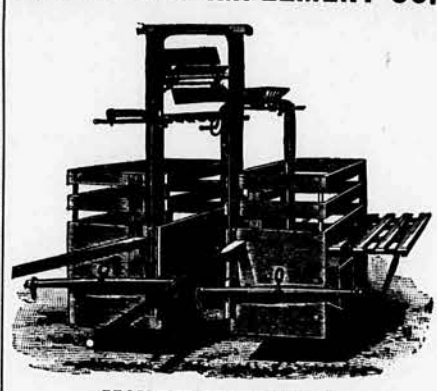
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Seven fall boars, large and growthy, sired by Sel-dom 14251 S.—dams are our top brood sows—at from \$15 to \$25. Don't miss this chance to get a top boar pig. We have the best finished lot of spring pigs we have produced. We breed as fine pigs at \$25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

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## Agricultural Matters.

### PROTECT THE CORN AGAINST CHINCH BUGS.

In general, people are less likely to take measures to prevent trouble than to ask for a remedy after the trouble is upon them. It is now too late to talk of preventive measures against chinch bugs in the wheat, and, with the advent of dry weather, there are likely soon to be heard numerous appeals for the protection of the corn. Methods which have proved effectual have been frequently described in the KANSAS FARMER, but in so important a matter no excuse is needed for giving at this time the excellent summary of the subject recently published by the Oklahoma Experiment Station in Bulletin No. 19, which says:

"It is, however, practicable to keep the bugs out of corn fields, and in many cases out of the oat fields, even when they have appeared in great numbers in the wheat fields. As a help to this, this station has advised the separation of the corn fields from the small grain fields as far as possible, and to have alfalfa between where this was practicable. The chinch bug does not feed on alfalfa nor any of the clovers. It does feed on grasses, wild or cultivated, although it prefers wheat, and especially barley and the millets. It has been advised to sow millet alongside or around the wheat field so as to attract the bugs to a narrow area, thus helping to more easily destroy them.

"The method of saving the corn crop, which is strongly advised, is called the 'barrier and trap' method. It consists in forming a barrier over which the bugs cannot pass and then trapping them in holes as they collect at this barrier. This method requires work and attention but it has proved so remarkably successful in many cases that it is strongly recommended. One reason for discontinuing the distribution of diseased bugs is that it has been found that such distribution tends to cause reliance on the possible spread of the disease and unwillingness to make the effort necessary to protect other crops. A statement in the letter by Dr. Forbes, published in this bulletin, gives striking evidence of the value of the barrier method. When twelve bushels of chinch bugs can be killed as they come out of a twenty-acre field of wheat and adjacent corn be kept entirely free from the bugs there is no reason why farmers should not be willing to give the time and labor necessary to thoroughly try this plan, especially as the destruction of the bugs is a great help towards preventing their appearance in alarming numbers next season. It will be noticed that Dr. Snow, while attaching high value to the disease method, also gives expression to his belief in the great value of the barrier plan.

"Both Dr. Snow and Dr. Forbes commend the use of coal tar and kerosene emulsion as aids or in special cases. Of the value of these applications there is no doubt, but their higher price in Oklahoma, the difficulty of securing the tar at points distant from railroads and the great readiness with which they evaporate or become hard here leaves the writer to advise chief reliance on the barrier. In trials made in the presence of the writer the bugs paid little or no attention to ridges of salt, even when the salt was saturated with kerosene.

"The most easily made barrier, and one that may be entirely effective, is made by making a double furrow with an ordinary plow or with a lister plow, smoothing up the sides with a hoe or spade and seeing that the side next the field it is designed to protect is kept fairly steep, free from clods and as nearly fine dust as is possible to make it. This may be accomplished by frequently drawing a log of wood through the furrow, or, instead of the log, a V-shaped drag, the sides of which shall press against the sides of the furrow. To prevent failure of the work, should the bugs break over from any cause, it is advised to make two or three furrows. These may be made between the rows of corn at the edge of the field. It is better, however, to have a space,

say one rod wide, plowed or thoroughly cultivated and harrowed, in which the furrows may be made. In many cases it is better to surround the wheat or millet field in which the bugs are and thus prevent their escape, rather than to simply keep them out of the corn field. Instead of a single furrow a double furrow with ridge between may be used.

"While the bugs can climb up a perpendicular wall, they cannot climb up even a fairly sloping furrow side if this be of fine dust. Care must be taken lest straws, roots or other substances get into the furrows and furnish a means of escape to the bugs. It is interesting to notice the great numbers of the bugs which will crowd upon a stick or a straw set upright in the furrow. The bugs may be destroyed in the furrows by drawing a log of wood back and forth, or, better, by digging holes at intervals of say twenty feet, into which the bugs will fall and where they may be killed with hot water or kerosene. It is well known that, at the season of the year at which this work should be done, the bugs almost never make use of their wings.

"Let it be clearly understood that this method is not recommended as an easy one. It may be a completely effective one, but it requires work and almost constant attention. It will require closer attention in this region of strong winds than in some other parts of the country. It will be much more helpful in the way of decreasing the probability of injury next year if all the farmers in a community will use this or any other plan of destroying the insects.

"A not uncommon mistake is in waiting until the bugs have gotten a start in the corn field. It will be better to sacrifice a number of rows at the edge of the field than to leave the bugs undisturbed on these. Another common cause of partial failure is lack of care in making and keeping the furrows in the proper condition.

"It is impracticable to predict how many days the work must continue to be fully effective. Frequently, nearly all the bugs will leave a field within two or three days, when the grain has been destroyed or when it has become too ripe to be palatable. On the other hand, many of them may remain for several days if there be much grass in the field. It is worth while to prevent the escape of the bugs, even into open prairie, for, while they do not like the native grasses as well as they do our grains, they can live on them.

"The thanks of the writer are given to Dr. F. H. Snow, Chancellor of the University of Kansas, and to Dr. S. A. Forbes, of the University of Illinois, and State Entomologist for that State, who, in answer to inquiries, kindly sent the letters given below. Perhaps no two men in this country have given more study to the subject than have these well-known scientists. It will be noticed they differ in their estimate of the value of the contagious disease method. In other respects they are in substantial agreement, except that, while it is not stated, the writer knows that Dr. Forbes' experiments with salt saturated with kerosene showed this was not an effective barrier."

Dr. Forbes writes:

"Our work done since you left here all goes to confirm the conclusions reached at that time; first, with regard to the unreliability of the method with contagious disease, and, second, with respect to the great efficiency of the trap and barrier method, supplemented with the coal tar strip and the kerosene emulsion application when these become necessary. A field experiment in Effingham county, last year, was particularly telling. For a total expenditure of about \$5 for labor and materials, approximately twelve bushels of chinch bugs were killed around a twenty-acre field of wheat as they were attempting to escape from it after practically destroying it. Corn adjacent was so completely protected that some days after the beginning of the experiment a long search failed to discover a single young chinch bug upon the row nearest the infested wheat. This experiment was witnessed by some two or three hundred farmers, being made quite a place of resort for several days

by the entire neighborhood. If similar measures had been taken throughout that region generally the corn would have evidently been mostly saved instead of falling a sacrifice, as a greater part of it did, either through direct invasion or through subsequent destruction after the chinch bugs began to fly.

"I do not advise the use of the kerosene emulsion except as an occasional aid to the trap and barrier method when chinch bugs break over the line; then I have no doubt that the small amount needed to accomplish an important purpose can be used to the best advantage and with great economy."

Dr. Snow writes:

"In answer to your inquiries I will write briefly, as follows:

"First.—I should advise the recommendation of attempts to cause disease among the chinch bugs, especially the disease produced by the white fungus or *Sporotrichum globuliferum*. I should recommend the only method which has proved successful, according to my observation, namely, by scattering in the field chinch bugs which have been killed by the fungus and are covered with its spores.

"Second.—The use of kerosene emulsion and other insecticides may be recommended at the time of attack by the bugs upon the corn fields after they have left the small grain, when they are massed in great numbers and easily reached by spraying with destructive fluids.

"Third.—I attach much value to the barrier method. The best barrier that I know of is a ridge thrown up by a double furrow, made smooth by the spade or other method. On the top of this ridge run a narrow stream of coal tar. At intervals of two or three rods dig deep holes on the side of the barrier towards the small grain field from which the bugs are moving. Into these holes the bugs will fall and may be easily killed by kerosene or by smothering with earth, and then new holes may be dug for the capture of fresh arrivals. If the coal tar is kept fresh upon the top of the ridge the bugs will be unable to cross over into the corn field. Instead of coal tar common coarse salt mixed with kerosene may be used effectually.

"The success of attempts to produce disease among the bugs largely depends upon the meteorological conditions. One of these is sufficient moisture to cause the growth of the fungus. The scattering of the fungus-covered bugs involves but little expense, and, if the proper conditions are present, may result in a wholesale destruction of the bugs. As these conditions are not always present it is not advisable to depend entirely upon the disease for the destruction of the bugs."

#### Canaigre.

Many of the inquiries as to canaigre are answered in the following abstract from an address by Prof. Robert H. Forbes, of the Arizona Experiment Station, and published in Bulletin No. 18 of that station:

"Canaigre is the adopted name for that species of dock known to botanists as *Rumex hymenosepalus*. This plant is widely distributed over the southwestern United States and the arid parts of northern Mexico, flourishing especially in the hot, dry valleys of southern Arizona, New Mexico and Sonora. It is a winter plant, and will grow under very various conditions of soil, climate and moisture, being found from sea level to considerable altitudes, and from the rich, well watered soil of the water courses to the hot and arid sides of the mountains.

"Canaigre prospers best along those river bottoms, where occasional floods supply it with the water essential to its greatest development. In appearance the plant resembles other docks. It begins its growth in the fall under the influence of cool weather and fall rains, sends up its flower stalk in the spring and dies back as the hot summer weather comes on. The seeds are mostly sterile, the plant propagating itself mainly by means of the young roots. These roots somewhat resemble sweet potatoes in shape, grow in clusters, and vary from a very small size to

## Over Thirty Years Without Sickness.

Mr. H. WETTSTEIN, a well-known, enterprising citizen of Byron, Ill., writes: "Before I paid much attention to regulating the bowels, I hardly knew a well day; but since I learned the evil results of constipation and the efficacy of



### AYER'S

Pills, I have not had one day's sickness for over thirty years — not an attack that did not yield to this remedy. My wife had been, previous to our marriage, an invalid for years. She had a prejudice against cathartics, but as soon as she began to use Ayer's Pills her health was restored."

# AYER'S

## Cathartic Pills

Medal and Diploma at World's Fair.  
To Restore Strength, take Ayer's Sarsaparilla.

over two pounds in weight. They live several years, making their chief growth the first season, slowly increasing each year until they finally die, leaving a hard shrunken residue, which slowly disintegrates and disappears.

"The commercial value of canaigre depends upon its tannic acid. This is found in all parts of the plant—its leaves, seeds and flower stalks—but mainly in its roots, of which it forms an average of about 9 per cent. in the green state. Of importance also in tanning are certain red and yellow coloring matters which are extracted along with the tannic acid and which affect the quality of canaigre-tanned leather. As much as 3 per cent. of starch is also found. This is an undesirable constituent, causing trouble in the tanneries unless it is removed by a suitable process of extraction. The roots contain an average of about 70 per cent. of water, more or less, according to the age of the plant and the abundance of water supply.

"The amount of tannic acid varies much with the conditions of growth. Adverse surroundings seem to be associated with the largest percentage, while well irrigated roots, grown in rich soil, show a distinct decrease. The lighter color of cultivated roots, however, is said to be preferred by tanners. During the annual period of growth the tannins seem to increase most rapidly at the beginning of summer when the plant is dying back to the ground. It appears that at this time the astringent sap of the leaves retreats into the roots, contributing materially to their percentage of tannic acid.

"The excellence of canaigre tannin is established. It produces superior grades of patent and fancy leathers and would come into much more general use if a regular and sufficient supply could be obtained. This supply will only be possible through cultivation. Beginnings have been made in this direction by various growers in California, Arizona and New Mexico, but definite conclusions as to methods and results of cultivation have not been reached. The presence of starch makes it difficult to handle canaigre without special machinery, therefore extract factories will probably prove to be essential to the development of the industry.

"After the tannins have been extracted a residue remains which is of possible value as fuel or fertilizer. As a fuel it is found to have about half the value of ordinary soft coal. As a fertilizer it should have considerable value if properly prepared. It is rich in the constituents—especially phosphoric acid, potash, lime and nitrogen—which ca-



naigre withdraws from the soil, and which will have to be replaced in a proper system of cultivation."

Professor Gully made the following suggestions: "I have been interested in the canaigre question since 1891, but have not very much positive knowledge respecting it. I believe canaigre will prove one of the profitable crops for some sections of the country. It cannot be grown at high elevations at a profit. Its growth is a question of moisture. It will grow on heavy adobe land, but the best growth is on light soil. From our present knowledge canaigre is simply valuable for its tannin. The root contains a large amount of starch, but I believe it is not valuable for cattle, for the reason that the starch is so intimately connected with the tannin that it cannot be profitably separated. There is at present no market for canaigre, as the farmer can grow it, for tanners will not take hold of it until it is put on the market in large quantities. The largest cultivated areas are in New Mexico. I believe the Salt river valley is the best located for profitably handling it, with possibly California and El Paso equally suitable. All plants that I have examined from frozen ground have been killed. I would as soon expect a frozen Irish potato to grow as frozen canaigre."

## The Stock Interest.

### THOROUGHbred STOCK SALES.

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

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

### THE HORSE MARKET.

EDITOR KANSAS FARMER:—Inasmuch as I recently took a car-load of fancy driving and park horses to the Eastern market, I will, for the benefit of your readers, inform you of the sales. Dr. U. B. McCurdy, of this city, took four head in my car and sold them at very remunerative prices. Those that he took, he had recently purchased, and so could figure his profit to a cent, but such as I had on the market, I had raised, and they had cost me their keep, but in most cases they were utility horses that had paid their own way. Two that the Doctor paid \$500 for, here in Topeka, he sold for \$1,070. One for \$700 (Reno with a record of 2.23½). The highest price I got was \$440 for "Honors Prince," a six-year-old gelding that was very handsome, fast and city-broken. We found out that the present demands were for horses with great speed, 5 to 10 years of age, then a park horse where speed was not considered, but one that had style, beauty, excessive knee action and carried a good head and tail. A Hackney horse is supposed to fill this bill, but the recent horse shows decide that the trotting-bred Hackney type is better than the pure-bred Hackney, for city demands, at least.

Of our car-load, three head averaged \$493; four, \$408; five, \$360 per head. Of course, considering the times and the fact that we were a trifle late (last week of May) selling, we could not complain. But these prices, while they were the actual cash prices under the hammer, were not by any means net, for we have to submit to a charge of 10 per cent. commission, which covers cataloguing and the sale; then, in addition to that, cold-blooded robbery of a charge of \$1 per day per head for feed, besides having to pay for our own help to groom and care for our horses; then, of course, in addition to all these "furious" items is a heavy freight charge, as it is about 1,000 miles to Cleveland, O., where we sold. The buyers for export are not as numerous as they were early in the spring, but one of our lot has gone across the "briny."

The opinion among horsemen at this sale was universal, i. e., that the best ones all over the country are "picked up" and there are but few left that are marketable and a few youngsters not ready for the "block."

On my return home I had a daylight

ride from Pittsburgh, Pa., and in all that distance I only saw three "sucking" colts, while a few years ago I would have seen 300, likely. With these facts before us, is it any wonder that I believe in a reasonable advance in the prices of good horses, and urge the owners of good mares to breed them? We won't, as a people, get along without horses, any more than we will without potatoes. Last year we had heavy crops and the price was very, very low, but that crop is gone, and if we do not raise any this year how about the price? "Now, I've touched the button; you do the rest." Although I have been speaking particularly about the light harness horse, I do not wish you to infer that they are the only kind that soon will be better in price, for the heavy horse, particularly the Percheron, is to-day scarce and commands 30 per cent. more in price than last year.

Mr. Thomas Bowick, of London, has this to say of the "cart-horse" of Russia, particularly:

"Almost every week in the year there are sales of American horses in London—the largest proportion being sent by Maryland dealers. Russian ponies for our coal pits are coming over, but in a limited supply. Russia, according to St. Petersburg Gazette, possesses 30,000,000 horses, or half the total number supposed by one authority to be kept in the world. About 86 per cent. belong to the peasants, and there are grave fears of the rapid decrease of these animals unless something is done to arrest the decline that has set in. The depression in agriculture has impoverished the peasants and their horses are growing fewer, as well as poorer in quality. At present, it is estimated, 30 per cent. of the peasants who cultivate land are without horses, and the government is urged to devote more attention to the encouragement of cart-horse breeding and less to that of the breeding of racers and other light horses."

O. P. UPDEGRAFF.

North Topeka, Kas.

### Mutton Production Increasing.

Although it is generally conceded that the total supply of sheep in the country is much smaller than it was a few years ago, on account of the heavy marketing during the past three years, it will be noticed that receipts so far this year have been unusually heavy. One reason for this is the change in the price of wool, which has caused a much larger percentage of sheep to come to market for mutton purposes. Formerly thousands were raised for the wool alone, but now flockmasters are paying more attention to the mutton side of the question, and for a few years it has hardly been profitable from both sources of revenue. While there are less sheep now than three years ago, the number is still comparatively large, and the general belief among sheep men is that the industry is gradually on the increase. More farmers are giving attention to the sheep, and this means an increased number for the market, and, after all, this is what counts. No matter how many there are in the United States it is the number slaughtered that regulates the prices. Sheep are prolific, and quickly prepared for market, and with more raisers in the business and a growing demand for mutton it is quite reasonable to expect the trade to grow at least to a reasonable limit.—*Drover's Journal.*

### The New Score-Card.

Swine breeders and expert judges will be interested in the scale of points recently adopted, which is as follows:

1—Head.....	3
2—Eyes.....	3
3—Ears.....	3
4—Neck.....	3
5—Jowl.....	3
6—Shoulder.....	6
7—Chest.....	10
8—Back and loin.....	14
9—Sides and ribs.....	14
10—Belly and flank.....	5
11—Ham and rump.....	10
12—Feet and legs.....	10
13—Tail.....	2
14—Coat.....	3
15—Color.....	4
16—Size.....	5
17—Action and style.....	3
18—Condition.....	2
19—Disposition.....	3
20—Symmetry of points.....	3
Total points.....	100

### Alfalfa for Hogs.

Recently the *Practical Farmer* got out a swine special, and F. L. Watrous, of Laramie county, Colorado, received \$10 for a prize essay on the above subject, which reads as follows:

"We, of the West, are growing strongly in favor of the grass-fed hog. We think that pigs which have been plentifully supplied with alfalfa, clover or peas, during the first five or six months of their lives, are healthier, more vigorous, that they respond more quickly to heavy feeding, and that the meat is more wholesome than can be said of those grown and fattened upon heating foods. The Berkshires and Poland-Chinas are favorites in the West, and a straight cross between the two makes a hog, which, for rustling proclivities, vigor, early maturity, and power to take on fat, is hard to beat. The color, black, is also a point in their favor. They seem to fill the bill. We cannot afford to hold hogs longer than from six to ten months, and consider eight months about the right age, so that with this early-maturing animal he can be quickly finished on short notice, and sold whenever the price seems reasonable. It is generally unsafe to hold over age for better prices. We think best to let them go at a fair rate and turn attention to another batch. There is no necessity for building expensive houses in this country. Sheds made of single boards with half-inch battens answer well; if faced toward the south, in a warm location, and boarded up from the bottom and down from the top, leaving a gap of about three feet, for which a door may be fitted to shut down in cold weather, and be fastened up when not needed; small doors in the rear of the pen should open, either into pasture lots, if land is plentiful, or into small inclosures adjacent to alfalfa or clover fields. An acre of alfalfa that will pasture twenty hogs for the season will feed twice the number if cut and fed in racks. The green feed is expected to just about make up the maintenance ration. In addition, to keep the pigs coming right along, which a pig must do if he is to turn any profit to his owner, good results are obtained by feeding at first a mixture of shorts, two parts, and corn one part, one-half pound three times daily, to thirty to fifty-pound shoats, increasing a little each week till four or five months old, then oats, barley and corn, two parts of the latter, all they will eat readily till six months old, then corn or barley, or both, ground and mixed, until finished. Hogs treated thus should weigh at seven or eight months from 250 to 350 pounds, according to the individuality of the animal. All do not thrive alike. In raising two litters a year we prefer to work for the November and April markets. November is usually best. For this we usually have pigs dropped in March, though April pigs thrive best under our conditions. The less young pigs come in contact with cold weather the better. We think nothing is healthier for breeding sows and young, than alfalfa pasture. Plenty of skim-milk is, of course, the best and one of the cheapest feeds when it is produced on the farm, but we have good success with pasture and a light grain ration. Shorts, two parts, and barley, one part, make a good feed, and in winter we gather the alfalfa leaves that rattle off in hay mows and about stacks, mixing quantities with the feed, and these are greedily devoured, and, it is believed, produce profitable results.

"In considering the health of the hogs, we watch them closely for any premonitions of sickness, cutting down feed or changing, when it seems advisable, and we aim to give them frequently a mixture consisting of wood ashes, charcoal, salt and sulphur, in about the proportion of a bushel of each of the first to a half bushel of salt and five pounds of sulphur. Strict attention is given to the cleanliness of their quarters, and they are furnished with plenty of clean water to drink, but none to wallow in. When pigs get lousy, as they often do, they are given a dose of kerosene emulsion through a force pump, which does the work. We aim to keep all breeding stock in good, comfortable condition, never allowing

## Nervous

People wonder why their nerves are so weak; why they get tired so easily; why they do not sleep naturally; why they have frequent headaches, indigestion and

**Nervous Dyspepsia.** The explanation is simple. It is found in that impure blood feeding the nerves on refuse instead of the elements of strength and vigor. Opiate and nerve compounds simply deaden and do not cure. Hood's Sarsaparilla feeds the nerves pure, rich blood; gives natural sleep, perfect digestion, is the true remedy for all nervous troubles.

## Hood's Sarsaparilla

Is the One True Blood Purifier. All druggists. \$1.

**Hood's Pills** cure Liver Ills; easy to take, easy to operate. 25c.

them to get very fat. Young sows are bred at from nine to eleven months. After the first litter some sows are discarded. There are some that never make good mothers and prove unprofitable breeders."

### A Plan for Calf-Feeding.

O. P. Thompson, of Iowa, writes to *Wallace's Farmer* as follows:

"We feel that we have now, after trying nearly all the different ways of feeding and caring for calves, struck the ideal plan. We wean at from three to five days of age, feed dam's milk fresh from cow whole for the first two weeks, then mix this with skimmed milk, adding a little more of the latter each day until the calf is about one month old, when we feed on skimmed milk entirely, with a small amount of ground and cooked flax seed to take the place of butter fat taken out of the milk. Having a 'Baby' separator and separating the milk warm from the cows and feeding the skimmed milk immediately, gives the calves perfectly sweet milk. We always aim to feed each calf just a little less than he wants, but never over about ten quarts at a feed night and morning. This calf-feeding is always done by the same man and not left to the boy or whoever happens to have the most time. The greatest and most frequent mistake is in feeding a calf too much at a time. We also give our calves what they will eat up clean of the same feed the cows get, usually corn and oats ground, equal parts by weight. This feed is put in a long trough, where all can have access to it. During this time of the year we turn them into a small pasture lot in the daytime, not so much for the grass they get as for the exercise and fresh air. When stabling them have large, roomy box stalls and when feeding them milk each calf is stanchioned so that they cannot get at each other to suck ears and are thus kept until their mouths are perfectly dry. We have, under this treatment, raised the finest, largest, strongest and most vigorous crop of calves we have ever raised."

"BROWN'S BRONCHIAL TROCHES" are unequalled for clearing the voice. Public speakers and singers the world over use them.

### Christian Endeavor Excursions to Washington.

Low rate tickets will be sold July 4, 5, 6 and 7, via Vandalia-Pennsylvania Short Lines, from St. Louis. Historic Johnstown, famous Horseshoe Curve and the highest point on the Allegheny mountains are on this direct route to the national capital. Ask W. F. Brunner, A. G. P. Agt., St. Louis, for details.

### Reduced Rates to Washington.

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

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

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

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



## Irrigation.

### SUB-IRRIGATION.

A correspondent writes to the Texas Stockman:

"I have been conducting an experiment, in a small way, in sub-irrigation this season, and did not intend to say anything about it in print until the results of the whole season could be summed up, but I have, or think I have, developed a few facts which may be of benefit to some one else who may be preparing for work of the same kind next year, and also feel the need of help from some one who may be experimenting in the same line this year, and surely with all of the irrigation talk that has been going on, and the great need of information on the subject, there must be some few at least experimenting along this line who will be willing to take the little trouble necessary to let others know what they have done and the results thereof.

"My experiment has been confined to a single drain twenty-one feet long on a city lot with a hydrant as water supply, which may seem like a very small thing to some, but when you come to think about it the most important points to be determined can be as well demonstrated on a small scale like this as though acres, instead of feet, were used, and the experiment is much less expensive, a matter which I assure you has no small weight with me. I have been obliged to begin this experiment with practically no data to guide me, for, strange as it may seem, with the press of the country teeming with irrigation matter, it seems that all writers upon the subject confine themselves to describing in a general way huge schemes comprising miles of ditches and expensive flumes far beyond the reach of the ordinary farmer or gardener, both as to finances and water supply.

[If he had been a reader of the KANSAS FARMER he would have had the benefit of the able articles of Dr. Hudson, of Osborne, Kas., Hon. Martin Mohler, Prof. H. R. Hilton and others. But the experience herein related tallies well with that of others in this kind of irrigation and is valuable as an extension of current knowledge of the subject.—EDITOR.]

"A great deal has also been said about windmill irrigation, and cuts have been given representing windmills discharging impossible quantities of water into tanks of a size that in our climate would throw off more water in evaporation than any ordinary mill would supply, and smacking much stronger of windmill advertising than practical irrigation.

"I have seen some short notices of experiments in sub-irrigation being carried on at the Utah Experiment Station, and have written them for details but have failed to receive them. As to my own experiment, I dug a ditch twenty-one feet long—the distance from my water supply to one end of my garden—eighteen inches deep and ten inches wide, with a fall of two inches, and filled it to a depth of eight inches with gravel, putting the smallest on top to prevent any liability of the dirt working down to check the flow of water. At the highest or supply end I put in a box fourteen inches long, open at both ends, with the lower end resting on the gravel. A short trough carries the water from the hydrant to this box, which, being open at the top, always shows me the depth of water in my drain.

"My soil is black, waxy for the first two or three feet, with a subsoil ash colored and of a clay nature which, although not impervious to water, still absorbs it very slowly, in fact, the black soil when not allowed to crack is so nearly impervious below where the spade reaches, that when the water has been turned on until a point of saturation has been reached for a distance of eight feet on each side of the drain, the water has not penetrated over two inches below the broken earth, yet the water spreads laterally through the broken soil with remarkable rapidity, if the soil is not allowed to become too dry between waterings. Now these are the points

which I think I have already pretty thoroughly demonstrated:

"1. That there is no advantage in sub over surface irrigation, if the soil is to be wet to a point of saturation, as it then compacts or runs together, the same as when flooded, and the surface becomes baked and cracked before the soil below is dry enough for cultivation, and it is impossible to maintain a mulch of fine earth on the surface so necessary to the perfect growth of the crop, whatever it may be, and most important of all, it takes more water.

"2. I find that the water distributes itself laterally with greater rapidity if applied while there is still a fair amount of moisture in the soil, than if a time is allowed to elapse between waterings sufficient to allow the soil to become dry, even though not dry enough to materially check the growth of plants. For instance, when the earth is moist within one and one-half inches of the surface an increase of moisture will be seen at a depth of four inches, eight feet from the drain, in about one-half the time and with a much less supply of water to the drain, than when the water is not applied until the moisture has disappeared for four inches from the surface, and of course the soil below to the depth of cultivation proportionately drier.

"Again, as another proof that the capillary attraction is greater in the direction of moisture, I find that when the soil is very dry and a full head of water is turned on from the hydrant the water reaches the surface almost as quickly as it penetrates the same distance laterally, but if the soil is still somewhat moist there will be a noticeable increase of moisture several feet from drain at a very slight depth before the soil immediately over the drain becomes saturated. Also that if a sufficiently less stream is supplied the moisture may be brought to within two inches of the surface at a distance of eight feet from the drain without having it appear on the surface over the drain at all, and I believe that the supply of water can be so regulated that the moisture can be maintained at any given depth from the surface.

"As I have only been at home a day or a day and a half each week for the past two months I have not been able to prove this, but if on trial it proves true, my conclusion will be that the proper way to sub-irrigate will be to first arrange to absolutely control your water so that a stream of the desired size may be applied constantly, thus always holding the moisture at the same distance from the surface, and leaving the surface in a condition to be cultivated. Of course the depth from the surface at which the moisture should be held must be determined by the crop, shallow-rooted plants requiring it nearer than the deeper-rooted ones.

"My experiment so far as carried out leads me to believe that crops may be grown in this manner with very much less water per acre where there is a good subsoil than by the old process of flooding, and that the soil will not run together and form clods. Of course distances necessary between drains will differ in different soils, as will also the depth necessary to be plowed, and probably the best depths for the drains will also vary.

"The size of drain in proportion to length, quantity of water to a given surface of soil and the proper amount of fall for drain, are questions upon which I can as yet form no opinion, though I know I have too much fall to my drain, as the soil over the lower end becomes saturated before moisture appears at any other point."

### Raising Wheat Under Irrigation.

J. R. Patterson, of Colorado, in *Orange Judd Farmer*:

"The preparation of the soil for a crop of wheat should begin ten months before sowing the seed. If peas were raised as a hay crop on the land the year previous to wheat raising the farmer would secure the double benefit of a large amount of cheap forage and an increased yield of wheat. Such, no doubt, will be the practice in the future. But for the present the land in the sub-irrigation district of the San Luis valley is flooded in the spring—

## WEBER Gasoline Engine

For use in any place or for any purpose requiring power. Only a few minutes attention required each day. Guaranteed cost of operation is 1 cent per horse-power per hour. The simplest, most economical and best power. Address: Weber Gas & Gasoline Engine Co., 459 SW. Blvd., Kansas City, Mo.



while water is abundant and carries sediment—for enriching and settling the soil and germinating the weed seed. When the weeds are three to six inches high plowing is begun with four horses abreast and a double plow, turning the soil from four to seven inches deep. No harrowing is necessary, and very little is done except where weeds spring up on the summer fallow, which is seldom the case. The land is left without further care until spring, when vitrioled wheat is drilled in at the rate of sixty pounds per acre. The drill is set to run three inches deep, or as deep as is necessary to put the seed in moist soil. As soon as convenient after drilling the field is ditched for irrigating. If not previously done a head ditch is made along the highest side of the field to receive the water from the supply lateral and distribute it to the irrigation ditches. These latter are made in parallel lines from the head ditch to the extremity of the field, and at such distances apart and of such size as the condition of the land determines. Generally, however, they are made from five to sixteen rods apart, leaving an equal number of acres in each land. Having made all the ditches necessary and received a supply of water, a small stream is turned from the head ditch into each irrigation ditch, and regulated from time to time until the supply just equals the amount of seepage, leaving no water to overflow on the field, or to waste at the ends of the ditches. The flow of water is continued in the irrigation ditches from one to four weeks, or until every part of the field shows moisture at the surface. Water may then be shut out of the field entirely. Should the season bring a few showers, no further application may be needed. The need of water may be tested at any time by brushing away the surface soil in any part of the field that looks "suspicious." Reasonably moist soil should be found at two inches depth.

"The wheat is harvested with a self-binder and three horses. After drying three weeks in the shocks, it may be threshed and marketed at once, as it does not go through a sweat. The yield is from twelve to sixty bushels per acre, according to cultivation and 'personal equation' of the farmer. The average is twenty-five bushels per acre."

### Practical Fruit and Vegetable Irrigation.

John Tannahill, of Columbus, Neb., in a recent speech before the Horticultural Society, gave the following as the result of his work:

"From an orchard of apple trees, of which 190 are beginning to bear, I got twenty bushels of apples in 1894, and this year I got from the same trees over 300 bushels. The trees are twenty feet apart; water is run between the rows, and I find that it does not take nearly so much water this winter as it did last, for the reason that the subsoil has been moist since last winter. As an experiment I left some apple, cherry and apricot trees unwatered last winter; those apple trees not watered were in bloom just six days before those that were watered, with the exception of one tree that I mulched, which, after watering, was six days later and was loaded with fruit. The spring frosts hurt some of those that were watered, but, as they were not overloaded, the fruit was much larger and very superior to that of the others. Of those trees not watered two died and seven had some fruit to set, but it kept dropping until time of ripening, when there was but very little of it left, and that was poor, almost worthless. My cherry trees, ninety-three of which I watered, bloomed two days later than those not watered, and all were heavily laden with large, juicy fruit, none dropping off or drying up; of the eighteen unwatered, ten died, eight bore very inferior fruit, hardly worth picking, and the trees made but six inches of growth of wood, while those watered made a growth of twelve inches. The cherry trees were watered during the last

week of December, and received no water before or after; the apple trees were watered previous to this and when the ground was frozen. Water goes much farther and does more good in orchards if used in winter, but in no case let the water come into contact with the body of the tree, as freezing will injure it. Always have the ground a few inches higher around the tree.

"I irrigated six acres for vegetables and made more profit off those six acres than off thirty acres unwatered. I grew from one-fourth acre that was watered three crops of cabbage, and the best part of it was that I got a good head of cabbage from every plant. At the same time I had two acres of unwatered cabbage, and I did not get one-fourth as many as from the one-fourth acre, and they were very poor. I plant cabbage two by four feet and water between the rows. The ground should be kept not only moist, but quite wet for them. When I see a cabbage beginning to head, I set a plant close by it, and when it is ready to cut, pull the roots and give room to the plant set a week or ten days beforehand. On all other vegetables on which water was used we were well repaid, as they were larger, smoother and of better quality, and the crop always sure. I have been in Nebraska twenty-seven years and am satisfied that a practical man with five acres under private irrigation would make more money than from fifteen acres without irrigation; and no one need be without it in our valleys, as we have plenty of water just a few feet below us, also plenty of wind above us, and by combining the two I believe we can irrigate more land than we can from rivers and creeks by ditches, believing that there is more water passing in the underflow than passes down rivers and creeks."

Young men or old should not fail to read Thos. Slater's advertisement on page 15.

Vandalia-Pennsylvania Short Lines from St. Louis. Excursion tickets on sale June 6, 7 and 8. Solid trains from St. Louis Union Station to Pittsburgh Union Station. For particulars address W. F. Brunner, A. G. P. Agent, St. Louis.

### Millions of Gold

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

### For the N. E. A. Meeting

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

To St. Paul and Minneapolis via "Burlington Route."

Two splendid through trains each day from Missouri River points to the north via the old established "Burlington Route" and Sioux City Line. Day Train has handsome observation vestibule Sleepers, free Chair Cars and Dining Cars (north of Council Bluffs). Night Train has handsome Sleepers to Omaha, Council Bluffs and Sioux City, and Parlor Cars Sioux City north. Consult ticket agent.

L. W. WAKELEY, Gen. Pass. Agt., St. Louis, Mo.

### "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. Mailed free. Address,

J. E. LOCKWOOD, Kansas City, Mo.



### Year-Book of the Department of Agriculture for 1895.

The Year-book for 1895 is now ready for distribution. Of the large edition of 500,000 copies, 110,000 copies are allotted to the Senators and 360,000 to the members of the House of Representatives—or over 1,000 copies for each member of the two houses of Congress, the comparatively small remainder being turned over to the Department of Agriculture for its exchanges and correspondents.

The 656 pages of the Year-book contain (1) a general report of the operations of the Department; (2) a series of papers prepared in the different bureaus and divisions of the Department, or by experts specially engaged, and designed to present in popular form results of investigations in agricultural science or new developments in farm practice. These are illustrated by ten full-page plates and 134 text figures; (3) an appendix of 104 pages containing miscellaneous information and agricultural statistics compiled down to the latest available date relative to the production, values, per capita consumption, exportation and importation of farm products; (4) an index of thirty pages.

For the information of horticulturists, dairymen, and farmers generally, the following table of contents is quoted:

Report of the Secretary; Soil Ferments Important in Agriculture; Origin, Value and Reclamation of Alkali Lands; Reasons for Cultivating the Soil; Humus in its Relation to Soil Fertility; Frosts and Freezes as Affecting Cultivated Plants; The Two Freezes of 1894-95 in Florida, and What They Teach; Testing Seeds at Home; Oil-Producing Seeds; Some Additions to Our Vegetable Diet; Hemp Culture; Canadian Field Peas; Irrigation for the Garden and Greenhouse; The Health of Plants in Greenhouses; Principles of Pruning and Care of Wounds in Woody Plants; The Pine-apple Industry in the United States; Small Fruit Culture for Market; The Cause and Prevention of Pear Blight; Grass Gardens; Forage Conditions of the Prairie Region; Grasses of Salt Marshes; The Relation of Forests to Farms; Tree Planting in the Western Plains; The Shade Tree Insect Problem in the Eastern United States; The Principal Insect Enemies of the Grape; Four Common Birds of the Farm and Garden; The Meadow Lark and Baltimore Oriole; Inefficiency of Milk Separators in Removing Bacteria; Butter Substitutes; The Manufacture and Consumption of Cheese; Climate, Soil Characteristics, and Irrigation Methods of California; Co-operative Road Construction; A Pioneer in Agricultural Science; Work of the Department of Agriculture as Illustrated at the Atlanta Exposition.

Besides "Organization of the Department of Agriculture," the appendix contains tabular and statistical matter on the following subjects:

Statistics of the principal crops; Exports of the products of domestic agriculture for the years ended June 30, 1891 to 1895; Surveyors' measure; Imports of agricultural products for the years ended June 30, 1891 to 1895; Total values of exports of domestic merchandise since 1890; Exports of raw cotton from the United States since 1890; Production of certain fruits and nuts, mostly semi-tropical, in the United States in 1889, and the quantities and values imported from 1890 to 1895, inclusive; Statistics of fruit and vegetable canning in the United States; Average price and consumption of sugar; Tea, coffee, wines, etc.; Freight rates in effect January 1, 1892 to 1896, in cents per 100 pounds; Freight rates on wheat from New York to Liverpool; Freight rates (all rail) on live stock and dressed meats from Chicago to New York; The weather in 1895; The weather Bureau and its voluntary observers; Texture of some typical soils; Educational institutions in the United States having courses in agriculture; Agricultural experiment stations in the United States having courses in agriculture; Agricultural experiment stations in the United States, their location, directors, and principal lines of work; Feeding stuffs (for animals);

Fertilizing constituents of feeding stuffs and farm products; Fertilizing constituents contained in a crop of cotton yielding 300 pounds of lint per acre; Analyses of fertilizers; Barnyard manure; Cuts of meat; Human foods; Methods of controlling injurious insects; Preparation and use of insecticides; Treatment of fungous diseases of plants; Formulas for fungicides; Erroneous ideas concerning hawks and owls; Timber—lumber—wood; Two hundred weeds: how to know them and how to kill them; Distance table for tree planting; Irrigation; Number, weight, cost of seeds, and amount to sow per acre; The metric system; Notes regarding Department publications.

#### Distance Bees Fly for Honey.

Bees have been known to fly five miles and gather honey. But this is the exception and not the rule. Bees gather the bulk of their stores within two miles of the apiary, and they may make a success of working three miles from home. I have always found it more profitable to locate very close to good bee pasturage, more especially in prairie countries where much wind is prevalent and wind-breaks scarce. The question is often asked, if large quantities of bees are not lost in prairie countries where there are frequent

Climax corn-cutter and shocker, and Alliance combined hay rake and loader, three lines of farm machinery that will be very much in demand soon. Our readers will find it to their advantage to look up the merits of these goods now.

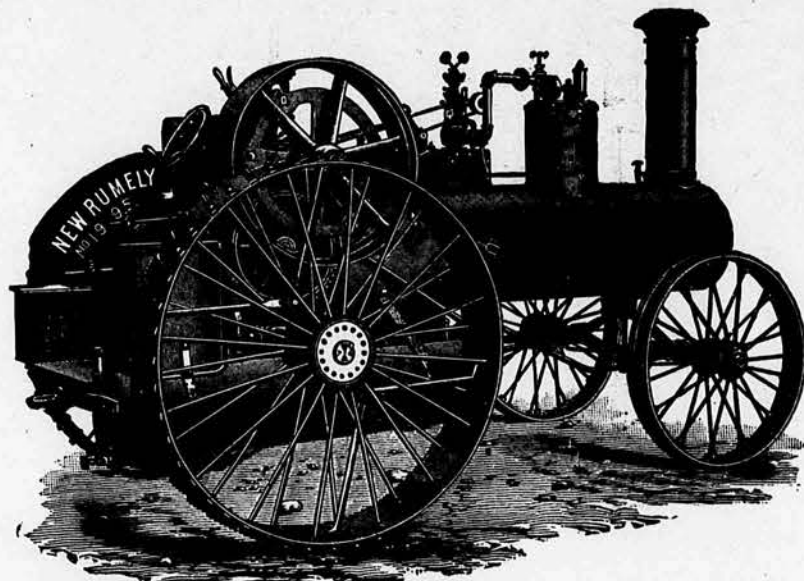
#### Gossip About Stock.

Zachary Taylor, of Marion, Kas., renews his breeder's card in the FARMER for the following reasons: "The orders are still coming in. Have never had such a fine trade, and it all comes through advertising in the KANSAS FARMER."

F. J. Berry, of the Union stock yards, Chicago, says, in reference to the horse market, that there is no inducement to feed horses for a future market, unless they are held until after September 1, when there will probably be some advance in values.

Mrs. M. E. Jackson, Burlington, Kas., reports that she has lost a brown mare with under lip cut; also a brown mare with star in forehead and a scar on front foot; also one roan pony, bald face. They were driven from Dakota last fall. This woman cannot afford to advertise or hunt lost stock, and therefore will greatly appreciate any information leading to their recovery.

The Kansas live stock auctioneer, Col. S. A. Sawyer, Manhattan, Kas., writes: "The Kansas hog breeders are sending in numerous letters reporting good success with their spring litters and making inquiries about fall auctions and dates. Kansas breeders have been too busy tending corn thus far to talk much about the hog



NEW RUMELY TRACTION ENGINE.

It frequently occurs that a man's first experience with a traction engine is unsatisfactory, for the reason that it wears out much more quickly than he thinks it should. Having very probably had some previous experience with a portable engine, he expects his traction engine to last equally long. This is not the case, however, as it is a well-known fact that a traction engine will not last as long as a portable engine. It is not because a traction is not just as well constructed, but the trouble arises from the very nature of the uses of the machine. If the owner had not wanted a more powerful machine and one from which he could exact more uses, the probabilities are he should have continued to use the old portable engine and continued to haul it about the country by horse

power. These things being true, it naturally follows, therefore, that the builders of traction engines should aim largely at durability in the construction of such machines. Couple durability with easy steaming qualities, simplicity, strength in all its parts, and the largest possible traction power, and you have something that approaches well-nigh perfection in traction engines.

In the cut above we reproduce a machine which possesses all these qualities in a high degree, being the result of long experience in manufacture and experimentation along these lines. This engine is manufactured by the M. RUMELY CO., LAFORET, IND., who will mail you their catalogue of threshing machines and engines if you write them, mentioning this paper.

winds? We have not experienced any loss on this account, and the fact is that bees do not pretend to work on very windy days, but only on days that they can make a success of it. If bees are close to bee pasturage, it is a very windy day that they do not work during the summer.

#### Publishers' Paragraphs.

CAUTION!—The proprietors of the famous Cooper Sheep Dip warn sheepmen against inferior imitations of their preparation. See that you get Cooper's.

The Kansas City Machinery Co. are making some low prices in the way of harvesting and threshing machinery supplies, which they sell direct to farmers at greatly reduced prices. Our readers will find it an advantage to look up their advertisement and get their prices before purchasing elsewhere.

HEFFLEY ROLLER BALER—Is intended to revolutionize baling machinery, by doing away with the plunger, head-blocks, beaters or bale-ties. The wire is fed from spools, tied on machine, without splicing. This baler is all steel and iron, with a warranted capacity of a bale a minute. Write for full particulars, mentioning this paper, to C. G. Overmeyer, of the Joplin Machine Works, Joplin, Mo.

KAFFIR CORN HEADER.—Attention is directed to the advertisement of the Ideal Farm Implement Co., of Fort Madison, Iowa, who advertise in this issue their line of Eureka Kaffir corn and sorghum header,

business, but later on we will convince the reading public and prospective buyers that Kansas has as good hog breeders as any State in the Union, and does not do much blowing about it, either."

You can club any publication, no matter where published, with the KANSAS FARMER and save money. If you don't find what you want in our offers, send us your list and get figures.

#### Millions of Gold

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

#### Low Rates to Pittsburgh.

The North American Sangerbund will meet in Pittsburgh June 8 to 12. Tickets will be sold at all B. & O. ticket offices on its lines west of the Ohio river for all trains of June 6, 7 and 8, good for return passage until June 13. The rate from Chicago will be \$11, and correspondingly low rates from other points.

Tickets will also be sold at all coupon stations throughout the West and North-west.

A through double daily service of fast vestibuled express trains run between Chicago and Pittsburgh.

For further information address L. A. Allen, Ass't Gen'l Pass. Agent, B. & O., Chicago, Ill.

#### July Notes.

It is getting late to cultivate in the orchard.

Save everything that will make feed next winter.

When the corn is laid by have the soil in good tilth.

Stack the small grain as soon as it is sufficiently cured.

Be ready to sow a good patch of turnips the last of this month.

Look after the pastures and see that they are not cropped down too close.

The principal advantage in threshing out of the shock is the saving of time.

There is no special advantage in threshing the oats that are to be fed to stock on the farm.

Commence plowing for fall seeding of wheat as soon as possible after the harvest is finished.

Of the different months July and August are among the worst in which to attempt to fatten stock.

If good pasturage is provided very little whole grain should be fed to pigs during the summer.

The chief objection to millet for hay comes from its being allowed to get too ripe. Cut in good season.

If the meadows are to be pastured be sure that the grass has made a good start to grow before turning in the stock.

One of the best ways of feeding oats economically is to run them through a feed-cutter, add a little wheat bran and feed in this way.

As soon as the work with the different machinery is done get the implements under shelter. Summer's sun is as bad on them as winter's rain.

If the other farm work will permit, it will be found a good plan to go over the pastures and meadows and along the fence rows and cut down the weeds.

If the oats are cut with a self-binder they should not be bound in too large bundles and must be a little riper than if they can be cured a little before binding.

While ordinarily it is not a good plan to attempt to fatten stock this month it will be found a good plan to make as comfortable as possible and keep in a good, thrifty condition.

Good shade in the pasture and access to plenty of pure fresh water are important items in keeping the stock thrifty in summer and should always be looked after.

Eldon, Mo.

N. J. SHEPHERD.

Enclose a stamp to any agent of the Nickel Plate road for an elaborately illustrated art souvenir, entitled "Summer Outings." Address J. Y. Calahan, General Agent, 111 Adams street, Chicago, Ill. 110

#### Unequaled Service

Denver to Chicago via Kansas City is given via the UNION PACIFIC and Chicago & Alton railways.

Through Pullman Sleepers, Pullman Dining Cars and Free Reclining Chair Cars leave Denver Daily. The Union Pacific is the great through car line of the West. Ask your nearest ticket agent for tickets via this line.

E. L. LOMAX,  
Gen. Pass. and Ticket Agent,  
Omaha, Neb.

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#### DEMOCRATS.

Your attention is called to the following announcement: The Transportation Committee of Democratic Delegation to National Convention at Chicago, consisting of Messrs. J. G. Johnson, Frank Bacon, Chas. Stackhouse, L. C. Stine, T. J. O'Neal, have selected the A., T. & S. F. as the official route to the National Convention of 1896.

We have arranged to leave Kansas City by special train over the Santa Fe line at 7 p. m., Saturday, July 4, reaching Chicago Sunday morning at or about 9, where we will proceed direct to the Leland hotel, but a few blocks from the A., T. & S. F. depot, where accommodations have been reserved for the Kansas delegation.

You will note the leaving time from Kansas City of our special will enable those located on other lines to reach Kansas City before our departure.

We are especially desirous of having all Democrats and their friends arrange to join this train, so as to send a solid delegation to Chicago which will be a credit to our State.

First-class Pullman sleepers, chair cars and dining cars will be attached to the train, insuring comfort for all who join us.

It would be advisable to notify Mr. W. J. Black, A. G. P. A. Santa Fe Route, Topeka, Kas., as soon as possible what reservations are desired in sleepers or chair cars by yourself and friends.

If you are not located on the A., T. & S. F. line, see that your ticket reads via that line between Kansas City and Chicago.



## The Home Circle.

### LOVE AND THE ECHO.

"Love me, love me," still he cried,  
"Ever love, forever!"  
Cupid, laughing, turned aside.  
Echo from the hill replied,  
"Never, never, never."

"Love me, for I love but thee,  
Ever love, forever."  
Heart to heart for thee and me."  
Echo sighed, "It may not be,  
Never, never, never."

"Love me now in life and death,  
Ever love, forever."  
Sadly, in an underbreath,  
Sobbing Echo answereth,  
"Never, never, never."

"Love me, I shall worthy prove,  
Ever love, forever."  
"Till a fairer face shall move!"  
Mocking Echo answers, "Love?"  
"Never, never, never."

"Love me," still the lover sings,  
"Ever love, forever."  
Cupid plumes for flight his wings  
As the last faint echo rings—  
"Never, never, never."

—Clara B. St. George, in Chicago Inter-Ocean.

### INFORMATION WANTED.

Suppose, in the affairs of state,  
In fierce discussion and debate,  
When statesmen talk and rant and blow,  
And yank the tariff to and fro;  
Suppose the whole should flicker through  
What would the politicians do?

Suppose that "silver" was a myth,  
The little folks to frighten with,  
And "parity with gold" we use  
To drive away attacks of blues—  
Suppose that tales are always true,  
What would the politicians do?

Suppose, in latitudes remote,  
When dusky voters went to vote,  
Suppose they offered each, in state,  
A ballot on a perfumed plate;  
Suppose they counted it as two,  
What would the politicians do?

Suppose the men, who pensions draw,  
Refused to profit by the law;  
Suppose they all were millionaires,  
With gilded bonds and railway shares,  
And houses on the avenue,  
What would the politicians do?

Suppose, when platform-makers bent  
Their wits to form a document,  
They searched in vain for boding harm,  
In vain they "viewed" with vain "alarm;"  
Suppose that skies were ever blue,  
What would the politicians do?

—Kansas Chief.

### HOME DECORATION.

#### How to Plan an Artistic and Yet Economical Room.

No woman ought to be her own paper-hanger if she can possibly employ or beg somebody to do the work for her. Running up and down the stepladder, the reaching, the standing, all are tiresome, more so to a woman than to a man, and particularly injurious to many women who are not well, says Jenness Miller.

But if a woman must be her own paper-hanger or live in rags and dirt, here is a way to secure cleanliness and artistic effect that is within reach of the amateur. Ordinary long-roll wall paper, when hung by an inexperienced hand, looks like impatience on a flag-staff making faces at misery.

Listen. Don't buy long-roll wall paper. Ask your butcher where he buys his coarse, brownish wrapping paper that he rolls the meat in before he puts on the smooth, light manilla paper. Get one of the youngsters in simple mathematics at school to estimate how many sheets of this paper you will need to cover the walls of the room that needs papering, allowing each sheet to overlap the one next it. The butcher will buy the paper for you at wholesale less than you can buy it for.

Get a supply of brass-headed tacks. Tune your eyes up to recognizing straight lines when you see them, and eschew the paste pot.

Learn to drive a tack with a few short, true blows. Any woman can do this after ten minutes' practice out in the shed with a bit of soft board fastened on the wall for a target, no matter what man in his might says.

Then paper your walls. If you begin at the top and lap the next lower row up over the paper, each layer in time will collect tiny moldings of dust. Therefore, begin at the baseboard. Put one row all the way around the room and tack the side seams only. The effect when the room is all papered is amazingly good. If the ceiling is bad, and you can't afford to have it tinted, cover it with fish or tennis net caught in the center and carried away to the corners and sides.

A jolly frieze for such a room as this is made of slender upright panels of creamy card, bearing sprays of golden red painted by the artist of the family.

There are so many kinds of goldenrod; no two panels need be alike. Instead of making the frieze continuous, put a panel over each seam merely.

An attic room in a house that has been decorated in this fashion, not for economy's sake, but because the proprietor of the apartment has a pretty fancy for novel things, has a yellow matting on the floor, with green figures scattered through it. The portieres are made of sage green stuff and the glass draperies under the heavy draperies at the windows are made of curious oriental-looking stuff, which is nothing on earth but mosquito netting dipped in yellow dye and wound in a twist about a small stick until dry, leaving it a mass of crinkly waves.

### WINDOW GREENERY.

It Adds Materially to the Attractiveness of Any Home.

To give variety to a window garden, add some vines to either side, to grow up at the sides and cross in the middle, and come twining downward. Such vines may be on the one side an English ivy, on the other a scarlet and white cypress, an ivy geranium, or a cissus discolor, with its mottled foliage and drooping sprays. Then there are the lovely Easter lilies, with their white fragrant flowers; the begonias, geraniums, fuchsias, gloxinias, freesias, palms, orchids and so on, but some of us would be at a loss just how to group them in a window garden. The following window list is given by a magazine: Fuchsias, hyacinths, canna, white freesias, palm, narcissus, morning glory, begonias, yellow oxalis and ferns.

A hanging basket tastefully filled with plants is a pretty addition to any



A WINDOW GARDEN.

window garden, and a window box suspended by four cords or wires up which can be trained creepers and vines also makes an effective ornament. The important point about creeping plants in baskets and boxes is to give them plenty of water during the growing season, but more sparingly in winter, and to keep the leaves clean. If the baskets are small, take them down and water them outside, but in the case of large baskets or boxes, a tray of some kind should be placed underneath them to catch the drippings. These hanging baskets should be exposed to the sun two or three hours every day, and if the surface of the basket between the plants is covered with moss, it will prevent the earth from drying up quickly, and the basket will look prettier.—Orange Judd Farmer.

#### To Launder Fine Handkerchiefs.

Women dislike to give their daintiest and best handkerchiefs to the ordinary washerwoman. These dainty bits of cambric and lace need a French cleaner's care, we decide; but that is an extravagant way, when we can give them the same crisp freshness as a French cleaner, and without irons or starch, and without any trouble or work. Soak the handkerchief in warm water and soap first, then rub very gently and rinse well. Polish your bureau mirror and place the right side of your handkerchief against it. It is wet and will cling. Make the edges straight, and rub gently until the handkerchief clings to the mirror and is perfectly smooth. Leave until entirely dry and then peel it off, and your handkerchiefs will have a crisp freshness like new.

By using Hall's Hair Renewer, gray, faded or discolored hair assumes the natural color of youth and grows luxuriant and strong, pleasing everybody.

### DOMESTIC ECONOMY.

#### Ripping Up a Garment Is a Task Requiring Some Skill.

There is a general impression that it is an easy enough matter to rip up a garment. Almost anybody can do it, and it is an undertaking that requires no special skill or care. Acting on this idea, clothing is pulled, torn, cut with knives, snipped with scissors and, finally, taken to pieces after this unprofitable fashion, and the operator comes and declares that everything is ready. A dyer who handles a large quantity of black goods says that he long ago gave up expecting anybody to rip a garment up as it should be done. If the seams are ripped, they are full of threads; sometimes there are buttons on; hooks and eyes are not uncommon; the fronts of them are stuck full of pins of various sorts, and linings, facings, braids and the like remain, in whole or in pieces, just as the individual who had charge of the disintegrating process happens to leave them.

To rip up a garment properly there should be no pulling, tearing or dragging apart. If one cannot take the end of the thread and pull it out, the stitches should be cut with a sharp knife. Very few persons can rip a garment with scissors without doing it great harm; indeed, many find it impossible to cut stitches with anything without making holes that render the goods absolutely worthless for the one who originally wore it. When it is done the edges are so ragged that a much smaller pattern must be used. In preparing goods for the dyer or to be made over, every stitch should be taken out. It seems scarcely necessary to say that fastenings, braid and hooks and eyes must be removed, but this is imperative, in view of the condition in which the garments come to the dressmaker and the dyer. Many dresses, capes and jackets are perfectly wearable after being carefully ripped, brushed, sponged and pressed. It is a wonder that some one does not set up an establishment for ripping clothes and putting them in order for the dressmaker. The owner of them frequently has not time to do them properly, or is too careless and understands too little the requirements of them to do it, had she all the time in the world. Some semi-invalid in every community might get a tolerable living, or at least add to a limited income, by preparing garments for remodeling.—St. Louis Globe-Democrat.

### WHEN WIDOWS WED.

What They Must Do and Wear to Be Perfectly Up-to-Date.

Etiquette governing the wedding of a widow has been recently reorganized, and, temporarily at least, is finding high vogue among certain great ladies who are making second matrimonial ventures. The widow's engagement ring is now a peridot, which in reality is an Indian chrysolite and a deep leaf-green in color. The peridot ring is set about with diamonds; and when it arrives the lady gives her first engagement-ring to her eldest daughter, and her wedding-ring to her eldest son.

One week before the wedding a state-luncheon is given to the nearest and dearest of the old friends of the bride-to-be. After the engagement's announcement she appears at no public functions. At the altar her dress may be of any subdued shade of satin. To make up for the absence of veil and orange-blossoms, profusions of white lace trim the skirt and waist of the bridal gown en secondes noces. Even the bonnet is of white lace, and the bouquet is preferably of white orchids; and up the aisle the lady goes, hand in hand with her youngest child, no matter whether it is a boy or a girl. The little one wears an elaborate white costume, holds the bride's bouquet, and precedes the newly married pair to the church door. Where there is a large family of children and a desire on the widow's part for a trifle more display than is usually accorded on such occasions, all of her daughters, in light gowns and bearing big bouquets, support their mother at the altar.

An informal little breakfast now follows the ceremony. Such a breakfast is scarcely more than a light, simple luncheon, served from the buffet, wound up by wedding cake and a toasting posset; but the bride of a second marriage does not distribute cake nor

her bouquet among her friends. Her carriage horses do not wear favors, either, though shoes and rice can be freely scattered in her wake; and, to the comfort and economy of her friends, she does not expect anything elaborate in the way of wedding gifts.—Demorest's Magazine.

### Unique Room Decoration.

A curious room, well worth describing, was recently undertaken by an up-town resident of New York. The idea applied simply to the walls, which were covered in a dark, deadish green ingrain paper, and at various points around these walls were simple shelves, upon which were deep green jardinières containing artificial flowers arranged after the style of the Japanese, appearing to be in natural growth, each pot containing but one kind of flower. Vines were arranged upon the walls, and presented thus were the only designs or colorings anywhere upon the four sides of the room. Artificial flowers are plentiful, and at certain periods are cheap enough.

### Rose Blooms Instead of Rice.

In fashionable circles it is becoming customary at a wedding to throw rose blooms at the bride and bridegroom instead of rice. The showers of multi-colored rose blooms are not only very effective, but are infinitely preferable to hard grains of rice.

### Nice Dish for an Invalid.

Pound up the meat from the tenderest and whitest part of a boiled chicken with an equal weight of stale bread crumbs. Add the broth of the chicken, stir well, put all into a saucepan, and after boiling for two minutes rub the whole through a sieve.

### Remains of a Roast Dinner.

Remains of a roast of lamb or mutton can be served in a variety of dainty ways. For instance, cut the meat in long, thin slices and heat them in a buttered baking dish with wine, preferably sherry, and a seasoning of salt, pepper and a little mustard. Serve very hot with a garnish of fried tomatoes or of mushrooms and a highly-seasoned tomato sauce. Or the slices may be well heated and served with a very rich white sauce and fried croutons of bread thickly spread with anchovy butter. Cold lamb chops are nice if trimmed, spread thickly with a puree of onions, dipped in egg and bread crumbs and fried; then garnished with parsley and served with tomato sauce.

### FREE TO INVALID LADIES.

A lady who suffered for years with uterine troubles, displacements, leucorrhoea and other irregularities, finally found a safe and simple home treatment that completely cured her without the aid of medical attendance. She will send it free with full instructions how to use it, to any suffering woman sending name and address to:

MRS. L. HUDNUT, South Bend, Ind.

**FREE** Cut this out and send to-day for free catalogue. \$9.75 buys natural finish Baby Carriage with plated steel wheels, axle, springs, one piece bent handle. 3 years guarantee. Carriages sent on 10 days FREE TRIAL. BUY FROM FACTORY & SAVE DELIVERED. OXFORD RUBBER CO., 240 Wabash Ave., CHICAGO.

**When you come in hot and thirsty,—HIRES Root-beer.**

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

**Forty for \$1.00.** For the next 60 days we make this extraordinary offer on our **HIGH-ARM SINGER MACHINES.** On receipt of \$1 we will send our No. 3 High Arm on 30 days' trial (price \$12.25), or our No. 1 (price \$12.75). Our machines are the best made; our No. 1 beats the world; 10 years' guarantee with each. Deal with a reliable house; buy at factory prices. H. R. Eagle & Co., 70 Wabash, Chicago.

**LADIES**

Know the  
Certain  
Remedy for  
diseases of the  
Liver, Kidneys and Urinary  
Organs is

**Dr. J. H. McLEAN'S  
LIVER AND KIDNEY  
BALM**

It Cures Female Troubles  
At Druggists. Price, \$1.00 Per Bottle  
THE DR. J. H. McLEAN MEDICINE CO.  
ST. LOUIS, MO.



## The Young Folks.

### THE SWALLOW.

I doff my hat to the robin.  
And I fling a kiss to the wren,  
The thrush's song sets my heart throbbing,  
For it makes me a child again;  
But when you wing your airy flight,  
My soul springs up to follow;  
I would be one with you, and I might,  
For I love you, love you, swallow!

I hear the many-voiced chatter  
Under the barn's broad eaves,  
As clear as the rain's blithe patter,  
Or lisp of crisp poplar leaves;  
I seem to learn the way to glad,  
Earth's joys no more seem hollow;  
He who would flee from music sad  
Should learn to love you, swallow.

Your flight is a song that lifts me  
A moment to upper air;  
That with strangest power gifts me  
To buoyantly match you there,  
How high so'er your course may run,  
My eager thought doth follow;  
Together, we might reach the sun,  
For I love you, love you, swallow!

—Ario Bates.

### DO YOU KNOW THE LAND?

Do you know the land where the days are long,  
And the business it all is play—  
Till the sandman comes with a sweet, low song,  
And carries the dwellers away  
To lands that are fairer than daylight lands,  
Where the fairies come with gifts in their hands—  
Do you know the land?

Do you know the land where the sweet Queen reigns,  
The Queen who is half a saint,  
Who kisses away all her subjects' pains,  
And comforts every complaint,  
With a smile and a song that are sweeter far  
Than the fruits of our grown-up strivings are?  
Do you know the land?

Do you know the land where the dwellers stand  
Impatient to be set free,  
Into the wonderful grown-up land,  
Such a fair, fair land to see,  
With no sums to do and no words to spell,  
With never a school nor a bed-time bell—  
Do you know the land?

O, beautiful land! If we could return  
And dwell in thy gates once more,  
I suppose that our foolish hearts would burn,  
To be off, as they did before;  
For—beautiful land—we loved not thee  
Till thy gates swung open and made us free!  
Do you know the land?

—Mary C. Jones, in the Independent.

### DORE'S GREEN CHICKEN.

A Story of the Great French Artist's First Box of Paint.

The following little story was told by the famous painter, Gustave Dore, whose illustrious Dante, Milton, Rabelais and Don Quixote will probably never be surpassed. At an early age Dore showed wonderful talent for drawing, and in all his life he never copied from models, but painted from memory and the fullness of his mind.

This describes his experience with his first box of metal tubes: "One day," he says, "when I was to spend a week with a friend of my father's, there was brought to me the well-known oaken box, with brass handle and tube and brushes complete. I was wild with delight. I had never thought half as much of any present. I wanted to uncork all the paints there and then and cover my palette with pretty daubs of color, but they would not let me. The carriage was waiting. I had to jump in. Of course, I took my box with me under my arm, or rather next to my heart, firmly resolved to set to work as soon as we had reached the journey's end.

"The was was longer than I had expected; we did not arrive. I was strictly forbidden to touch the paints and was ordered off to bed. Fires and lights were put out, but I could not sleep a wink. As soon as the first gray streak of daylight appeared I jumped out of bed and went downstairs and out into the yard. But alas! There was no canvas, no cardboard, no panel. All had been taken from me the night before. I felt a mad, irresistible desire to paint. Wondering on what I should make my first attempt. I set about uncorking my bottles and spreading patches of color all over my palette. The brilliancy, freshness and cheerfulness of those colors made me quite drunk with delight. Nothing goes to the head so much as your first palette. There was a green shade especially that I could not take my eyes off. What a lovely green! Veronese green in all its glory.

"But what was I to paint, and on what? As I was still asking myself this question, my eyes fell on a poor little hen, rather prettily shaped, but with feathers of a dirty white, that was picking up crumbs two paces from where I stood. The fowl was fright-

fully deficient in tone. I decided to remedy the fault without further delay. The hen objected; the creature



"BUT WHAT WAS I TO PAINT, AND ON WHAT?"

failed to see that I was laboring for its own good. However, I persisted in my efforts, and at last succeeded. To be sure, it took every particle of Veronese green; but then, what a beautiful hen I had turned out!

"Two or three hours afterward I was roused out of sleep by an unusual noise of shouting and groaning. What could it be? A number of men and women had gathered in a crowd in front of the house. Some of them had their arms uplifted toward the sky; others were weeping; others again by their frantic gestures manifested the wildest despair and terror; and in the midst of them stood the fowl, to which they were pointing with their fingers, and when it went toward them they drew back in affright. Then I understood it all. I remembered a legend of the country in which a green fowl plays a terrible part. Whenever it appears all kinds of woes threaten the village—failure of crops, plague among the cattle, disease in the home. That accounted for the village being in arms. Under my very eyes a woman fell to the ground in hysterics. Then I hesitated no longer. I ran to the master of the house, and told him everything. It took longer than an hour and a half to convince the superstitious folk at Tosserand that the verdant creature had not been sent by their evil genius, and that it was my first effort in painting.

"At last their fears gradually subsided, and I ventured to show myself. An old woman, still laboring under the excitement she had just gone through, said to me, in prophetic tones: 'You have made our people shed bitter tears; you, too, will weep before you have done with your painting!'"—Chicago Inter Ocean.

### A WONDERFUL CAT.

It Enjoys a Cold Bath and Washes in the Wash Bowl.

One hot day, when Jetty was a little kitten, his mistress found him sitting in a washbowl of water which some one had carelessly left standing. He seemed to enjoy his cool bath so much that he wanted to go back to it after his mistress had lifted him out.

But the queerest thing that Jetty does is to bathe his feet. A wooden mop-pail always stands in a certain place, partly filled with water to prevent it from going to pieces.

Every day Jetty goes to the pail, balances himself on the edge of it, dips one paw into the water till it is thoroughly wet, then licks it dry. He does the same with the other paw; then, turning round and resting his paws on the edge, he bathes his hind feet in the same way.

Now, this is a true story, and as you know that nearly all cats dislike water, and will not wet their feet if they can avoid it, you can judge that Jetty is a very remarkable cat.—N. O. Picayune.

### Try This Easy Experiment.

Take a piece of twine and tie a number of knots in it at short intervals. If this knotty twine is laid around somebody's head so that it will turn the ears forward, and then the forefinger and thumb of each of your hands allowed to slide along the string it will cause a noise very similar to thunder to be heard by those who are undergoing the experiment.

Without Art.

"She has an artless face."

"Yes, a mere daub."—Detroit Tribune.

### UNDERNEATH THE SEA.

A Professional Diver's First Trip in Search of Pearls.

Pearl fishing means not only fishing for pearls, but also for the mother-of-pearl shells in which they are found. The shells, which are worth about fifty cents each in the London market, are really the principal source of the pearl diver's income, says a writer in the Youth's Companion.

Not many years ago fortune and a little bark named the Day Dawn stranded me in the almost unknown port of Cossack, at that time the headquarters of the pearling fleet. It was here that I first became interested in pearl diving, and finally decided to enter the business.

In Cossack I bought a smart seven-ton lugger called the Vera, put aboard her six months' provisions, secured a good crew, hoisted the sails of my little craft and steered for the pearling grounds, two hundred miles to the northward. Having no knowledge of diving, I hired a regular diver—a white man, known as "Cockney Joe." Within three days we dropped our anchor amid the pearling fleet.

Let me picture this place to you. Hundreds of miles from the abode of white men stretches a long, sandy coast, almost destitute of animal life or vegetation. To the south and east is one vast yellow desert; to the north and west roll the blue waters of the Indian ocean. Beyond that sand roams the wild bushman of Australia; beneath the sea sweeps the savage terrors—the man-eating shark of the orient—and in depths are sought the pearls for future diadems.

For a week all went well—we were on a good "patch," and Joe was sending up many shells. Then, to my dismay, the Vera began to leak so badly that we were obliged to run into the nearest creek for repairs. It was a fortnight before we were ready to sail again, and in the meantime Joe took to drinking.

The high tide upon which the Vera was to float out of the creek crept over the twisted roots of the mangroves. I called to Joe, who was ashore, to "hurry up;" but, to my surprise, he refused point blank. Knowing that I could do nothing without him, he coolly told me he wanted a few days more to finish his spree. With expenses going on and nothing coming in, I was anxious to get to work again.



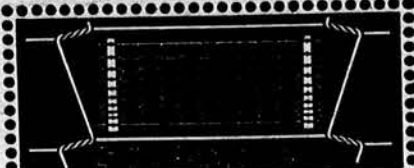
UNDERNEATH THE SEA.

I had a few hot words with Joe, and finally I left the creek without a diver, determined to try to dive myself.

To describe my feelings as I sank rapidly to the bottom I should have had a phonograph, for I yelled all the way down. In the first place the pain in my ears caused by the unusual pressure of air in my eardrums, was excruciating, and in the second place I lost my hold of the rope and literally tumbled down.

I remember tumbling one graceful somersault on the way, and wondering how far it was to the bottom. Fortunately, like a good acrobat, I landed on my feet. Instantly all pain stopped, and I looked around with eager curiosity.

From the monotony of sea and sky above I had dropped through a few fathoms of crystal water into the gardens of a summer sea, where coral and anemone growths, flowers and ferns



### KEYSTONE WOVEN WIRE FENCE.

Practical farmers say it is the best. Fence in use seven years still in first-class condition. Can also be used as a portable fence. Write for catalogue.

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

shells and sea fans in curious forms and vivid colors lay undisturbed by storms, and made a very fairyland. It was like a page from the "Arabian Nights."

### Fooled by a Folding Bed.

The mistakes of countrymen in city hotels form a never-ending source of merriment. An old fellow came to Detroit the other day, and after supper went out to see the sights. He returned about midnight and left word to be called for an early train. The boy called him on time, and getting no answer opened the door and walked in. The guest was nowhere in sight, but presently a husky voice was heard, and looking up, the boy saw the man curled up on top of the folding-bed, which had not been let down. "Why didn't you get into bed?" asked the boy. "'Cause there ain't any," was the cross reply. "Had to sleep on the sideboard all night. Nice hotel this is!"

PURE BLOOD is the safeguard of health. Keep your blood pure, rich and full of vitality by taking Hood's Sarsaparilla, and you will not need to fear the attacks of disease.

HOOD'S PILLS cure liver ills, constipation, jaundice, sick headache, biliousness. 25c.

### CHRISTIAN ENDEAVOR.

#### Through Route to Washington.

Vandalia-Pennsylvania Short Lines from St. Louis through Pittsburgh and over the Allegheny mountains at the highest point above sea level; around Horseshoe Curve and along the Blue Juniata. Low rates July 4, 5, 6 and 7. For information address W. F. Brunner, A. G. P. Agt., St. Louis.

#### Low Rates to Cleveland.

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

For this occasion the B. & O. R. R. Co. will sell tickets at reduced rates from all points on its lines west of the Ohio river, for all trains of June 21 and 22, valid for return passage until June 25. The fare from Chicago will be \$3.50 and correspondingly low rates from all other points. Tickets will also be on sale at all points throughout the West.

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

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

#### Important to Teachers.

Low rate over the Great Rock Island Route to Buffalo and return to attend the convention, July 8-10, 1896.

Next month, in Buffalo, N. Y., the teachers from all over our land will meet in annual session.

They are perhaps the most truly representative body of any citizen gathering in our Union.

They are the instructors of the youth who belong to all classes and sects. The Great Rock Island Route realizes this and expects to transport with its elegant equipment thousands of these educators.

For tickets and sleeping car reservations, maps and time tables, call on nearest ticket agent and ask to be routed over the C., R. I. & P. Ry.

A beautiful souvenir, called the "Tourist Dictionary," has been issued and will be sent postpaid. Address John Sebastian, General Passenger Agent, Chicago.

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

**FREE** A GENUINE 14 K. GOLD FILLED WATCH and chain to every reader of this paper. Cut this out and send it to us with your address and we will send you FREE for examination the Best and Only Genuine American watch ever offered at this price. It is 14k. Solid Gold filled, with Genuine American Movement, 30 Year Guarantee, and looks like a Solid Gold Watch sold at \$40. Examine at express office and if you think it a bargain, pay \$7.50 and express charges, otherwise pay nothing. A Handsome Gold Plated Chain, sold in certain stores for \$3 goes free with each watch.

**OUR GRAND OFFER.** One of these \$7.50 watches and a chain, if you buy or sell SIX. Write to-day, as this price holds good for 60 days only. **ROYAL WATCH CO.,** 401 Valley Bldg., Chicago, Ill.



# KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Thursday by the

KANSAS FARMER COMPANY.

OFFICE:

No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

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

Address KANSAS FARMER CO.,  
Topeka, Kansas.

## ADVERTISING RATES.

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

Special reading notices, 25 cents per line. Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.

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

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

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

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

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

Address all orders—

KANSAS FARMER CO., Topeka, Kas.

The management of the Nebraska State fair promise to make the exposition of 1896 surpass any of its predecessors.

The lead of the light-weight hog is still maintained. The top prices last Saturday were taken by 144-pound pigs.

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

The Elk County Horticultural Society was organized last Thursday. Acting Secretary Barnes, of the State society, was present to assist and encourage the movement. D. C. Harkness, of Howard, is Secretary.

Shawnee County Horticultural Society will meet on Thursday, July 2, at the residence of F. G. Tompkins, three and a half miles northeast from North Topeka. This will be a basket picnic meeting. A fine program will be presented.

The top price for beef steers at Kansas City last year for the week corresponding to the present was \$5.40. The top price last Monday was \$4.10. The top price for hogs for the week last year was \$4.85. The top price last Monday was \$3.20.

Prices continue downward without let or hindrance. From Saturday to Monday wheat dropped  $\frac{1}{2}$  cent, corn  $\frac{1}{2}$  cent, oats  $\frac{1}{2}$  cent, pork 8 cents, lard 5 cents. Share stocks, especially in industrials, suffered corresponding or even greater declines. The financiers offer scarcely any explanation of this and the politicians are entirely dumb in relation to the continuation of the decline.

Joseph McDonald, a crop expert of some repute, in the employ of some prominent Chicago traders, has returned from a trip throughout the winter wheat States feeling that the government crop figures are too high. His estimate of the Illinois crop is 10,000,000 bushels below what the government figures indicate, and of the Kansas crop 15,000,000 bushels below. He put the Illinois yield at 17,000,000 bushels and the Kansas crop at 30,000,000 bushels.

The McMillip Veterinary college, of Chicago, has this year embellished its faculty by the addition of Elmer E. Critchfield, now of Chicago, as professor of breeding and hygiene. This chair is much more valuable than ornamental, in view of this magnificent selection. Mr. Critchfield was "formerly of Kansas," but more recently a member of the staff of the National Stockman and Farmer and a member of the Frank B. White Company, masters of agricultural advertising. The KANSAS FARMER feels sure students of the McMillip college will certainly get their money's worth at this institution.

## GRASS FARMING.

In all of the older States the tendency to seed down the land to grass has been a notable one for many years. Should the man, who has lived for a generation west of the Mississippi, return to the home of his ancestors in some State farther east, he will not unlikely be surprised to find that the small farm, which is, perchance, remembered as a closely cultivated and moderately productive homestead, whereon "a little of everything" was produced, has been bought up by the owner of a grass farm near by, and that now many of the fences are gone, the buildings either removed or in ruins or else greatly enlarged and improved, and that grass for pasturage and grass for hay is the leading feature, possibly the exclusive crop.

There are several reasons for this. Impoverished land recuperates when in grass. This is especially true if a part or all of the grass is a clover. In these days of falling prices the land-owner is often at a loss as to a method of farming which will pay expenses. To increase the product without increasing the expense or to decrease the expense more than the decrease in value of the product is often found a necessity. The man who cannot do one or other of these things is likely to want to sell out to the man who can or to find himself falling behind and sold out.

After land has been seeded to grass the expense is only the harvesting, until reseeded is necessary. If pastured, the expense of harvesting is nearly eliminated. The value of the product may be less per acre than when cultivated crops are produced, but the expense is far less, so that if there are margins of profit in either case, those of the grass farmer have greatly exceeded those of the grain farmer.

In much of Kansas the possibility of seeding land to grass after once destroying the prairie sod has been seriously questioned. The prairie grasses are rich and nutritious but their yield is not generally heavy and in many parts is uncertain. Where large areas are available at small cost, the production of cattle on prairie grass is profitable. In some of the southwestern counties, which, a few years ago, were taken by settlers who have found mixed farming under existing conditions unprofitable, the country is "going back to cattle." Not quite in the methods of the old range cattle days which preceded the settlement by farmers, but in a way a little more civilized. Large areas are inclosed. If small ranches are included amicable arrangements are made with the rancher. Sometimes these are for co-operation; sometimes he is over-ridden, but it is all "amicable." The "cattle company" pays no taxes on the land it occupies and as to the cattle manifests considerable skill in dodging the assessor. Should the land be sold for taxes the occupants will take their chances as to making terms with the purchaser. How long this kind of grass farming will continue it is impossible to predict. How extensively it will prevail is also uncertain.

But a better kind of grass farming is also being introduced, one which gives value to land and substitutes farm homes for half civilized ranches. A few years ago a correspondent inquired for a suitable grass for permanent hog pasture. The inquiry was printed in the columns of the KANSAS FARMER. Scores of answers were received. Every answer said "alfalfa." The Secretary of the State Board of Agriculture has investigated the subject, and every return favors alfalfa.

Alfalfa is not a grass, botanically, but is a clover—a legume. It came to Kansas from Colorado. To Colorado it came from California. To California it came from South America, possibly from Chile. It has been traced to Italy, to Babylonia and Persia. In Kansas it makes four to five crops per year. Under favorable conditions it never needs reseeded. It enriches the land on which it grows, while yielding from three to ten tons per acre per season. It is not able, as some have supposed, to thrive without moisture. On the contrary, alfalfa is a great consumer of moisture. But its

roots are willing to go a long way for it. It thrives on upland if there is plenty of moisture. In all of western Kansas where irrigation is practicable alfalfa is the most prolific and profitable field crop. The acreage is being rapidly extended in all portions of the State, and it seems not unlikely that grass farming, with alfalfa as the "grass," will have a run as great as has been noted for the true grasses and for red clover in States farther east. With timothy, red clover and blue grass in eastern Kansas and alfalfa throughout the State, it is now demonstrated that Kansas is adapted to grass farming.

The hay market is a fluctuating market. Generally a good article can be sold at remunerative prices. Alfalfa, the hay which we are likely to have in greatest abundance, is little known upon Eastern markets. Its price is between timothy and prairie hay. It will bear shipping at present quotations. But the greatest profits will doubtless be realized from converting it into meat and milk on the farm. Thus produced, these products cost less than in any other civilized part of the world. No better advice can be given to the farmer who has land adapted to alfalfa and a climate adapted to cure it than to seed down so much that he will have to hire no help in cultivating crops.

## CONVENTION EVENTS.

One of the great national political conventions of the year was held at St. Louis, last week. This was notable as the first Republican national convention from which has occurred a bolt. In the committee on platform, free silver men offered and urged the adoption of amendments to the financial plank. Defeated in the sub-committee, they carried their contention to the general committee. Here they announced that on a gold platform they could not remain in the party, but would leave the convention. Unsuccessful in the committee, they went before the convention, there to be again defeated, and a gold standard platform adopted. They then presented a protest, and about twenty withdrew from the convention. The entire incident was most dramatic, and it is reported that tears were shed by strong men on breaking up the political ties of a lifetime.

The platform in other respects than as to the money question, was no departure from those which have heretofore declared the doctrines of the Republican party.

The nomination of Governor Wm. McKinley, of Ohio, for President, was determined in the selection of delegates. Garret A. Hobart, of New Jersey, was nominated for Vice President.

It has been expected that the nomination of Mr. McKinley would fix the tariff issue as the leading one in the campaign. The unexpected prominence developed by the financial question was not according to program. Not unlikely this will remain the leading and possibly it may become the overshadowing issue of the campaign.

It is now almost certain that the money question will be even more obtrusive in the Democratic national convention, which is to assemble at Chicago, July 7, than it was at St. Louis, and that the majority of that convention will be for the free coinage of silver on equal terms with gold at the ratio of 16 to 1. It is now claimed that the Democratic convention will not only make a free silver platform, but will also have a sufficient silver majority to nominate a free silver candidate. Democratic leaders have already invited the St. Louis bolters to the Chicago convention. On the other hand, Eastern Democrats are preparing to make the fight of their lives at Chicago. It can scarcely be expected that a bolt at Chicago will be averted. The tendency of the people to make the money question the leading issue, seems not unlikely to bring gold standard advocates all together under one name and the free silver people all together in the support of a Presidential candidate.

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

## THREE FARMERS IN DANGER OF GUBERNATORIAL LIGHTNING.

The kaleidoscopic formations of political movements in the field of Kansas have fairly commenced. The present appearances in the Republican quarter show three candidates—probably four—for Governor. These are the present chief executive, E. N. Morrill, Jas. A. Troutman, of Topeka, Thos. M. Potter, of Peabody, and probably S. R. Peters, of Newton. Mr. Potter is the only farmer in the lot, and recent developments indicate that the "bosses" will have to do some sharp and prompt figuring if they prevent his nomination.

In the Populist quarter the view now presents three figures. Ex-Governor L. D. Lewelling is said to be the candidate of a numerous and active following. Ex-Congressman W. A. Harris, of Linwood, has for some time been in the minds of his friends a most available candidate. Geo. M. Munger, of Greenwood county, is put forward by the Populists of his part of the State. Both Mr. Harris and Mr. Munger are farmers, both have had large business experience.

It is safe to say that either of the three farmers named—one a Republican and two Populists—would make an efficient, honest and creditable chief executive.

## KANSAS WHEAT.

The Chicago Post has the following from Kansas:

"From returns furnished from every county in the State in answer to inquiries by the Post, the total yield is found to amount to about 43,000,000 bushels. That is almost double the quantity produced in the same State the year previous. It also exceeds the average yield of the last five years, which includes the phenomenally heavy crop of 1892. It is 9,000,000 bushels more than was received during the season of 1894-95 at the four principal winter wheat markets, and 16,000,000 bushels in excess of the quantity reported at the same four principal wheat markets since July 1—almost a year ago—to the present date. As the requirements of the people of Kansas for bread and seed are not to exceed 9,000,000 bushels per annum, it follows that from her 43,000,000 bushel crop of the present year she can export to communities outside of her own borders 34,000,000 bushels, or about 10,000,000 bushels more than the total production of Argentina last year, according to the latest estimates."

## WEBSTER'S INTERNATIONAL DICTIONARY.

The new edition of Webster's Unabridged Dictionary, which is called Webster's International Dictionary, retains the general plan and arrangement under which this great dictionary became the recognized authority in institutions of learning, in the printing offices, the offices of judges and lawyers, in homes and families throughout the land. The present edition is revised and up to date and welcomed in the places so long and so ably filled by its predecessors.

## KANSAS STILL LEADS.

The Elbert & Fall sale of Short-horns recently held at Albia, Iowa, was a magnificent success, and the average for the whole sale was \$203.76, while the dispersion sale of Col. W. A. Harris, of Linwood, Kas., averaged \$205, so that Kansas still leads America in having the greatest cattle sale ever held in the United States, and Iowa must still be content to take second place until such time as they are able to break the Kansas record.

The amount that the churn will overrun the Babcock test is a subject of frequent inquiry, and is usually stated to be about 15 to 16 per cent.; that is, 100 pounds of butter fat will produce about 115 pounds of butter. An Elgin creameryman, however, reports that with him it varies from 10 to 25 per cent., and has been known to run as high as 30. The probabilities are that when this heavy over-run is found, it is a case of imperfect testing, which did not entirely separate the fat in the test bottles.



## Weekly Weather-Crop Bulletin.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending June 22, 1896, prepared by T. B. Jennings, Section Director:

NOTE.—Owing to an accident, the usual rain chart cannot be given in this Bulletin.

## GENERAL CONDITIONS.

A warm week, with improved moisture conditions, there being but few portions of the State that received no rain. The air has been quiet. Fine rains have fallen from Kearney north through Thomas and northeastward through Phillips, and from Harper and Sumner north into Saline and Dickinson, thence east through Osage.

## RESULTS.

## EASTERN DIVISION.

Generally a good growing week. Corn generally freed from weeds and much of it laid by in good shape. Wheat harvest in full blast in the north. Oat harvest begun in the south. Early peaches and apples are being marketed.

Allen county.—Oats harvest begun; flax and early potatoes ripening; some wheat threshed; corn cultivating about done and weeds subdued; apples and roasting-ears on the market.

Brown.—Wheat harvest in full blast; corn growing rapidly, many fields being laid by; early apples ripening; tame hay fine; a little dry for pastures.

Chautauqua.—Hot and rather dry; corn doing well but would be better for rain, early corn out in silk; wheat threshing in progress; oats all cut; stock doing well.

Cherokee.—Good growing week; some reports of rust in oats, owing to heavy dews and hot days.

Douglas.—Crops are doing well; tame haying begun.

Franklin.—Crops generally doing well; rain needed.

Labette.—A very favorable week for work; corn laid by; wheat mostly stacked; oat harvest nearly done; potatoes fine; rain is needed badly.

Leavenworth.—Very hot week; everything growing fine; considerable wheat cut; oats look well; showers on the 20th.

Marshall.—Wheat harvest begun; corn clean and making good growth; oats heading; pastures good.

Montgomery.—Dry, hot week; all crops and grass needing rain badly; flax drying up in places; oats mostly out green to save from rust; well cultivated corn doing well; peaches being marketed.

Osage.—Week favorable for all crops; corn doing well and beginning to tassel; peaches and apples doing fairly.

Pottawatomie.—Good week for plowing corn, killing weeds and threshing wheat; oats rusted some and need rain; some apple and pear trees dying with blight.

Riley.—Corn growing rapidly; wheat harvest completed; oats look well and are turning; early apples coming into market.

Wilson.—Wheat threshing; dry and ground getting hard; early corn in tassel and silk; apple and pear trees badly affected with blight; early apples and peaches in market.

Woodson.—Best corn week of the season, much has been laid by and fields are generally clean; flax doing fine; some complaint of rust in oats.

## MIDDLE DIVISION.

The week has been very hot and generally dry, ripening oats too fast to fill well, but permitting wheat harvesting and corn cultivation. Corn is in fine condition, and the early has begun tasseling in the south. Rust has injured oats in many counties.

Barber.—Rain badly needed; severe wind rush on 17th from northeast, injuring growing crops and trees in a narrow path running southwest near center of county.

Barton.—Harvest in full blast; corn doing well.

Butler.—Wheat harvest finished; oat harvest in progress; many oats badly injured by rust; corn growing fine; alfalfa fine; flax looks well.

Cloud.—Dry, hot week; wheat harvest well under way; corn in fine condition; oats needing rain and not filling well.

Clay.—Wheat harvest in progress, nearly completed in central townships;

oats ripening fast; a fine growing week; pastures good; stock doing well.

Dickinson.—Wheat harvest in full blast south of river; fine growing week and all crops have responded; not much damage reported from bugs and worms.

Harper.—Good rain on 20th will save many fields of corn which were suffering; hot and dry week, more rain is needed; corn in some localities injured; pastures suffering for rain.

Harvey.—Wheat harvest largely over; oats poorly; corn doing well; threshing will begin in a few days; early apples in market; potatoes need rain.

Kingman.—Hot, still week, though a wind rush from northeast on night of 16-17th did some damage to grain stacks, windmills and growing crops in northwest part; good week for harvesting and with the rain on the 16th has been a growing week for corn.

Marion.—Wheat harvest on; wheat and oats improved; corn in splendid condition; grass good.

McPherson.—A fine week for harvesting, which is progressing nicely; oats ripening; corn fine.

Mitchell.—Favorable for growth; corn doing well, wheat fair, oats very good; harvesting in progress.

Osborne.—The dry, hot week has dried late oats, and brings wheat forward too rapidly to fill well; pastures excellent; corn needing rain in places.

Ottawa.—Wheat harvest in full blast; hot wind of 14th dried up some late wheat; corn, oats and potatoes needing rain.

Phillips.—Hot week, detrimental to the ripening grain; corn doing finely; too dry for potatoes; grasshoppers taking gardens; hail cut crops to the ground in western part of the county.

Pratt.—Early corn tasseling rather short and must have a good rain very soon to save it; late corn looks fair but needs rain; grass dry in localities; local showers during week.

Reno.—Good corn week; all crops doing well; early peaches on market.

Rice.—Harvest in full force; corn doing well.

Rush.—Harvest progressing; plenty in parts of county; bugs working on potatoes; hot week.

## WESTERN DIVISION.

A hot week. Small grains have gone backward and the range grass has cured on the ground, and in Clark was set on fire by lightning. Corn continues in better shape than the other crops and the fair to good rains last of week revived it materially.

Saline.—The rain put corn fields in good condition but interfered somewhat with harvest, which is in full blast; oats are doing well.

Sedgwick.—Hay harvest begun; wheat harvest nearly done; corn growing rapidly and beginning to tassel; oats ruined by dry weather in north part.

Sumner.—Wheat harvest still on; corn needing rain, with strong indication that it will rain soon; oats poor.

Washington.—Good week for cultivating and corn looks fine; wheat harvest in progress; oats need rain to fill.

Decatur.—Hot; small grain has deteriorated; corn doing very fine; buffalo grass drying up.

Clark.—No crops to report on; not much rain but a great deal of thunder and lightning, which set the dry grass on fire in many places.

Ford.—Range grass burnt brown; corn could be saved by a good rain in a few days.

Gove.—Hot week; wheat badly damaged in south and southwest part of county; hail Friday evening in central townships ruined all crops, though corn will perhaps come out.

Grant.—Condition of crops growing worse; grasshoppers doing much damage.

Greeley.—This rain will benefit late crops; some wheat will be cut.

Kearney.—This fine rain makes a decided change in crop affairs.

Morton.—Excessively hot days, local thunder showers in evenings, cooler nights; no harvesting yet.

Ness.—Harvest commenced.

Norton.—Corn excellent; oats about done up; wheat pale yellow; spring wheat hopeful.

Rawlins.—Hot week; small grain much damaged; thousands of grasshoppers on the alfalfa and potatoes.

Scott.—The rains of the last few days will help the crops very materially.

Thomas.—Wheat improved some during the week but oats and barley are in bad shape; corn looks well; grasshoppers damaging gardens in west part of county.

Trego.—Oats and barley a total failure in east part of county and grass

dry enough to burn; corn revived by late showers.

Wallace.—Small grains on uplands burnt up; well cultivated corn holding out well; range grass drying.

## When to Cut Hay.

EDITOR KANSAS FARMER:—Farmers should take into consideration that the value of a ton of hay for stock food depends upon the amount of digestible nutriment it may contain, and experiment to ascertain the stage of ripeness at which it will yield the most of these.

The present method of grading hay is faulty, as it has little to do with determining the true value of the product. The hasty glance of the inspector—the scent of a bunch to determine whether it is musty—is a very imperfect method of inspection. Some scientific way should be devised for arriving at the true value of a bale of hay, especially timothy. Hay of a bright green color, free of weeds or other foreign substances, will grade choice, although it may have been cut when the plant was fully developed, yet if the seed had not formed and the stalk contained nothing but water, its value as a life-giving food is practically worthless.

On the other hand, if cut when the seed is just maturing and the juice has attained its greatest density, while it may not look so pleasing to the eye, yet who will question its superior feeding qualities. Again, if there is warm, growing weather after this stage is reached, the process of nature goes on and timothy, being a perennial plant, the rich juice of the stem returns to the roots and the hay therefrom again becomes of little value except as a rough. When this retirement begins the sap first becomes deranged in consistency, afterwards disappearing, leaving an encasement of dry pith.

This rule will not apply to millet, or any annual grass, nor does it exactly apply to clover. The changes manifest to the eye in clover are enough to tell when it should be cut to obtain the greatest amount of good hay.

S.

## Grain Rates Alike for All.

The recent decisions of the Supreme court of the United States regarding the Interstate Commerce act, and amendatory statutes, is summarized by the *American Elevator and Grain Trade*, as follows:

"All shippers are now, in contemplation of law, on an equal footing, as to interstate transportation.

"Discrimination is a legal term now in common use to describe the breach of the common carrier's common law or statutory duty to treat all customers alike. It is applied both to unlawful fares and to unlawful freight charges. Discrimination may also be practiced in the facilities allowed to different consignors, such, for example, as the order in which goods are shipped, the opportunities afforded for shipment, the furnishing of necessary cars, and similar matters. This branch of the law is being constantly developed by the enlargement of the circles of commercial distribution, within the States by railroad and warehouse commissions, and between residents of diverse citizenship by the Federal Commission.

"Discrimination in freight tariffs means to charge shippers unequal sums for carrying the same quantity of goods equal distances; that is, more in proportion for short than for long distances. No conclusive inference is to be drawn either from the carriage at an unequal mileage rate or at an unequal profit per mile. The fact that the higher rate is not unreasonable does not affect the fact of discrimination. To charge one, by means of a rebate, a rate less than the regular fixed tariff rate is not discrimination. Such a contract does not prevent every one else from obtaining as low, or even lower rates; but to charge one a higher rate than the lowest given to any one else is discrimination, when it prejudices the one so charged. An agreement not to allow to others a drawback from established rates of transportation, which is allowed to one, is against public policy and void. The law against discrimination cannot be avoided by an agreement to pay full rates in the first instance, and to be repaid by rebates.

"The reasonableness of freight

charges is a question of fact, and not of law. Under the Interstate Commerce act, the charges made for the transportation of passengers or property, or the receiving, delivering, loading or unloading of property, must be reasonable, and no discrimination can be made in rates charged or facilities accorded.

"At common law the rule is that carriers shall not exercise any unjust discrimination in rates or toll. They are held to do exact and even-handed justice to everybody doing business with them. Discrimination must consist in allowing one party what is denied another. The common carriers cannot make unreasonable discrimination or give undue preferences between persons applying to them for carriage, either of persons or goods; either in granting carriage to some and not to others; or in carrying for some for less rates than for others. Transportation by them is open to the public upon equal and reasonable terms. The statute as to interstate carriage is simply an enactment of the common law as to all carriers.

"A contract relative to freight charges that is not according to the established rates leaves the shipper at the mercy of the company, as it cannot be enforced against it. It is true that the commission has no power to make rates generally, but only to determine whether rates imposed by the railroad companies are in conflict with the statute, that is, whether by comparison they are reasonable.

"The railroad companies may classify freights and passengers and charge different rates for different classes, if there are reasonable grounds for such distinctions, in the different cost of service, risk or care, or in the accommodations furnished or the like; but the rates must be the same for all persons and goods of the same class. Charges for freight and passengers must be uniform. Transportation must be open to the entire public upon equal and reasonable terms."

Thos. Slater has a message for every man on page 15.

## 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.

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

## Teachers' Excursion to Buffalo.

On account of the annual convention of the National Educational Association, the B. & O. railroad will sell excursion tickets from Chicago to Buffalo at rate of \$14 for the round trip. Tickets will be sold July 5 and 6, and will be valid for return journey until September 1, if deposited with the joint agent of the railroad lines at Buffalo on or before July 10. The B. & O. route is via rail to Cleveland, and thence via the palatial steamers of the Cleveland & Buffalo Transit Co. Ask your agent for tickets via the B. & O. railroad.

## Money! Make it Yourself!

I have never seen anything in the papers about the People's Windmill; we call it the "People's" because the inventor never patented it, but let everybody use it free. Any farmer can make a mill himself, and all the material complete will not cost over \$10. It is a splendid mill, will pump the deepest wells, and will last longer than any mill I ever had. Any person can get patterns and complete directions free, as I did, by sending seventeen 2-cent stamps to pay postage, etc., to E. D. Wilson & Co., Allegheny, Pa. Wilson & Co. sell pumps and when you get your windmill going would be glad to sell you a pump if you need it. It is certainly useless to pay \$50 or \$60 for a windmill, when you can make one just as good for \$10. I think there could be big money made putting these mills up through the country, as everybody would like them. A READER.



## Horticulture.

### POTATOES.

From an address before Kansas Agricultural college, by Hon. Edwin Taylor.

#### THE NORMAL PRICE OF POTATOES.

The potato has great weight in proportion to its value. Compared with wheat or corn or flax or meat products the chemical constituents of potatoes take a low place in respect to everything but water. If potatoes bore a price in proportion to their real value they would stand but little cartage. As stock food they have from one-third to one-fifth the value of corn, depending upon the manner of their feeding and the animals to which fed. As food for humans their consumption is governed by considerations not wholly economic. Some of us eat potatoes unduly, perhaps from associations of childhood or the old sod; while others eschew them from scruples based on prejudice or considerations with an alleged hygienic trend. The normal price of potatoes I take to be somewhere near one-third the price of wheat. That is to say, wheat being 36 cents per bushel, potatoes would naturally be about 12 cents. To haul wheat or potatoes over country roads a distance of twelve miles may be counted as costing 5 cents per bushel. So that, at the prices I have given, wheat twelve miles back from the depot would be worth 31 cents and potatoes 7 cents, a falling off for cartage of one-seventh for wheat, against nearly one-half for potatoes. From this I conclude that the man who is twelve miles from the depot had better let potatoes alone entirely, except for the home market. In fact, that distance is prohibitive for fruits and vegetables, and largely so for grain. The farmer who has a twelve-mile haul should add to his business of production this extension thereof, viz., that of condensation. He should condense the hay and grass and grain of his farm into pork and beef or butter or cheese. It is a question with me whether most of our Kansas farmers, no matter how near a railroad they may be, can do better than to confine their production to things which can be condensed, and then condense everything they produce. I know of nothing more profitable or picturesque on a Kansas farm than a bunch of cattle gathering in the prairie grass and corn, and converting them into beef.

#### THE TWO MARKETS FOR POTATOES.

Every farmer has two markets, in one of which he has an absolute monopoly; in the other he has to take his chances with the rest; they are the home market and the market of the world. The difference between these two markets is not always insisted upon in the books. Whatever the farmer sells to his own household, for instance, he pays no freight on, no insurance, no commission, no profits, no shrinkage, no collections, and those things make up more than half the cost of imported potatoes. Store potatoes, the farmer must pay for in money; and money he may be short of, or even devoid of. The potatoes he buys of himself, he pays for out of things which, like the wind that blows, he merely has to appropriate. For instance, he may count the land on which they grow as free of cost. An acre less in wheat at 35 cents per bushel, or an acre less in corn at 17 cents per bushel, count in his favor—are money in his pocket, since they prevent that much certain loss. The labor involved in producing a sufficiency of potatoes for the home market would not be felt; for, though the farmer might work at something else while raising them, it is a certain thing that the average Kansas farmer does not make wages in producing his staple crops; but, wages or no wages, the average Kansas farmer has plenty of unused scraps of time every year out of which to grow a full supply of potatoes for the home market. He can put it whichever way he likes; but in producing this supply he has converted idle resources into food, and kept that much money at home.

When the farmer goes to sell his potatoes, he is confronted with a condition that he should seriously consider before going into potatoes at all. This condition is vexing and burdensome.

If his stock is clean and well assorted, he will find no adequate difference in price over dirty and mixed stock on sale in competition with his own. If he sells in car lots, he will find that the difference between the prices he will be offered, and those quoted in the ultimate market, will be too great for reasonable profit to the shipper; and if he attempts to correct this by himself seeking the market of final distribution, through a commission merchant, the risks he runs and the losses he often sustains are such as deter most farmers from consigning their products. It seems like an easy thing for the potato-growers of a neighborhood to get together and make common cause in negotiating sales. In practice, it has never worked well so far as I know. The meannesses and limitations of human nature offer an impassable bar. If it could be done, the problem of marketing would be much simplified. This may be set down as a certain conclusion, that the more potatoes a man has to sell, the better prices he is likely to get, partly because he will give a more thorough study to the market if he has many than if he has only a few. And before he decides to plant any per cent. of the farm whatever to potatoes, beyond the requirements of the family, he should figure not only on the comparative ease of marketing large crops, but should also take into consideration, that in order to raise potatoes economically, quite a considerable outlay is required for machinery. With cheap potatoes (and they may be expected to remain on a level with other farm crops), it is a matter for determination whether one is justified in making such a preparatory outlay. In figuring on the percentage of the Kansas farm to be planted in potatoes, I should say that particular attention should be paid to the potatoes for winter eating which we now import from other States. Most of the potatoes we raise are of early varieties grown in the early part of the season. During the hot summer and the long, dry autumn, these tubers lie in the soil, and every day they approach nearer to what is the ultimate end of all things—decay.

#### THE "FOREIGNERS."

During this time, the flavor goes out of them, and by winter they are such soggy, ill-tasting vegetables that most town people and a large portion of our country population eat northern or western potatoes instead, of which there are probably not less than two million bushels imported annually, for which we, in an average year, pay the foreigners of Colorado and Wisconsin not less than \$1,000,000. With irrigation, this outgo could be stopped. There is no crop raised upon which irrigation is used more advantageously than potatoes. In those portions of the State where potatoes are uncertain without irrigation, there is the most attention paid to it. The irrigation plants already at work must be sufficient to produce all the potatoes used in the irrigated portions of the State, and in addition, provide enough late potatoes to supply the entire State of Kansas, to the exclusion of the foreign importations. I count as lost every dollar we pay to foreigners of Colorado or Wisconsin or Canada or Great Britain or Timbuctoo for things which we could ourselves make with the time and materials now going to waste.

Supposing that the farmer is situated near a railroad station, and that his soil is not unsuited to potato culture, and that he has determined to adopt potatoes into his routine as a permanent feature, then his reasonable inquiry may be, how many potatoes he shall plant. One of the conditions which I said will control the answer, turns upon the man's previous experience in raising potatoes. In my estimation, one should aim with potato culture, as with any other agricultural departure, to grow into it, not go into it. No instruction in such matters takes the place of actual contact—the placing of the fingers in the prints of the nails. Agricultural wisdom is like eloquence in the definition of Mr. Webster, "The learning of the schools cannot compass it." A book on any branch of farming, as my friend Miles Wingert happily expressed it, is of but little

value to us, "unless we already have some hooks in place to hang its information on."

#### EXPERIENCE.

The other day I received a letter announcing that the writer was intending to plant, this season, seventy acres in potatoes, without having had any experience in potato-growing. Unless he has extraordinary good fortune, or is possessed of extraordinary ability, he is on the road to certain loss. He could learn just as deep a lesson in potato-growing from five acres as from seventy, and have only one-fourteenth the chance for losing money. There have been small fortunes made out of seventy acres of potatoes in past years. Such fortunes will not soon be duplicated. This man also writes me that he is prepared with an irrigation plant for irrigating his seventy-acre potato farm, and then asks if I know anything about the subject of irrigation, or if not, if I know anybody who does know. Unless my correspondent is fooling with me, he is certainly a reckless person to undertake to grow a large crop of which he knows nothing, by a method which is full of imperious details of which he is ignorant. The virtues of patience are supposed to belong to the farmer folk. Emerson says, "The farmer times himself to nature, and acquires that lifelong patience which belongs to her." That was. It is now gone. The farmers of to-day—at least too many farmers—take their cue, not from nature, but from something with quicker action. Apprenticeship is less common among us than headlong plunges where abundant preparation would make for speed.

#### PREPARATION.

Rev. Charles H. Parkhurst says in the last number of the *Ladies' Home Journal*: "The most important thing a young man does is to get ready. The key-note lasts to the end of the tune, and the foundation reaches clear to the final." Every word of that dictum applies with force to the potato man's proceedings. Every stroke of preparation made by him upon his land in advance, in the way of clearing it of trash, or of fall-plowing, or of providing a supply of crisp, vigorous seed of the best quality, and preparing himself with the tools best fitted for the crop, will be found potent and indispensable factors in producing satisfactory results. When our Kaw bottoms were first planted to potatoes, most of the land was newly cleared up, and its virgin fertility scarcely trenched upon. Then potatoes produced bountiful crops without much effort or care, though care and effort were always well rewarded. But now that the original richness is partially exhausted, I have been particularly struck with the apparently small matters, in my own experience and that of my neighbors, which have largely governed the output.

#### SEED.

I have, for instance, seen a gain of fifty to a hundred bushels to the acre made through planting seed from the far north instead of home-grown seed. I have seen a difference of one-half made on account of turnips or cabbage having been grown upon the land the previous fall; and likewise by having a crop of green oats plowed under about the time for severe frosts. The "final" of the potato crop has its apex in the farmer's pocket, and the "foundation," which "reaches clear to the final," is comprised in the land and seed. Upon those two antecedents, Mr. T. B. Terry is particularly insistent. His recipe for the land is a clover sod; his recipe for the seed is to have it fresh and unsprouted, if it has to be imported to secure that condition. I have had as good results with second-crop seed of my own raising as from seed grown in Dakota. There is a great temptation, when potatoes that you think will "do" are already in the cellar, to save the extra cost of seed stock which was in the full tide of growth right up to about the time it was dug, and which cannot be



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SHELBY, MICH., Dec. 16, '93.

DR. B. J. KENDALL CO.

Sirs:—I have used your Kendall's Spavin Cure with good success for curbs on two horses and it is the best Liniment I have ever used.

Yours truly, AUGUST FREDRICK.

For Sale by all Druggists, or address  
**Dr. B. J. KENDALL COMPANY,**  
ENOSBURGH FALLS, VT.

secured except as second crop in this latitude, or first crop from the far north. But to use the cheaper stock is economy of the sort which saves at the spigot and wastes at the bung-hole.

#### CULTIVATION.

When the foundation for a crop has been thoroughly laid, then the most intense cultivation is justifiable and profitable. No man can make anything grow of himself. But if a crop has perfect vitality in the parent germs, and is supplied with abundant available nourishment in the soil, the growing will attend to itself if the husbandman will keep the soil loose and clean. But where vitality or nourishment is deficient, then the best of culture is largely put forth in vain, as pearls thrown to swine.

Margaret Fuller is said to have said, "Man would be perfect if he would persist," and no man should attempt to plant any large per cent. of his farm in potatoes unless he means to persist in their culture. When I began raising potatoes I called upon a firm of gardeners in St. Louis to learn of them about sweet potato growing. They were doing excellently well, but they apologized for not being able to answer one of my questions by saying they had been in the business only seven years, and had not mastered it. I don't mean to intimate that a man should be in a line of agriculture for seven years before it became self-supporting; but whether it be potatoes or swine or cattle feeding or the dairy or orcharding or small fruit, if the man who follows any one of those particulars keeps his eyes open and studies his lesson, and does not find that even when seven years are passed he is still not prepared to graduate in it, he will contradict common observation and experience; and it is certain that his second period of seven years will be of more value to him than the first.

#### FLY-BY-NIGHT FARMING.

It would be worth millions to Kansas if her fly-by-night farmers could be induced to emulate the postage stamp, and stick to something till it gets there. The light way in which so

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

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



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many of our countrymen speak of "going into" this or that is to me certain evidence of predestined failure; for, whatever one "goes into" without examination or sense of responsibility he is apt to go out of without hesitation or sense of defeat. To my mind a change in the established farm procedure is a serious thing, not to be undertaken without due consideration. While it is true that almost any location is pre-eminently fitted for some line of farming, it is also true that not many locations are fitted to many lines, and the man whose repertory is extensive may depend upon it that some of his interests are going against the grain of his conditions. I wouldn't have it quite as difficult to change in farming as to secure a divorce, nor do I attach quite so much solemnity to deciding upon a line of farming as to choosing a wife; but I would have neither of them lightly taken up nor put lightly down. I would have the progressive farmer to not confine his figures to what he has done; what he thinks of doing, or "going into," needs their illumination still more. The science of accounts on the farm reaches far beyond the actual; it reaches to the future and the prospective, and should be resorted to as a touchstone for every contemplated departure. In order to make it possible to figure intelligently it is essential that we be not overwhelmed with "sums." Many farmers have such a confusion of little interests and petty details which dovetail into each other in such endless confusion that it is impossible to draw order out of the chaos. In such cases a prerequisite for success is to secure continuity of action by eliminating the inconsequential and inharmonious issues.

#### MIXED FARMING VS. THE SINGLE IDEA.

Just how restricted the routine of a farmer had best be is another of those questions which depend for their answer very largely upon the man himself and his environment. Much discussion is had in our agricultural papers upon the subject of mixed farming versus agricultural specialties. One writer contends that a farmer should have a little of everything in his curriculum, while another is equally strenuous for the "single idea." When I was younger I felt certain the latter was right. I have modified my views somewhat, to the extent of concluding that, while most farming is too much "mixed," the nature of husbandry is such that a strictly one-crop system is not advantageous under normal conditions. I used to call myself a "potato specialist," but it now appears plain to me that while potatoes may be the leading feature on a farm, they cannot long remain its exclusive feature and continue profitable. The practice of Mr. T. B. Terry, of Huron, O., probably the best known and most quoted farmer in America, commends itself to me. He makes potatoes his leading money crop. He uniformly plants them on clover sod. He sows wheat on the potato ground, and sows clover on the wheat in the spring. The clover sod resulting is again turned under for potatoes. He raises no corn, no oats, no barley, no flax, no broomcorn, no chickens, no hogs. His only stock is his work horses and a few cows. He is not a specialist, and yet he is. His "specialty" is not a point, but a section of an arc; not a solo, but a program; not a single crop, but a definite combination of crops.

#### EXCEL THE AVERAGE.

The further negative answer to the question I have asked will be that the farmer should plant no more potatoes than, with a fair season, he can make yield him largely above the average crop for the State. The average for the State is, in round numbers, 100 bushels of potatoes to the acre. Whatever the average crop may be it will, with normal conditions, about represent the normal cost of production. Beyond this line lie all the profits. Where advances beyond this line are not precluded by natural conditions they are the sure response to care, thorough culture, forethought, and manure. The fixed charges for the potato crop are rent, cost of seed, and the minimum amount of tillage. Counting rent \$5 per acre, seed \$5, and the

minimum labor charge for planting and cultivating \$3, we have a fixed cost of \$13 per acre. The maximum labor cost in producing a crop of potatoes is probably not more than double the minimum, or \$6. The returns for that \$3 of extra cultivation are commonly in excess of any other \$3 that goes into the crop.

#### FERTILIZERS AND ACCOUNTS.

Some alluvial soils may be so favored as to fertility and so suitable as to texture that the potato planter need have no care with them; but in general, success with potatoes will largely turn upon the previous condition of the field or its recent fertilization. The subject of fertilizers I don't mean to touch upon any further than to suggest that if we were all compelled to keep a careful account with whatever fertilizers we apply, whether commercial manures, green manuring, or barnyard dressing, it would serve, no doubt, to

"Frae mony a blunder free us  
And foolish notion."

Whatever pays in farming is good practice; whatever don't pay is bad. We owe much of guidance and suggestion to the professors; but one of the most important members of all the faculty, the professor of accounts, we have never given the proper prominence in our counsels.

## In the Dairy.

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

#### An Open Confession.

A dispatch from Omaha says that the Cudahy Packing Company will quit making oleomargarine. The terms of the announcement imply a confession upon two points that is worthy of note. It represents a member of the company as saying:

"We have decided to close down our oleo department. The whole country seems to be against the use of the commodity, and so many laws have been passed restricting its use that we feel it does not pay. We will, however, begin at once to build a large soap factory."

The last sentence discloses an unthinking vein of humor that is amusing to contemplate. As the packing company can no longer make it pay to manufacture the refuse into "pure, clean butter," they purpose starting a soap factory. Perhaps the chemists who have heretofore tried to brace up the "bull butter" trade with endorsements certifying to its wholesomeness, will recognize in this voluntary confession that the stuff is, after all, merely "soap fat," and if public sentiment and the laws prevent its sale as "butter," the sensible thing that remains to put it where it belongs, is to dump it into the soap kettle.

We have all along been told that oleo was made of only the choicest and most cleanly parts of beef suet, and now the proprietor says if he can't make oleo the stuff he has been putting into it is only fit for soap grease. But, even in this showing, he cannot omit a lie. He should know that no law has ever been passed to restrict its sale. To be sure, a small tax has been placed upon its manufacture, but aside from that the only law made simply requires it to be sold for just what it is. There is no law against its manufacture in any quantity, or sale at any price as oleo, only it must not be colored in imitation of butter, or sold under any name that would lead to the belief that it is butter. And to abandon the business because of them is to admit that the venture is not profitable when the cheat is eliminated.

The Cudahy Packing Co. are to be commended for the contemplated change in their business. There is a growing demand for all the good soap that can be made, and need for its use, but we think too much of the American people to want them to be imposed upon by having deodorized soap grease reheated, colored and sold to them under the cloak of honest butter.

Ayer's Pills promote the natural motion of the bowels, without which there can be no regular, healthy operations. For the cure of biliousness, indigestion, sick headache, constipation, jaundice, and liver complaint, these pills have no equal. Every dose effective.

#### Dairying in Russia.

Following is a description of the manner of dairying in Russia. Our readers will doubtless prefer the home method: "Those who reside near cities produce some poor butter and some milk for sale, but those living remote from market produce no more than they can consume. The cows are fed in winter on coarse food, such as oat, barley and rye straw. In summer they give but little milk, twelve to fourteen pounds per day at most. The milking is done by stripping with thumb and finger. The milk is set in cellars in earthen crocks which are so porous that they are very hard to clean, and the milk sours very quickly. To avoid this difficulty, some of the peasants keep a number of small frogs in their cellars for the purpose of putting in their milk, their idea being that these cold creatures take the heat out of the milk, and they put them in to keep it sweet longer. The cream is dipped off with wooden spoons and churned in an earthen pot by stirring with a stick, and the butter is worked with the hands."

#### Notes Upon Cheese.

Nine-tenths of the cheese produced in this country is made in the States of New York, Wisconsin, Ohio, Illinois, Vermont, Iowa, Pennsylvania and Michigan, ranking in the order named. The New York product, alone, is almost one-half the total, and this State and Wisconsin together make over two-thirds of all.

It requires the milk of about one million cows to make the cheese annually pressed in the United States.

The value of the annual cheese product of this country varies from \$20,000,000 to \$25,000,000.

About 9,000,000 pounds of cheese are imported annually into the United States.

The rate of consumption of cheese in America is about three pounds per capita per annum.

Consumption of cheese is apparently somewhat decreasing.

Good cheese is approximately composed of one-third water, one-third milk fat, and one-third casein, with some sugar and ash.—H. E. Alvord, Chief United States Dairy Division.

#### Dairy Notes.

A farmer in Salem Chapel township, N. C., recently sold a remarkable cow to a Winston butcher. He says that she was 22 years old and gave milk for nineteen years. She gave birth to nine calves, which he sold for \$135. For nineteen years she gave an average of two gallons of milk per day, making an average of 13,870 gallons. This farmer says that had he sold the milk for 20 cents per gallon, he would have received \$2,774. This, added to the sale of the cow and calves, would make a grand total of \$2,926 realized from one cow. The farmer also says that the Winston people ate the beef from the old cow and thought it was veal.

The San Francisco Call notes an alleged invention which is likely to destroy the milkman's business. The process puts up milk in bottles so that it keeps fresh for months. The process is kept a secret for the present until letters patent can be secured, but it is announced that it is not condensed milk of any kind, nor has any preservative been added. If true, this is important, for the difference between what the dairyman gets for his milk and the price a city milkman charges the consumer is a wide one, and if the family can get its milk direct from the country by the case, the difference can be divided so as to make the transaction profitable to both the consumer and producer.

It is announced that De Laval, the inventor of the separator known under his name, has invented a milking machine upon an entirely new principle. Instead of suction, which is now employed in all milking machines, so far as we are aware, the action is a pressing and pulling one. It is said to be a very natural imitation of the calf, even to the nudging of the udder to make the cow give down. The cows like it, and stand perfectly still and eat or drink through the operation of milking as though it were enjoyable. The milking is not done quite so fast as by hand, but one person can milk any-

where from ten to one hundred cows a once. The work is said to be done even better than by hand.

#### DOCTOR HARTMAN

Offers Relief to Sick Women for the Asking.

It is at this time of the year when the weak, nervous woman is most prostrated and least able to perform the daily routine of duties which fall to her share. She has no ambition and her work drags upon her at every step. It seems never to be completed and she never feels able to go on with it. As a rule she keeps bravely at it, often uncomplaining and patient until she breaks completely down and can go no further. It is to these tired, listless, unhappy women that Dr. Hartman offers advice and encouragement free. If all such women will write to Dr. Hartman, giving a full account of their troubles, he will answer promptly free of charge and tell them what to take and what to do to make new women of themselves. His advice costs nothing and the medicines are not expensive. Every woman who follows his advice is greatly benefited and the great majority are completely restored to their youthful health and strength.

Every woman may have a copy of Dr. Hartman's book on female diseases. It is an invaluable book for the class of women to whom it is written. This book will be sent free to any woman by the Pe-run-a Drug Manufacturing Co., Columbus, O.

#### Make Cheese at Home

with such simple apparatus as every farmer now has. Send one dollar to C. B. KERRICK, Powell, S. Dak., who will mail to you ten reprints, with such plain printed instructions as will enable you to make a perfect cheese the first time. Money refunded to all who fail.

#### CORRUGATED STEEL IRON ROOFING

\$1.75 PER SQUARE.  
The above, partly from World's Fair Buildings, we guarantee good as new. We have only a limited amount on hand and would advise forwarding orders at once. CHICAGO HOUSE-WRECKING CO., Largest Second-hand Depot in the World. 8025 S. Halstead street, Chicago, Ill.

## FARMERS

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Are Unsurpassed. They are Traction, Portable and Semi-Portable. They are both SIMPLE and COMPOUND. We have also, Threshers, Stackers, Horse Powers and Saw Mills. Send for our 1896 Catalogue—FREE. S. M. RUMELY CO., La Porte, Ind.

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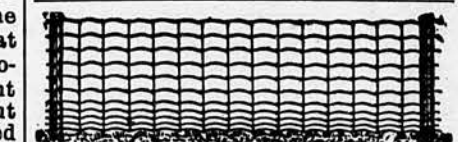


##### AND WIRE SPLICER

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

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

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



#### A SOFT ANSWER

Works on the same plan as elasticity, but besides "turning away wrath," ELASTICITY turns away domestic and wild animals, practically insuring the farmer against loss. The PAGE is full of ELASTICITY, and like the soft answer, has such a winning way. It makes friends wherever it goes.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



Instantly and positively prevents flies, gnats and insects of every description from annoying horses and cattle. It improves the appearance of the coat, dispelling with fly-nets. Applied to cows it will give them perfect rest, thereby increasing the quantity of milk. It is also a positive insecticide for plants. We guarantee it pure, harmless and effective. Recommended by thousands using it. One gallon lasts four head an entire season. Price, including brush, quart cans, \$1.00; half-gallon, \$1.75, and one gallon, \$2.50. Beware of imitations. Made only by The Crescent Manufacturing Co., 3109 Indiana Avenue, Philadelphia.



## Hay Market Review.

From our special correspondent at Kansas City:

"The Kansas City hay market has nothing of an encouraging nature to report this week. There is as yet practically no tone to the market, and sales are only made to fill pressing needs. New prairie is coming in in large quantities; the outside price, \$6 for choice, while No. 1 brings but \$5 to \$5.50, and No. 2 not wanted at \$3.50 to \$4. As yet there is practically no Eastern demand, but dealers are looking for an improvement in the very near future, as several Eastern States are harvesting a very light crop.

"Timothy is not wanted, as it is not in shape for rebilling and must be stored in warehouse.

"Old hay for shipping purposes remains quiet but steady."

## Utah Bulletin on Tuberculosis.

Bulletin No. 41 of the Utah Experiment Station, treating on tuberculosis, has been issued. It is written by F. W. Brewer, M. D., and is summarized as follows:

The first section of Bulletin No. 41, treats of the localities in which tuberculosis is prevalent, its comparative rarity in the Rocky mountain district, but shows that even there it can be found too frequently, and that great care must be taken to keep the human beings and cattle in their present state of comparative exemption.

The cause of the disease, the prevailing symptoms, and the factors in the spread of the disease are discussed; and the discoveries that have been made in Germany and elsewhere are alluded to.

The value of tuberculin as a diagnostic is thoroughly accepted, and experiments have been made with it on some of the cattle in the experiment station herd. The preparation of tuberculin is described, the mode of conducting the experiments, the precautions necessary and the results, are fully set forth. A few of the animals were killed, and the appearance of the lungs and other internal organs, upon examination after death, is given, showing the reliability of tuberculin as a diagnostic agent.

A few remarks are made as to the experiments conducted in other States and their results, and the general tenor of the information collected by the Department of Agriculture at Washington, D. C.

Suggestions as to the disinfection of barns, etc., and as to the sanitary management of cattle, as concurred in by the most eminent authorities, are made.

Tabulated statements of the experiments and their results are given.

This bulletin may be obtained free on application to the Utah Experiment Station, Logan, Utah.

## Would Follow Oats With Corn and Rye.

EDITOR KANSAS FARMER:—The last two weeks have hurt the oat crop by rust, and many a field will be cut and the owner will feel discouraged. As a matter of fact, we do not raise the crops we used to, either of oats or corn, and we have about arrived at the time when we should face this matter squarely and ask ourselves what we are going to do about it.

We can no longer disguise the fact that we have been drawing upon our natural resources until the capital stock is about exhausted, and we have never made a deposit to help the matter along, but have always drawn freely upon our bank account, in the shape of large crops, and no return to the soil.

Now, the man who has oat stubble will say, "Well, I cannot help my oat ground, only by allowing the weeds to grow and then plowing them under." It is quite true that a crop of weeds plowed under will aid the land in producing a crop, but it is also a fact that it will make the weeds grow also. Now if we farmers would only plow up our oat stubble at once, roll down hard and plant to corn, using the drill, or better still, drill in corn with a grain drill that has had some of the holes stopped up, making the rows about forty inches apart; then cultivate the crop thoroughly, whether weedy or not,

just as if we expected a big crop of corn, then when we lay it by sow rye just before, and when we cut off the fodder with a binder or some suitable machine, the rye will make nice fall pasture. Any small stock that may pasture the rye, will add to the soil all they take off, and late in the next spring the rye should be plowed under just before it heads out, and this ground will raise a superior crop. Rye is not a very good fertilizer, but the mechanical effect it has on the soil is very beneficial, and by such little plans as this, we will gradually add to our deposit, instead of only drawing from it.

Moran, Kas. C. J. NORTON.

Not many business houses in these United States can boast of fifty years' standing. The business of Dr. J. C. Ayer & Co., of Lowell, Mass., whose incomparable Sarsaparilla is known and used everywhere, has passed its half centennial and was never so vigorous as at present.

## 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.

## Expert Train Running.

For the month of May the record of train movement on the B. & O. railroad eclipsed the record-breaking record for April, when the passenger trains arrived at their destinations as per schedule ninety-five times out of a possible hundred. The B. & O. Fast Freight Trains between New York, Philadelphia and Baltimore on the east, and Cincinnati, St. Louis and Chicago on the west, are being moved with an equal degree of precision.

## No Room for Doubt.

When the facts are before you, you must be convinced.

The facts are that the UNION PACIFIC is leading all competitors, is the acknowledged dining car route, and great through car line of the West.

The line via Denver and Kansas City to Chicago in connection with the Chicago & Alton railroad, with its excellent equipment of Free Reclining Chair Cars, Pullman Palace Sleepers and Pullman Dining, demands the attention of every traveler to the East. Ask your nearest agent for tickets via this route.

E. L. LOMAX, Gen. Pass. and Ticket Agent.

## A Look Through South Missouri for Four Cents.

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

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

J. E. LOCKWOOD, Kansas City, Mo.

## Ho! for Cripple Creek.

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

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

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

JNO. SEBASTIAN, Gen'l. Pass. Ag't, Chicago.

## Low Excursion Rates to the East, via "Burlington Route."

## HALF RATES.

N. E. A. Meeting, Buffalo, N. Y., July 7 to 11.

Christian Endeavor Meeting, Washington, July 7 to 13.

Baptist Young People's Union of America, Milwaukee, July 16 to 19.

National Republican League, Milwaukee, August 25 to 27.

Democratic Convention, Chicago, July 7. Ask ticket agents for tickets via Vestibuled "El" to Chicago, and via Vestibuled Limited to St. Louis.

Both trains supplied with the most modern equipment.

L. W. WAKELEY, Gen. Pass. Ag't, St. Louis, Mo.

**BUTTER in 2 min. \$150 PER MONTH**  
The QUEEN BUTTER MAKER.  
Sells at sight. Every woman wants one when she sees the butter come and gathered in two minutes. Every machine guaranteed or money refunded. Butter churned and gathered by the same machine; larger yield as all the butter is taken out. The Queen Butter Maker is the greatest invention of the age. We will send a trial machine to one family in any neighborhood; a good chance for agents to make big money; costs but little more than an ordinary churn. The Queen Butter Maker Co., 25 E. 3rd St., Cincinnati, O.

The method pursued by the Nickel Plate Road, by which its agents figure rates as low as the lowest, seems to meet the requirements of the traveling public. No one should think of purchasing a ticket to Buffalo N. E. A. convention, during July, until they first inquire what the rate is over the Nickel Plate Road. For particulars, write J. Y. Calahan, Gen'l. Agent, 111 Adams street, Chicago, Ill. 94

## Millions of Gold

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

## To Chicago, St. Louis and the East via Burlington Route.

The traveling public is sure to find the best fast vestibuled trains from the Missouri river to the East via the "Burlington Route." Elaborate compartment sleepers (same rate as standard sleepers); free chair cars of luxurious pattern to St. Louis; standard sleepers, free chair cars, and dining cars to Chicago.

Ask ticket agent for tickets via Vestibuled El to Chicago, and via the Vestibuled Limited to St. Louis.

L. W. WAKELEY, Gen. Pass. Ag't, St. Louis, Mo.

## FOR SALE!

Dairy of thirty choice cows, with well established route in city, fine farm, with large apiary and stock of pure-bred poultry. Horses, hogs, etc., if desired.

J. M. Anderson, Box 246, Salina, Kas.

## Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time, will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it! SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with the order. Stamps taken.

KANSAS-GROWN PURE DWARF ESSEX RAPE seed, 10 cents per pound; twenty-five pounds 8 cents per pound. E. D. King, Burlington, Kas.

WANTED—Twenty-five Shetland pony mares. A. M. Mason, Box 327, Pittsburg, Kas.

FOR SALE—CELERY PLANTS.—Grown in pots; will grow right out; no shading required. Sixty cents per 100; \$2.50 for 500; \$4.50 per 1,000 by express (dirt left on roots). Tyra Montgomery, Larned, Pawnee Co., Kas.

MEADOW BROOK HERD OF SHORT-HORNS.—Registered bulls at reasonable prices. F. C. Kingsley, Dover, Kas.

FOR SALE—A new, solid rubber tire bicycle, for \$15. Good for service anywhere. No fear of puncture. A bargain for some farmer boy. Call and see it at KANSAS FARMER office.

JERSEY HEIFER FOR SALE—Solid fawn with black points. Breeding the best. Address Professor Georgeson, Manhattan, Kas.

STRAWBERRY PLANTS FOR SALE—Mitchell's Early, Crescent, Sharpless, Kentucky, Warfield, \$2.25 per 1,000. Remit with order. Address John E. Hardin, Foreman Eglantine Orchards, Koshkonong, Mo.

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

SHORT-HORN BULLS FOR SALE—Crutskhanka S and Bates breeding. Sired by Valley Champion 110477. Address C. Chambers, Mont Ida, Anderson Co., Kas.

FOR SALE—One hundred and sixty acre farm, one and a half miles from Bushong station, Lyon county, Kansas. Good spring. Price \$3 per acre. J. B. McAfee, Topeka, Kas.

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

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

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

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

300,000 TEN BEST KINDS SWEET POTATO plants for sale during May and June at low prices. Inquire of N. H. Pixley, Wamego, Kas.

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

FARMERS, SETTLERS, HEALTH-SEEKERS IN Florida. Write us for information and low prices on homes, orange groves, grape vine, pineapple, fruit, vegetable and farming lands. State requirements. Stapylton & Co., Leesburg, Lake Co., Florida.

SEELING'S POULTRY COMPOUND.—Every farmer who keeps poultry should use Seeling's Poultry Compound. It will keep the birds free from lice and mites and prevent cholera. Price 50 cents per pound package. For sale by leading grocers or sent by mail by the manufacturer. Agents wanted everywhere. Address W. L. Seeling, Paxico, Kas.

## SPECIAL WANT COLUMN--CONTINUED

DISEASES OF YOUNG AND OLD MEN—Private and skin diseases a specialty. Wm. H. Richter, Ph. G. M. D., 503 Kansas Ave., Topeka, Kas. Correspondence solicited.

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

SHORT-HORN BULLS—Crutskhanka-topped, for sale. Choice animals of splendid breeding. Address Peter Slim, Wakarusa, Shawnee Co., Kas.

PURE SORGHUM SEED—Three varieties, heavy crops of cane and seed; rich in sugar and best winter keepers. One dollar (\$1) per bushel. Mary Best, Medicine Lodge, Kas.

BERRY BOXES AND POULTRY SUPPLIES—Millet, cane, buckwheat and shipping baskets. T. Lee Adams, 418 Walnut St., Kansas City, Mo.

LADIES—To sell toilet soaps, etc. Outfit free. Send two references from business men. The Minto Soap Co., Cincinnati, Ohio.

## Salesmen Wanted!

\$100 to \$125 per month and expenses. Staple line; position permanent, pleasant and desirable. Address with stamp, King Mfg. Co., F 29, Chicago, Ill.

## THE STRAY LIST.

## FOR WEEK ENDING JUNE 11, 1896.

Douglas county—Harry Dick, clerk.

MARE—Taken up by R. L. Patton, in Kanawka tp., May 18, 1896, one light bay mare, about fifteen hands high, about 4 years old, white feet and some white in face, no marks or brands; valued at \$15.

Cherokee county—T. W. Thomason, clerk.

HORSE—Taken up by C. A. Lyerla, in Shawnee tp., one bay horse, fifteen hands high, 7 years old, black mane and tail, star in forehead, left hind foot white, scar on right front foot, shod all round, spavin on both hind legs; valued at \$10.

MARE—Taken up by G. W. Russell, in Shawnee tp., one gray mare, fifteen hands high, branded K on left thigh.

MARE—Taken up by E. D. Bray, one sorrel mare, fifteen hands high, fifteen years old, slightly away-backed, branded L. M. on right hip; valued at \$10.

HORSE—Taken up by E. A. Ellis, in Shawnee tp., (P. O. Crestline), one dark brown horse, fourteen hands high, 14 years old, brand on left shoulder.

HORSE—By same, one light brown horse, four teen hands high, 12 years old, left hip down.

HORSE—Taken up by E. Barnes, in Crawford tp., May 20, 1896, one black horse, star in forehead, about 10 years old, weight about 1,000 pounds, shod all round.

MARE—By same, one light bay mare, star in forehead, left hind foot white, about 4 years old, weight about 1,000 pounds, shod all round.

Pottawatomie county—Frank Davis, clerk.

STEER—Taken up by T. F. Wells, in Shannon tp., May 25, 1896, one black muley steer, 2 years old, smooth crop off right ear; valued at \$24.

Sheridan county—H. W. Percival, clerk.

MARE—Taken up by R. M. Love, in Logan tp., one flea-bitten gray mare, weight 1,000 pounds, 13 years old; valued at \$5.

PONY—By same, one white pony, weight about 700 pounds, age unknown; valued at \$5.

COLT—By same, one iron-gray colt, 1 year old, had halter on; valued at \$5.

Shawnee county—Chas. T. McCabe, clerk.

THREE COWS—Taken up by D. F. Herring, in Silver Lake tp., (P. O. Swinburn), three cows—one red, shell of right ear broken, branded O on right hip; two spotted cows, dehorned, branded O on right hip.

TWO CALVES—By same, two spring male calves, one spotted and one roan; value of five strays \$56.

## FOR WEEK ENDING JUNE 18, 1896.

Sedgwick county—A. M. Denny, clerk.

MARE—Taken up by C. C. McMurray, in Greeley tp., May 11, 1896, one sorrel mare, 3 years old, white stripe in face, weight about 700 pounds; valued at \$15.

Atchison county—Chas. H. Krebs, clerk.

HEIFER—Taken up by Ben Torkelson, in Grass-hopper tp., (Invermay P. O.), May 4, 1896, one red heifer, white flanks, 2 years old; valued at \$15.

PONY—Taken up by George T. McLennan, in Lancaster tp., (Ethingham P. O.), May 20, 1896, one bay horse pony, some white on left nostril, small white spot on forehead, white hind feet, about fourteen hands high, about 3 years old; valued at \$15.

Logan county—J. F. Light, clerk.

MARE—Taken up by C. S. Franklin, in Russell Springs tp., (twelve miles southwest of Russell Springs), May 21, 1896, one brown mare, with collar marks, no brands, 12 years old; valued at \$10.

MARE—By same, one bay mare, white face, lump on right jaw, right hind foot white, no brands, 6 years old; valued at \$25.

## FOR WEEK ENDING JUNE 25, 1896.

Crawford county—John Ecker, clerk.

HORSE—Taken up by Thos. Walsh, in Grapt tp., (P. O. Brazilton), April 30, 1896, one bay horse, 12 years old, white hind feet and white face, branded C. on left shoulder and O. on right hip, had on halter; valued at \$10.

HORSE—By same, one roan horse, 8 years old, white face, spavin on left hind leg, had on halter; valued at \$10.

Hodgeman county—S. S. Kiehl, clerk.

HORSE—Taken up by Nelson Dean, in Center tp., (P. O. Jetmore), May 13, 1896, one bay horse, fourteen hands high, weight 1,000 pounds, right hind foot and left fore foot white, black face; valued at \$10.

Labette county—J. F. Thompson, clerk.

MARE—Taken up by G. W. Hart, in Canada tp., May 20, 1896, one sorrel mare, 5 years old, branded E on right shoulder, had on raw-hide halter; valued at \$15.

Cherokee county—T. W. Thomason, clerk.

STEER—Taken up by T. M. Gilmore, in Junction tp., (P. O. Overbrook), April 30, 1896, one red and white two-year-old steer, no marks or brands.

Osage county—E. C. Murphy, clerk.

MARE—Taken up by S. K. Harrold, in Salamanca tp., May 1, 1896, one dark bay mare, star in forehead, right hind foot and right front foot white, about 12 years old; valued at \$5.

## DOGS.

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



## 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.

**BLIND TEAT.**—I have a heifer that had her first calf June 11, and one of her teats gives no milk, although she gives a nice mess out of the others. Can anything be done? R. L. A. Oskaloosa, Kas.

**Answer.**—If there is no obstruction and yet no milk in the teat it is because the gland is inactive, and there is no remedy for it except frequent milking.

**MANY QUESTIONS.**—(1) I have a team of horses that have sore necks. There was a hard core in the center, which I cut out, then kept the cavity filled with a mixture of lard and calomel. It has healed some but is still sore. (2) Give me a remedy for collar boils. (3) Give me a remedy for worms. (4) Give me a cure for lamppas. (5) Give me an idea of the proper way to wash a horse's sheath. (6) What should I grease him with after washing? Voris, Mo.

**Answer.**—(1) If you cut the core out clean the sores will heal readily. Mix 1 ounce of calomel, 1 ounce of liquid carbolic acid and 1 pound of vaseline together as a healing ointment. (2) If not raw, bathe three times a day with cold water. If they are raw touch them with lunar caustic, then heal with the above ointment. (3) Inject the rectum twice a week with 1 ounce of turpentine and 6 ounces of oil or lard mixed. (4) Rub the gums with powdered alum. (5) Get some one to show you. (6) I do not use grease. Wash clean with water.

### \$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.

Kalamazoo, Mich., is famous for celery—also as the home of Thos. Slater, whose advertisement appears on page 15.

### Seekers for Homes,

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

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

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

ROBT. C. WHITE, Pres. W. R. MUNGER, Sec.-Treas.

## ROBT. C. WHITE

Live Stock Commission Company  
KANSAS CITY STOCK YARDS.

Money loaned to responsible parties for feeding purposes. Market reports free upon application. Consignments and correspondence solicited. Stockers and feeders bought on order.

Wm. A. Rogers. Robt. E. Cox. Fred W. Bishop.

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Live Stock Commission Merchants.  
Rooms 205 and 206 Live Stock Exchange Building  
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John Moffett, Manager. L. B. Andrews, Office.  
T. S. Moffett, W. C. Lorimer, Cattle Salesmen.  
H. M. Baker, Hog and Sheep Salesmen.  
W. A. Morton, Solicitor.

**MOFFETT BROS. & ANDREWS**  
Live Stock Commission Merchants.

Feeders and stockers purchased on orders. Personal attention given to all consignments. Correspondence invited. Market reports furnished. References—National Bank of Commerce, Kansas City, Mo.; Citizens State Bank, Harper, Kas.; Bank of Kiowa, Kiowa, Kas.

Rooms 67-68 Live Stock Exchange, Kansas City, Mo.

## MARKET REPORTS.

### Kansas City Live Stock.

KANSAS CITY, June 22.—Cattle—Receipts since Saturday, 4,799; calves, 734; shipped Saturday, 233 cattle; no calves. The market was steady to strong on the native side and steady on the Texas side. The following are representative sales:

No.	Ave. Price	No.	Ave. Price
16.....	1,583 \$4.10	1.....	1,500 \$1.10
20.....	1,380 3.95	20.....	1,146 3.93
3.....	1,282 3.75	87.....	1,326 3.65
4.....	885 3.50	1.....	873 3.23

No.	Ave. Price	No.	Ave. Price
74.....	1,263 \$3.45	56.....	1,273 \$3.45
24.....	1,078 3.03	212.....	1,061 3.00
21.....	898 2.70	3.....	886 2.65
21.....	1,008 2.45	23.....	802 2.23

No.	Ave. Price	No.	Ave. Price
1.....	1,020 \$3.25	1.....	1,280 \$3.10
1.....	780 2.40	1.....	1,080 2.40
2.....	1,000 2.00	3.....	816 2.00
1.....	1,020 1.73	1.....	930 1.73

No.	Ave. Price	No.	Ave. Price
80.....	856 \$3.53	18.....	696 \$3.53
1.....	963 3.25	2.....	930 3.25
2.....	748 2.70	1.....	540 2.63
2.....	748 2.90	1.....	770 2.03

Hogs—Receipts since Saturday, 4,314; shipped Saturday 835. The market ranged from steady to 10c lower. Following are representative sales:

No.	Ave. Price	No.	Ave. Price
39.....	131 \$3.20	93.....	151 \$3.15
27.....	164 3.20	11.....	121 3.17 1/2
35.....	166 3.12 1/2	55.....	208 3.05
54.....	199 3.03	63.....	212 3.03
21.....	202 3.05	83.....	200 3.05
81.....	210 3.05	30.....	162 3.02 1/2
78.....	208 3.02 1/2	66.....	240 3.00
56.....	220 3.00	6.....	218 3.00
71.....	220 3.00	63.....	216 3.00
71.....	201 3.00	62.....	241 3.00
61.....	251 2.97 1/2	31.....	245 2.97 1/2
48.....	243 2.93	12.....	237 2.93
51.....	192 2.90	49.....	319 2.90
87.....	335 2.90	1.....	310 2.80
1.....	450 2.75	8.....	298 2.80
14.....	207 2.75	2.....	373 2.75
2.....	350 2.50	1.....	240 2.50
2.....	235 2.25	1.....	110 2.00

Sheep—Receipts since Saturday, 182; shipped Saturday, 540. The market was active and strong. Following are representative sales:

No.	Ave. Price	No.	Ave. Price
26.....	145 \$5.50	14.....	145 \$5.50
2.....	70 3.00	8.....	300 2.75

Horses—Receipts since Saturday, 83; shipped Saturday, 38. There was very little trading. Prices generally rule steady with the low time. The receipts are very light.

### Chicago Live Stock.

CHICAGO, June 22.—Cattle—Receipts, 15,000; market steady to 10c higher. Fair to best beefs, \$3.50 to \$4.50; stockers and feeders, \$2.50 to \$3.50; mixed cows and bulls, \$1.40 to \$3.50; Texas, \$2.40 to \$3.75.

Hogs—Receipts, 53,000; market opened 5 to 10c lower, decline partly regained; light, \$3.20 to \$3.50; rough packing, \$2.70 to \$2.90; mixed and butchers, \$3.00 to \$3.35; heavy packing and shipping, \$2.90 to \$3.20; pigs, \$2.70 to \$3.50.

Sheep—Receipts, 2,000; market strong for sheep and 10 to 20c lower for lambs; native, \$2.00 to \$4.25; Texas, \$2.50 to \$3.25; lambs, \$2.75 to \$4.40.

### St. Louis Live Stock.

ST. LOUIS, June 22.—Cattle—Receipts, 3,000; market steady; native steers, \$3.40 to \$4.10; Texas steers, \$2.40 to \$3.60.

Hogs—Receipts, 3,000; market opened 5 to 10c lower and closed strong; heavy, \$3.00 to \$3.25.

Sheep—Receipts, 5,000; market 10c lower.

### Chicago Grain and Provisions.

June 22.	Opened	High'st	Low'st	Closing
Wht.—June.....	.....	.....	.....	56 3/4
July.....	56 1/2	57 1/4	56 3/4	56 3/4
Sept.....	57 1/2	58 1/4	57 1/4	57 1/4
Corn—June.....	.....	.....	.....	27 3/4
July.....	28	28	27 3/4	27 3/4
Sept.....	29 1/2	29 3/4	29	29
Oats—June.....	.....	.....	.....	16 1/2
July.....	17	17 1/4	16 3/4	16 3/4
Sept.....	17 1/2	17 3/4	17 1/4	17 1/4
Pork—June.....	.....	.....	.....	6 97 1/2
July.....	6 97 1/2	7 00	6 97 1/2	6 97 1/2
Sept.....	7 15	7 17 1/2	7 15	7 15
Lard—June.....	.....	.....	.....	4 03
July.....	4 03	4 07 1/2	4 05	4 05
Sept.....	4 20	4 23 1/2	4 17 1/2	4 17 1/2
Ribs—June.....	.....	.....	.....	3 70
July.....	3 72 1/2	3 75 1/2	3 72 1/2	3 70
Sept.....	3 87 1/2	3 90	3 87 1/2	3 87 1/2

### Kansas City Grain.

KANSAS CITY, June 22.—There was fair inquiry for soft wheat to-day, but not much for hard. Offerings were light.

Receipts of wheat to-day, 21 cars; a year ago, 56 cars.

Sales were as follows on track: Hard, No. 2, nominally 43¢, according to billing; 1 car choice old 51c; No. 3, 1 car 42c; No. 4, 1 car choice 37c; rejected, nominally 30c; soft, No. 2 red, 1 car new 54¢, 5,000 bu. new 54c; No. 8 red, nominally 40¢ to 52c; No. 4 red, nominally 40¢ to 46c; rejected, nominally 35¢ to 42c; spring, none coming in. Wheat in the elevators generally held 5c under the Chicago July price.

Corn was 1/4 to 1/2c lower at the close, with little demand. Some early sales were at steady prices. There was no trading in futures. July was offered at 22 1/2c and September at 24c.

Receipts of corn to-day, 64 cars; a year ago, 13 cars.

Sales by sample on track: No. 2 mixed, 4 cars 23c, 5 cars 22 1/2c, 2 cars 22 1/2c; No. 3 mixed, 4 cars 22 1/2c, 2 cars 22c; No. 4 mixed, nominally 21¢ to 22c; no grade, 1 car 20c. White corn, No. 2, 1 car 24 1/2c, 4 cars 24 1/2c, closing at 21c asked; No. 3, nominally 23¢ to 23 1/2c; No. 4, nominally 22 1/2c.

Oats sold rather slowly. A good many samples were on the floor.

Receipts of oats to-day, 11 cars; a year ago, 7 cars.

Sales by sample on track: No. 2 mixed, 1 car 16 1/2c, 1 car 16 1/2c; No. 3 oats, nominally 14c; No. 4, nominally 13c; no grade, nominally 12c; No. 2 white oats, 1 car 18 1/2c, 2 cars 18 1/2c; No. 3 white, 1 car 17 1/2c.

Hay—Receipts, 71 cars; market steady; Timothy, choice, \$11.00 to \$12.00; No. 1, \$9.50 to \$10.50; No. 2, \$7.50 to \$9.00; No. 3, \$5.50 to \$7.00; choice prairie, \$6.50 to \$7.50; No. 1, \$5.00 to \$6.00; No. 2, \$4.00 to \$4.50; No. 3, \$3.00 to \$4.00; No. 4, \$2.50 to \$3.50; straw, \$3.50 to \$4.50.

## HAVE YOU HEARD OF THE

# HEFFLEY ROLLER BALER

It completely revolutionizes baling machinery. The only baler on earth without plunger, head-blocks, beaters, or bale-ties. Wire fed from spools, tied on machine. No splicing. All steel and iron; nothing to burn up. Will last a lifetime.

## Warranted Capacity a Bale a Minute.

ONLY PERFECT SELF-FEEDER ON EARTH. No way to get hurt. Draft very light; two horse-power; full circle. Can use for other purposes. Saves time, wire, horses, men and legs. Works mounted. Quickly moved and set. Weight 1,500 pounds. Can set it at middle of rick, or on barn floor. Bales hay, straw, millet, etc. Continuous feed. Bales smooth and even on all sides, any length or weight. Can make every bale exactly same weight and length. FULL WARRANTY.

C. G. OVERMYER, JOPLIN, MO.

# The Kansas City Stock Yards

are the most complete and commodious in the West,

and second largest in the world! The entire railroad system of the West and Southwest centering at Kansas City has direct rail connection with these yards, with ample facilities for receiving and reshipping stock.

	Cattle and calves.	Hogs.	Sheep.	Horses and mules.	Cars.
Official Receipts for 1895.....	1,689,652	2,457,697	864,713	52,607	103,368
Slaughtered in Kansas City.....	922,167	2,170,827	567,015		
Sold to feeders.....	392,263	1,376	111,445		
Sold to shippers.....	218,505	273,969	69,784		
Total Sold in Kansas City, 1895.....	1,533,334	2,446,202	748,244	41,588	

CHARGES: YARDAGE, Cattle, 25 cents per head; Hogs, 8 cents per head; Sheep, 5 cents per head. HAY, \$1 per 100 lbs.; BRAN, \$1 per 100 lbs.; CORN, \$1 per bushel.

NO YARDAGE CHARGED UNLESS THE STOCK IS SOLD OR WEIGHED.

C. F. MORSE, E. E. RICHARDSON, H. P. CHILD, EUGENE RUST,  
V. Pres. and Gen. Manager. Secretary and Treasurer. Assistant Gen. Manager. Gen. Superintendent.  
W. S. TOUGH & SON, Managers HORSE AND MULE DEPARTMENT.

# GREAT FARMERS' SUPPLY STORE

CAPITAL, 10,000. INDIVIDUAL RESPONSIBILITY, \$150,000.

Farmers, do you want a place where you can send your cash and buy your goods at the same price your dealer pays? If so, send us your orders and tell your neighbors about us. We want to save you money, and, of course, make a little at the same time. Help make this Farmers' Store the Greatest Farmers' Store, where you can buy at low prices.

**Knives for any Mower**—4 1/2 foot cut, \$2.75; 5 foot, \$3; 6 foot, \$3.25; 7 foot, \$3.50.  
**Knives for any Harvester**—6 foot cut, \$3.25; 6 1/2 foot, \$3.40; 7 foot, \$3.50.  
**Sections for all Machines**—In lots of 25, each 6 cents, including rivets. Guards, 22 cents.

**25 Cents** Pure White Sisal Twine  
Cut out this square only.  
Kansas City Machinery Co.  
and we pay the freight to any railroad station in Kansas or Missouri.  
Only 7 Cents Per Pound.

On orders for one or more harvester or mower knives, or twenty-five or more sections, the above 25-cent square will be good for 25 cents, if you will show this advertisement to five of your neighbors, then cut out the square only and pin it to your order. Remember, show this advertisement to five of your neighbors. Only one square good with each order. Write for complete Hay Tool Catalogue. Write for complete Buggy Catalogue. Threshers, send 4c. in stamps for our complete Supply Catalogue; 64 pages of prices which will surprise you.

The Kansas City Machinery Co., 1006 Hickory St., Kansas City, Mo.

## WHAT WE KNOW

About the Wool Commission Business may be of service to you. If so it is at your disposal. We have had 30 years continuous experience and have gained a few essential facts. One of these enables us to deal direct with the manufacturer. Your wool goes direct from our hands to the man who weaves it into cloth. We charge smallest commission consistent with good business. We make liberal advances on consignments. We keep you posted on the conditions of the market through our circular letter. We furnish free use of sacks to our patrons. We refer you to any bank or reputable business house in Chicago.

## SILBERMAN BROTHERS,

122-128 Michigan St., CHICAGO, ILL.

### Kansas City Produce.

KANSAS CITY, June 22.—Buttery—Creamery, extra fancy separator, 13c; firsts, 12c; dairy, fancy, 12c; fair, 10c; store packed, fresh, 7¢ to 8¢; packing stock, 7c.

Eggs—Strictly candied stock, 7 1/2c per doz.; southern, 5c.

Poultry—Hens, 5 1/2c; roosters, 15c each; springs, 10 1/2c per lb.; turkeys, hens, 6c; gobblers, 5c; old, 4 1/2c; ducks, 7c; spring ducks, 11c; spring geese, 10c; old geese not wanted; pigeons, 93c @ \$1.00 per doz.

Berries—Raspberries—Home grown, \$1.00 to \$2.00; red stock, \$3.00 to \$3.25; shipped stock, \$2.00 to \$2.25. Blackberries, 7c to \$1.00; some fancy crates at \$1.50. Dewberries, \$1.25 to \$1.40. Huckleberries, \$2.00 per crate. Gooseberries, domestic, fancy, \$1.75 to \$2.00. Currants, \$1.75 to \$2.00.

Potatoes—Home grown, 20¢ to 25¢; Oklahoma, 25¢ to 30c, in round lots; old home grown, 20c; Colorado fancy, 45c in small lots, 35c in car lots; Minnesota Burbanks, old, 20¢ to 25c. Sweet potatoes, 50¢ to 75c in a small way.

Tomatoes—Florida, plentiful. Fancy, \$3.00 per 6-basket crate; seconds, \$2.50; culls, \$1.00; Texas inferior stock selling at \$1.00 per 6-basket crate; trays, choice, \$1.25; peck baskets, 30c; Mississippi, supply abundant, 7c to \$1.00 per 4-basket crate; culls, 6c.

AGENTS To sell cigars to dealers; \$18 weekly, experience not required. Samples free. Reply with 2c stamp. National Consolidated Co., Chicago, Ill.

### GROWERS OF AND DEALERS IN

## Cattle, Hogs and Sheep

MAKE YOUR CONSIGNMENTS TO

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COMMISSION MERCHANTS,

STOCK YARDS, KANSAS CITY, MO.  
And EAST ST. LOUIS, ILL.

Stockers and feeders bought on order. Liberal advances to the trade. Write for market reports and special information.

**WINDMILL OWNERS**, stop the jerking, breaking with a perfect spring. No good, no pay. Agents wanted. Agis Mfg. Co., Marshalltown, Iowa.



## The Poultry Yard

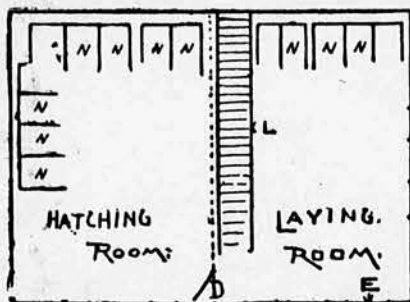
### POULTRY HOUSE PLAN.

#### Description of a Conveniently Arranged Two-Story Structure.

Here is the plan of a poultry house which I built two years ago. It differs so much from any that I have ever seen, and suits me so well, that I give it for the benefit of your readers. The plan is not my own, but a modification of one by which my neighbor built.

My house is 12x16 feet and 10 feet high, with a shingled comb roof, sided with pine shiplap siding 10 inches wide, put on up and down. Use six 4x4 posts, 10 feet high; the other frame stuff is all 2x4.

The first run of nail ties is 12 inches and the second run 60 inches from the



FIRST STORY.

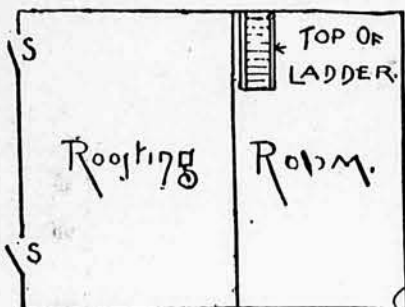
D, doors. W, windows. N, nest boxes. L, ladder leading to roosts. E, entrance for fowls under window. The partition is wire netting.

bottom of post. This space of 46 inches between nail ties just suits the old 8x10, six-light sash which I used, putting two sash to the window. Spike 2x11 girders 12 inches from top of 2x4 plates. These girders are the rests on which the perches are laid, not nailed.

The perches are only round poles, flattened at the ends so they will lie solidly and can be taken out and replaced in a minute. The floor under these perches inclines 40 inches to the 12 feet (less incline would be as good). Lay the joists for this floor on the second run of nail ties, on the side of house which has no windows. Spike the other ends to the posts on the other side and 20 inches from the top. Floor with hard pine shiplap flooring, and begin to lay at the lower side. The door marked in the second-story plan is only large enough to allow shoveling the droppings into a cart or barrow on the outside. The window is a single sash set on top of girt so as to slide back, for ventilation. It gives all the light needed upstairs.

Side the front first. Nail on three boards full length; then three more half length; one full length; three half length; two full length; three half length; then three full length finishes the front. This leaves window space just right for the sash I used, and they can be set without frames. Set the lower sash of the corner and end window to slide back.

It is a serious mistake to set windows



SECOND STORY.—S, door for ventilation.

in a poultry house more than 12 to 18 inches above the floor. Mine are about 18 inches, and this allows the early morning and late evening sunshine to flood the floor so that the fowls can get the benefit of it.

My laying rooms have 27 nests, and there is room for that many more, if needed. They are made out of boot boxes, and so arranged as to leave all the floor space for a scratching place for the fowls. There are rearing pens attached also, which we like very much. —Cor. Ohio Farmer.

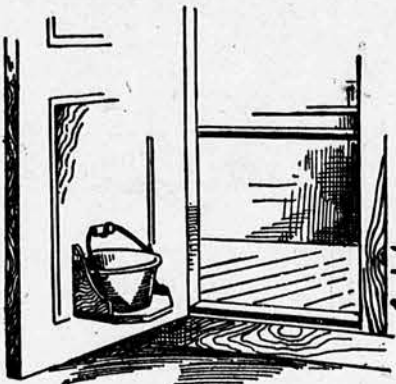
Great Britain imports 25 per cent. of the beef and mutton consumed by her people.

Every man should read the advertisement of Thos. Slater on page 15 of this paper.

### WATERING POULTRY.

A Device Which Is Just as Useful in Winter as in Summer.

The watering of hens in winter is often attended with unsatisfactory results. With an ordinary water vessel the hens are likely to spill the water by stepping upon the edge of the dish. The water then freezes if it be the winter season and causes a very unpleasant state of affairs. The cut shows a plan



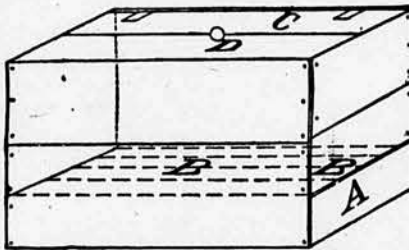
that not only secures the water from any such mishap, but puts it in a place most convenient for the attendant, as he does not need to enter the poultry quarters at all to supply water, or to remove the pail. The hook is placed just high enough to hold the pail firmly on the bracket. —N. Y. Tribune.

### FUMIGATING BOX.

An Excellent and Simple Device for Ridding Hens of Lice.

In making a fumigating box for ridding hens of lice I did not take the pains to provide it with all the conveniences at times described.

Mine was a temporary affair, made out of a cracker box, but it answered the purpose perfectly, and such a fumigating box anyone can fix up in half an hour. Take any fairly tight box of suitable size, say about 24 inches high, and remove a portion of end



board (one end only) as shown at A in the cut. Put in a slat platform about eight inches above the bottom, as shown at B B. Next remove part of the top, and hinge (leather straps tacked on will answer) as shown at C. At D trim out a hole of suitable size to fit snugly around the hen's neck. Stand the hen in on the slat platform, and shut the lid down tight, leaving her head protruding. Now take a pan with a shovelful of live coals in it, sprinkle on the latter a tablespoonful of sulphur, slip it under at A, and let the hen remain (if not hot, it need not be directly under her feet) until the sulphur has burned away, and the work is done. If the hen is well fumigated in the evening, the sulphurous acid will not only kill the lice on her own body, but the feathers will be so saturated as to also drive them from the little chicks, as she covers them. Try it. —G. W. Waters, in Journal of Agriculture.

As a rule the turkey hens prefer to steal their nests out, and if the eggs are secured it is necessary to watch them.

More meat and better meat in a shorter space of time can be produced from poultry than in any other way. —St. Louis Republic.

## FAILING MANHOOD

General and Nervous Debility.



Weakness of Body and Mind, Effects of Errors or Excesses in Old or Young. Robust, Noble Manhood fully Restored. How to Enlarge and Strengthen Weak, Underdeveloped Portions of Body. Absolutely unfailing Home Treatment. —Benefits in a day. Men testify from 50 States and Foreign Countries. Send for Descriptive Book, explanation and proofs, mailed (sealed) free.

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ARMSTRONG & McKELVY Pittsburgh.  
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JEWETT New York.  
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SOUTHERN Chicago.  
SHIPMAN Chicago.  
COLLIER St. Louis.  
MISSOURI St. Louis.  
RED SEAL St. Louis.  
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JOHN T. LEWIS & BROS. CO. Philadelphia.  
MORLEY Cleveland.  
SALEM Salem, Mass.  
CORNELL Buffalo.  
KENTUCKY Louisville.

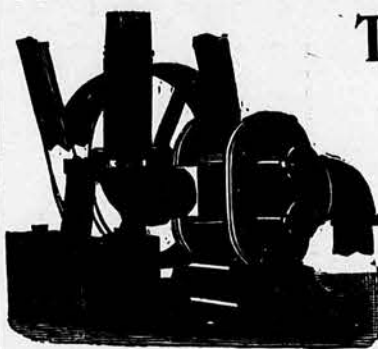
IF YOU DON'T KNOW, ask the practical, responsible painter — ask anyone whose business it is to know — and he will tell you to use Pure White Lead and Pure Linseed Oil. They make the best and most durable paint. To be sure of getting

## Pure White Lead

examine the brand (see list genuine brands). For colors use the NATIONAL LEAD CO.'S Pure White Lead Tinting Colors. No trouble to make or match a shade.

Pamphlet giving valuable information and card showing samples of colors free; also cards showing pictures of twelve houses of different designs painted in various styles or combinations of shades forwarded upon application to those intending to paint.

NATIONAL LEAD CO.,  
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THE MOST COMPLETE AND SUCCESSFUL ROTARY PUMP MANUFACTURED.

SUITABLE FOR IRRIGATION AND MINING PURPOSES. This pump has stood the most severe tests and the comments in its praise are most gratifying. Manufactured by NATIONAL PUMP CO., 306 West Eighth St. © KANSAS CITY, MO.

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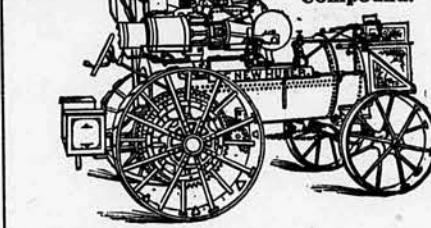
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KILLS HEN LICE

By simply painting roosts and dropping-boards. Kills Mites and Lice, cures Colds and Cholera, also kills Hog Cholera germs. If your grocer or druggist does not keep it, have them send for it.

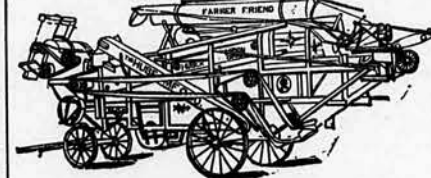
THOS. W. SOUTHARD,  
General Agent, 1411 Main St., Kansas City, Mo.

## NEW HUBER Compound.



Simple and Compound Engine, winner of each of the World's Fair contests.

TESTS: 1. Economy of Fuel. 2. Speed with Light Load. 3. Speed with Heavy Load. 4. Trial Run Through Deep Sand.



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Huber's Farmers' Friend Wind Stackers, Huber Swinging Stacker, Huber Self-Feeders, Perfection or Telescope Grain Weighers and Wagon Loaders.

Write for catalogue and price list to

FERGUSON IMPLEMENT CO.,  
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bulb, roots and plants taken up together, preventing stunting or injury. Vegetables, flowers, strawberries, tobacco, small nursery trees, etc., can be moved at all seasons. Invaluable for filling vacancies. Transplanter with blade 2 inches in diameter, \$1.25; same with 3-inch blade, \$1.50. SPECIAL PRICE with KANSAS FARMER: By a special arrangement with the manufacturers we are able to offer the Transplanter and KANSAS FARMER one year for price of Transplanter alone. Send \$1.25 and we will mail KANSAS FARMER to you and send you the Transplanter by express. Or call at FARMER office and get the Transplanter and save 25c. express charges. Address KANSAS FARMER CO., Topeka, Kas.

## Stack Covers Cheap!

Also Awnings, Tents and everything made of cotton duck. Every farmer should have a stack cover. Address best house in the country for these goods. O. J. Baker, 104 W. Third St., Kansas City, Mo.

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These are not cullings, but valuable original selections which have reverted to the company. No better lands can be found for general farming and grazing purposes or investment.

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A combination of crop-growing and stock-raising is the most profitable method of successful farming, for which these lands afford unsurpassed advantages.

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

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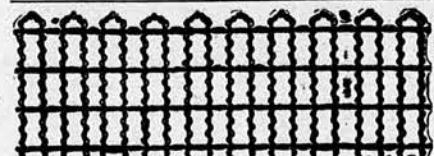
For information concerning rates, time of trains and the first-class through service please apply to W. F. BRUNNER, Assistant General Passenger Agent, St. Louis, Mo.



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For All Kinds of Grinding.  
A boy can operate and keep in  
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sample meal FREE.  
All kinds mill machinery. Flour  
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Steel Posts, Steel Rails and Steel Gates; Steel Tree,  
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Fence, 24 to 36 in. high; Poultry, Garden and Rabbit  
Fence; Steel Wire Fence Board, etc. Catalogue free.  
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THAT YOU CAN RELY UPON  
for all the purposes  
for which wind  
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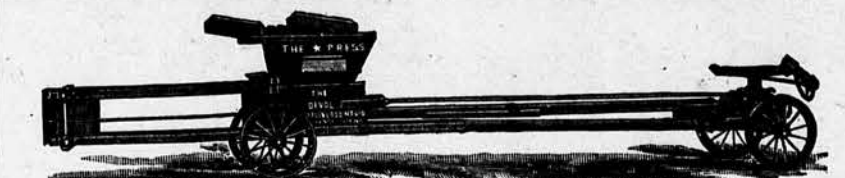
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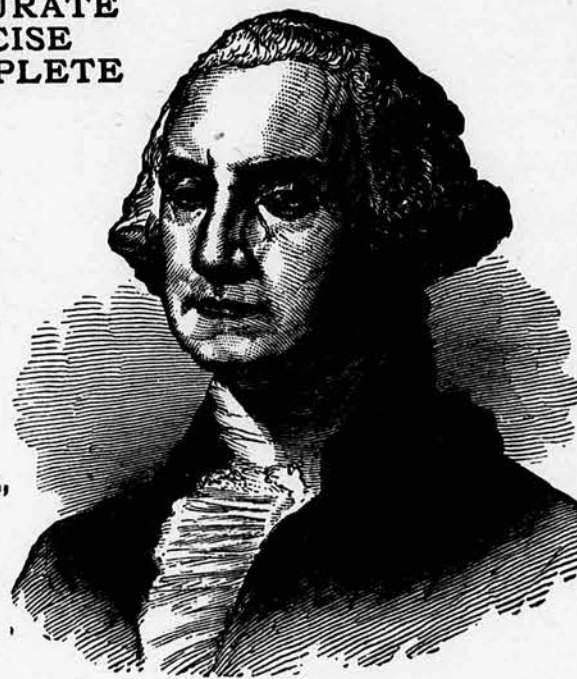
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