

KANSAS FARMER

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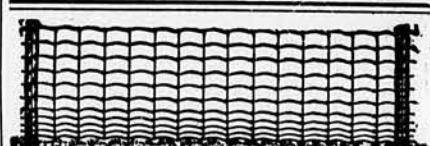
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Agricultural Matters.

DESTROY THE GRASSHOPPERS.

From Bulletin No. 43, Minnesota Experiment Station.

It was found [in June, 1895,] that in a space of from thirty-six to forty square miles the ground was more or less badly infested with grasshoppers; in some places the ground was perfectly black with these insects, while in others near by but few could be detected. This showed that the young locusts were still in the vicinity of the places in which they were born. The damage done at this time was but slight, as, apparently, only pasture land had as yet suffered, but as the young hoppers were moving towards timothy and grain fields, no time was to be lost in applying remedies. After consultation, it was concluded to utilize "hopper-dozers" and kerosene oil, as no other remedies could well be applied at this late period. Consequently 230 "hopper-dozers" were made and operated near Taylor's Falls, Rush City, and Duluth, which required in all ninety-five barrels of kerosene oil. Besides this, smaller amounts of kerosene oil were bought in the beginning of the work wherever it could be obtained, in all about ten barrels; in some few cases the farmers also furnished some oil, although this was exceptional, as but little oil is found in the possession of farmers during the summer.

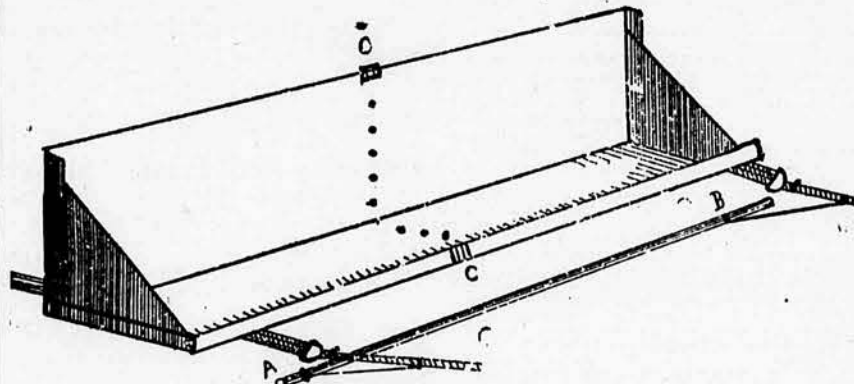
The hopper-dozer used at Taylor's Falls, Rush City, Duluth and elsewhere, were made as follows: A sheet of ordinary sheet-iron, such as is used for making stovepipes, was turned up one and one-half inches around the edges and riveted at the corners. This made a shallow pan about eight feet long, two feet broad and one and one-half inches deep. To the bottom of this were riveted the six small strips which could be fastened to the three runners on which the pan rested. To the rear side of the pan was screwed a light wooden frame, as long as the pan and one and one-half feet high. Over this frame a piece of canvas was stretched. This frame served the important office of throwing back all those grasshoppers that otherwise would jump clean over the pan, and throw them into the oil.

The runners on which the pan stood were usually made from saplings or small pieces of board having an upward curve in front to prevent them from catching in the ground. The front ends of the runners were all fastened by screws to a cross-piece, which was, in turn, drawn by two ropes, one at each end. These ropes were joined in front and fastened to a single-tree. Sometimes two hopper-dozers were fastened to a long pole by means of short ropes; this was very easily drawn by one horse. Just in front of the pan was fastened a piece of rope which swept the ground a few inches in advance, and served to stir up the hoppers and make them jump into the pans. In the pan was laid a piece of cloth which was first thoroughly saturated with water. About a pint of kerosene was then thrown in and the upright sheet or sail of canvas moistened with oil. The machine was then drawn over the pasture or wherever the hoppers were thickest. In a short time it was usually seen to be partially filled with dead and dying insects.

The slightest touch of kerosene, either from the pan or from the canvas sheet, means death to the hopper, for the oil spreads over its body in the same way that a single drop will spread over a large surface of water. It seems to produce a paralysis, which is first shown by the stiffening of the legs. A very large proportion of the hoppers that came in contact with the oil in the pan immediately jumped out again, but they invariably died in the course of a few seconds or minutes. A narrow strip was cut around the margin of the field and the hopper-dozer drawn around in this strip, with great success. Figure 32 shows a hopper-dozer more in detail, so as to enable anybody, even with but little ingenuity, to make them. The nature of the ground in the infested region did not,

in many places, admit of using more than one hopper-dozer at a time.

The farmers in the infested region watched with great interest the operations with the few hopper-dozers first made and used upon the farm of Mr. Stannard. Many farmers from far and near were present, and when they saw the possibilities of these simple machines they were not slow to realize that by faithful work they could largely protect their very promising crops. Generally speaking the farmers showed a very commendable spirit to fight their enemy, and they went to work with a will. Yet, notwithstanding all this, the grasshoppers would have done a vast amount of damage if the climatic conditions had not been very favorable to the farmer. At the time when grasshoppers are most voracious, and when they usually move about in large armies from field to field, a great number of light rains fell at frequent intervals, assisting the plants most wonderfully in their growth, while greatly dampening the ardor of such warmth-loving insects as the grasshoppers, which, as mentioned before, are also not fond of moisture. These rains helped the growth of the plants and retarded that of the grasshoppers. Later, when these very seasonable rains ceased to fall, the plants of rye, oats and wheat stood so close and were so rank that the ground was most thoroughly shaded, and being shaded retained the moisture for a long time. This condition of the grain fields was not at all to the liking of the grasshoppers. They wandered about the edges of such fields, but did not enter, except in cases where the ground was very poor or the stand of grain irregular; here they caused some dam-



A HOPPER-DOZER. (After Riley.)

age, chiefly to the oats. As a general rule, however, the grain escaped unhurt, and only pastures, meadows and some old timothy fields suffered greatly. This state of affairs assisted farmers greatly in fighting the enemy, as they did not need to use the machines in the grain fields themselves, but only along the borders.

Immense numbers of grasshoppers were killed before they caused much damage, and the State at large ought to be thankful to these farmers, since without their labors the locusts might have spread over the larger part of the State, instead of being confined to a small portion of it. How many grasshoppers are killed by a hopper-dozer is difficult to say, as nine out of ten that jump into it jump out again, only to die soon after in the field. But if only five or six bushels of the still small grasshoppers are scraped off the "dozer" during a day's labor, this would mean fifty or sixty bushels killed by a single machine. This is by no means an exaggerated estimate, but if only 10 per cent. of this amount were killed it would well pay for the work. Kerosene oil has this additional advantage, that it leaves a strong odor behind, which is very apt to spoil the appetite of the grasshoppers which escape destruction, and which will drive them away to less highly-scented pastures. As this oil kills plants as well, proper care in handling the hopper-dozer should be observed, otherwise much injury can be caused by careless work.

Hopper-dozer, though very good machines upon level ground, free from trees and stumps, cannot be used in all places. Some farmers living upon a newly-opened farm, upon which many stumps were standing, managed their machines in a very peculiar and ingen-

ious manner. Instead of moving the hopper-dozer they drove the hoppers themselves into the pan, which in this case was used in the same way as a corral is used to capture cattle or horses. Though much slower, these intelligent farmers still succeeded in killing the greater number of their enemies and saved their crops.

In places where the hopper-dozer cannot be used on account of the rough, unequal or too sloping condition of the ground, and where cattle and chickens can be kept away, there is no better way of destroying large numbers of the locusts than by the use of poisoned baits made of bran mash. This is made by thoroughly mixing Paris green or London purple with dry rye or wheat bran, about one and one-half to two pounds of the poison to twenty-five pounds of bran is a good proportion; to this is added enough water to form a mash thick enough to be formed into balls without falling apart when laid upon the ground. Frequently cheap molasses is added to keep the mash from becoming too dry.

But, after all, no matter how useful hopper-dozer may be against grasshoppers and other insects, they are only a makeshift to be employed when other remedies cannot be employed. In many places they cannot be used at all; for instance, not upon the hillsides of Duluth, upon which immense numbers of grasshoppers have found a home. Here other machines might be used, which capture the grasshoppers in bags, and in which the insects are ground up by rollers. Poison could also be applied where cattle and chickens can be kept away. The true remedy consists in plowing, as has been described before, and wherever grass-

Sick Headache Permanently Cured

"I was troubled, a long time, with sick headache. It was usually accompanied with severe pains in the temples and sickness at the stomach. I tried a good many remedies recommended for this complaint; but it was not until I began taking



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Pills that I received anything like permanent benefit. A single box of these pills did the work for me, and I am now a well man."

C. H. HUTCHINGS, East Auburn, Me.
For the rapid cure of Constipation, Dyspepsia, Biliousness, Nausea, and all disorders of Stomach, Liver, and Bowels, take

AYER'S Cathartic Pills

Medal and Diploma at World's Fair.

Ask your druggist for Ayer's Sarsaparilla.

in it the progressive farmers of Kansas want to know it.

WM. KURTENBACH.
Delavan, Morris Co., Kas.

O. E. Sadler, El Dorado, is Fish Commissioner for Kansas.

If others have had experience with the kerosene treatment for corn, let them write it to the FARMER. The editor remembers an experience which occurred some years ago in Iowa. Squirrels were troublesome in a field of corn and father procured some gas tar, in which seed for replanting was immersed until thoroughly coated with the black stuff. This was planted, and after waiting for some time it seemed unlikely to sprout, but the squirrels did not eat it. Not liking to lose the use of the land, it was again replanted, this time with sorghum. A good rain followed and corn and sorghum both came up, to the great dismay of the boys, who had to get rid of the sorghum. Gas (or coal) tar seemed a perfect protection against squirrels, and its only ill effect on the seed was in hindering germination until the moisture could penetrate the thin coating.

Preventing Chinch Bug Ravages.

(From Purdue University Agricultural Experiment Station Newspaper Bulletin.)

It is becoming very evident that, should the present dry weather continue for some time, the chinch bug will again prove very troublesome. Indeed it has already made its appearance in many localities, as is evidenced by the many letters received from farmers in different sections of the State. Many of those farmers have evidently gotten a wrong impression concerning this bug and the fungus disease, which has been propagated with more or less success in certain sections of the country. One man writes as follows: "Please send us by express at once, some of the virus for the chinch bug, with instructions for using it." In the first place, the experiment station has no "virus" to send out, and moreover, if it had, the probabilities are very much against the farmer being able to produce any satisfactory results therefrom. The fungus treatment has been thoroughly tested by a number of scientists, and with one or two exceptions, notably, Chancellor Snow, of the University of Kansas, the results have proven very unsatisfactory. During the season of 1895, when this pest was so destructive to grain crops, we endeavored to secure a supply of the diseased bugs for the purpose of distribution, but did not succeed, owing to adverse climatic conditions, as the fungus will not become effective except in wet weather.

There is no practical remedy which

The Fish Commissioner--Kerosene on Seed Corn.

EDITOR KANSAS FARMER:—I would like to have the name and address of the Fish Commissioner for the State of Kansas, as I understand one may get a start of German carp by applying to him, unless this is out of the season.

Having noticed with interest some articles published in your paper relative to soaking seed corn in kerosene, I will give a bit of my experience in that line.

On April 16, of this year, I planted the first of seventeen acres of corn. After having twelve acres planted with sound untreated seed, I concluded to soak the corn necessary to plant the remaining five acres, having read Mr. Norton's statement that corn soaked in kerosene for thirty hours and drained two hours was said to not only keep squirrels and cut-worms aloof, but chinch bugs as well. I soaked the corn according to suggestion and planted, soil being in excellent tilth. Result, no stand at all on the five acres, even after weeks had elapsed, while the first twelve acres came up all right. So my faith in that scheme has been badly shaken. But perhaps thirty hours is too much soaking. Would like to hear further comments on this subject, because if there is anything

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may be used at present while the insect is confined to fields of small grain, as it is scattered all over the field. The only thing for the farmer to do now is to watch its movements, and as soon as there are indications of its migrating to new fields, he should take steps to prevent it. At this season it uses its wings but very little, consequently its movements from place to place are quite slow, and the most effective method yet discovered of preventing its spread to adjoining fields, is what is known as the trap or barrier method. This consists of thoroughly and deeply pulverizing a strip of ground eight or ten feet wide around the infested field. This strip must be worked until reduced to fine dust. Then plow a double furrow through the center of this strip around the field, taking care that the side of the furrow opposite the infested field is made quite steep. Then draw a log back and forth along this furrow until the whole surface is a fine dust. This is very important, as the bug is unable to climb even a moderately steep bank, if the particles are kept fine. Care must also be taken that no rubbish of any kind is left to form a bridge over which the bugs may crawl. In order to make this trap more complete, holes should be dug about a foot deep at frequent intervals, into which the bugs will fall, when they may be destroyed by pouring over them a little coal oil. Coal tar placed along the top of the ridge of dirt beyond the furrow, will aid greatly in keeping back and trapping them. This is not an easy remedy, but it will prove very effectual if carefully and thoroughly followed up.

NINETY PER CENT. of all the people need to take a course of Hood's Sarsaparilla at this season to prevent that run-down condition of the system which invites disease.

Hood's PILLS are purely vegetable and do not purge, pain or gripe. All druggists 25c.

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

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 to 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

Reduced Rates to Pittsburg.

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

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

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

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

Important to Breeders.

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

The Stock Interest.

THOROUGH-BRED 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.

POISONOUS STOCK FOOD.

Quite frequently reports are made of stock being poisoned, and in many cases the owner is firmly of the opinion that poison has been administered by some miscreant for purposes of revenge. While it is possible that such cases do occasionally occur, the majority of cases must be attributed to some other cause; and in all cases that have come under my observation, all the evidence pointed to accidental poisoning by the animals eating poisonous food. Of the poisons that are likely to be used by malicious persons in stock poisoning, strychnine, corrosive sublimate and arsenic are apt to be chosen. In case of strychnine poisoning, animals and persons are taken with spasms which gradually increase in severity until the victim suffocates by the continuous contraction of the muscles of respiration. Arsenic and corrosive sublimate are both irritating poisons, and cause inflammation of the tissues, such as the mouth, gullet or stomach, with which the poison comes in contact. All of the above poisons are not agreeable to the taste, and would have to be disguised in some kind of food. Unless there is convincing evidence of malicious poisoning, other sources of getting the poison accidentally must be looked to as the cause of death.

Animals have been poisoned by eating corn fodder which was grown on very rich soil and contained large quantities of saltpetre (potassium nitrate), which came from the soil, as detailed in Bulletin 49 of this experiment station.

Recently I have been called to investigate two outbreaks of cattle poisoning, one occurring near Topeka, where five head were found dead within fifteen hours, and the other near Silver Lake, where four yearlings died, one during one night and three during the next night. There were no signs of struggling in either outbreak. The animals were in an easy, natural position, apparently having just "laid down and died." No evidence of pain or disease; nothing but death. Near Topeka several were observed sick. There were no marked signs of sickness. They lay down, and if driven up moved reluctantly, there being evidently great depression of the nervous system. There seemed to be a well-marked "tired feeling," and those that were dead were literally "tired to death."

In both of these outbreaks the animals were in good condition, and all the surroundings were such as they had been kept under all winter. Both of these outbreaks occurred about the middle of April, when plants were starting nicely, and both occurred in stock that was running in fields and probably "picked" something in addition to their regular feed. It seemed, therefore, that the animals had been poisoned by some plant which they had gotten in the field or pasture.

At the Topeka outbreak the only plants that possessed, or that were reported to possess, poisonous properties were young cockle-burs (*Zanthemum Canadense*). These were coming up in great numbers and were about two inches high. I had heard reports of young cockle-burs poisoning hogs, but had never heard of their being injurious to cattle. It is very doubtful if young cockle-burs possess any poisonous properties.

At the Silver Lake outbreak, in addition to the young cockle-burs, wild parsnips (*Ciuta maculata*) were found, and there were evidences that the green tops had been eaten by the cattle. It seems probable from the general surroundings that wild parsnips would also be found in the field where the Topeka outbreak occurred.

Other plants reported to be poisonous to stock, but not found at either

place, are leaves of the buckeye (*Esculus arguta*), jimson weed (*Datura stramonium*), and "deadly nightshade."

Experiments are being made to determine how poisonous these plants may be, and whether they are more poisonous at one stage of growth than another. I should be very glad to hear from persons who have lost stock from poisoning, in order to get a full account of the symptoms.—Prof. N. S. Mayo, D. V. S., in *Industrialist*.

Kaffir Corn for Pigs.

The Kansas Experiment Station, to which we have all hitherto looked for the chief part of our exact experimental information in relation to Kaffir corn, furnishes, in a bulletin just received, the details of a second feeding trial with pigs, made last season. The first trial, reported in a previous bulletin, gave as a general result the conclusion that Kaffir corn was not equal to either corn or ground wheat as a fattening feed for pigs, averaging 153 pounds when the trial began. In the second experiment the pigs averaged only sixty-three pounds at the beginning of the experiment. Lot 1 was fed on Red Kaffir corn, ground into meal; lot 2 on a mixture of two-thirds Kaffir corn meal and one-third soy bean meal. Lot 3 was fed on corn meal, and lot 4 on a mixture of two-thirds corn meal and one-third soy bean meal. The feeding period was seventy-seven days, at the end of which time lot 1, on Kaffir corn meal alone, made a gain of .47 of a pound daily for each pig, consuming an average of 6.48 pounds of meal for each pound of gain. Lot 2, fed on Kaffir corn and soy bean mixture, gained 1.64 pounds per pig daily, and consumed 3.51 pounds of feed for each pound of gain. Lot 3, fed on corn meal alone, made .79 pound daily per pig and consumed 4.88 pounds of corn meal for each pound of gain, and lot 4, fed on the corn meal and soy bean mixture, gained 1.65 pounds daily and consumed 3.23 pounds of feed for each pound of gain. The general result shows that when fed singly to young pigs of the weight indicated, corn meal is worth one-third more than Kaffir corn meal; when mixed with a rich, nitrogenous feed like soy bean meal, the two mixtures are very nearly equal in feeding value. When these results are considered in connection with those formerly reached at the same station, they tend to show that as a single feed corn meal, as compared with Kaffir corn meal, has a greater efficiency the younger the pigs to which the meals are fed. The difference in favor of the corn meal decreases as the pigs increase in age, and if fed to matured hogs there is a probability that there would not be much difference between the two. The opinion is ventured that it will probably be found that the white varieties of Kaffir corn are more nutritious than the red.—*Live Stock Indicator*.

Grass in Pork-Producing.

The Utah Experiment Station Bulletin No. 40 treats of the value of grass and its relation to exercise in the production of pork. Results of experiments in hog feeding, extending over two years, are reported as follows:

- (a) With full grain rations.
- (b) With part grain rations.
- (c) Without grain.

The bulletin gives tabulated records of the experiments, with comments thereon, and illustrations showing the appearance of some of the animals after ninety-one days of four different systems of feeding. The most important conclusions reached are the following:

1. Pigs allowed to run at large over eighteen acres of good pasture and fed a full ration of grain made the most rapid growth and required the least grain for one pound of gain.

2. Pigs confined in movable pens in the pasture grew more slowly than those running loose and required an increase of 20 per cent. of grain to make one pound of growth.

3. Pigs at pasture, fed under three different conditions, gained 92.5 per cent. more and ate but 2 per cent. more than the pigs getting grass and otherwise similarly fed, but confined in pens. The grain required to produce one

Pure

Blood means sound health. With pure, rich, healthy blood, the stomach and digestive organs will be vigorous, and there will be no dyspepsia. Rheumatism and neuralgia will be unknown. Scrofula and salt rheum will disappear. Your nerves will be strong, your sleep sound, sweet and refreshing. Hood's Sarsaparilla makes pure blood. That is why it cures so many diseases. That is why thousands take it to cure disease, retain good health. Remember

Hood's Sarsaparilla

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

cure Liver Ills; easy to take, easy to operate. 25c.

pound of gain was increased 40 per cent. with those in pens over those at pasture.

4. Pigs fed but part rations of grain at pasture made satisfactory gains. Those at pasture getting the three-fourths grain rations gained more than those fed a full grain ration and grass, either in the yards or in the pens.

5. Pigs pastured without grain made about the same growth for three seasons in succession, this averaging .36 of a pound per day.

6. As nearly as can be judged, exercise alone increased the gain 22 per cent. and the amount eaten but 1.5 per cent., but decreased the amount required for one pound of gain 22 per cent.

7. Grass when cut and fed green to pigs, whether fed in pens or yards, or with full or part grain ration, or without grain, proved to be of little value.

8. Pigs confined in pens and fed on grass alone, mostly lucern, for ninety-one days, lost over a quarter of a pound per day.

9. The average of the pigs fed on grass gained a little more than those without the grass, but not enough to pay for the extra feed in the grass.

10. With the pigs confined in the hog-house pens the grass proved beneficial, while with those in the yard it proved detrimental, the latter requiring more grain to make a pound of pork with the grass than without it.

11. Pasturing either with full or with part grain rations appeared to be by far the cheapest and best way of making pork.

Note.—The grass is a mixture of eight varieties, in which lucern constitutes at least one-half.

Cockle-burs Poisonous to Stock.

EDITOR KANSAS FARMER:—I feel it to be a duty I owe my brother farmers to publish, by means of *KANSAS FARMER*, the fact that cockle-burs will and do kill many hogs. In the spring when cockle-burs first come up, while in two leaves, just out of the ground, hogs and pigs are very fond of them. At this stage of their growth they are a deadly poison to anything that eats them. One neighbor had sixteen nice shoats in a pen. They broke out and got to a patch of burs. Result, eight died. I lost many in different years. I now avoid loss by passing over hog lots and pastures and pulling burs to prevent their going to seed, or keep hogs off such lots as have burs till danger is past. That will be when burs are two or three inches high. Stock will not eat them then. One neighbor lost chickens from eating young burs.

J. J. JOHNSON.

Success, Kas.

It is a fortunate day for a man when he first discovers the value of Ayer's Sarsaparilla as a blood-purifier. With this medicine he knows he has found a remedy upon which he may rely, and that his life-long malady is at last conquered. Has cured others, will cure you.

Saengerfest Route to Pittsburg.

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

Irrigation.

PRACTICAL IRRIGATION.

At this season of the year the questions which confront the irrigation farmer are, when and how to apply the water. The following suggestions, taken from Wilcox's "Irrigation Farming" (a book which every irrigator should possess), are timely and valuable:

"Time to Irrigate.—Generally all ditches in the temperate zone should be ready to receive water by the 20th of May. The first water is turned upon the pasture, meadow or orchard, just as it may be required. One year in the twenty that we have farmed in Colorado we commenced on the 24th day of May to irrigate, to germinate the grain that had been sown. We irrigated three times that season. We commence generally from the 10th to the 25th of June to irrigate the small grain crop. The matter of leaving water turned on is regulated largely by the condition of the soil. While some land will soak full of water in from ten to twenty minutes, another kind of soil may require as long again to soak. We turn the water on and let it stay until the ground is thoroughly wet and soft as deep as it was plowed—eight to ten inches—then the water is let out of the ditch a little further on, and so on until the field is all irrigated.

"Every crop tells when it wants water. The grasses, clovers and small grains have a language that cannot be mistaken. Whenever their green color becomes very dark and sickly, turn on the water. When corn wants water it tells the fact by its leaves being curled up in the morning. All plants in a dry climate should be pushed in their early stages of growth by a judicious application of the proper amount of water and frequent cultivations, at no time letting them stand or go back from want of water and proper attention. Plants in general need much less water than is usually applied by almost every one. They do far better and suffer much less with two inches on the surface applied two or three times during their growth than they do with twelve inches on the surface applied five or six times in a season. It is a sad mistake to put on too much water.

"The determination of the proper time to irrigate and the amount of water to apply must lie for the most part with the farmer himself. The humidity or dryness of the atmosphere, as well as the position and condition of the soil, are to be well considered, and common sense is a better guide than is philosophy. If trees are allowed to get too dry the sap of the stalk commences flowing back to the roots, accompanied by falling of the leaves, and water is often turned on too late to save them. On the other hand, if too much water is applied it stimulates a too rapid growth, and the probability is that if not cut back and thoroughly hardened in the fall they will be found in the spring to be entirely dead, or standing simply an outside live shell with a black and dead heart. Any one can easily learn just about the degree of moisture in soil necessary for the healthy growth of a plant, and the nearer uniform the condition of the moisture the more vigorous and healthy will be the plant.

"The best time to irrigate is early in the morning, before the sun acquires very great power, or in the evening, when it is about to go below the horizon. A good time to water land is when a cloud comes up and a shower is expected. In nine cases out of ten the shower does not give all the water needed, so the work will not be uselessly expended. Irrigation should not be done in the open when the sun is shining hot, as there is great danger of scalding the plants. If we have a good head of water in the ditch we prefer to begin irrigating at 4 o'clock in the afternoon, and often keep up the work as late as midnight, especially on moonlight nights. At the Utah station the temperature of plats irrigated nights was slightly higher than those irrigated days. The yield of grain was slightly greater on the plat irri-

gated in the day time, due probably to the checking of the growth of the foliage. The total yield, or the yield of straw and grain, was some 15 per cent. greater on the plats irrigated at night, and the ratio of straw to wheat was therefore much greater on the plat irrigated at night. Straw to bushel of grain when irrigated nights, 120 pounds; when irrigated days, eighty-nine pounds.

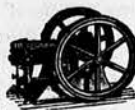
"The Flooding System.—As already mentioned, the land must be prepared and made as near even as possible by scraping down the knolls and filling up the low places so that the water will spread evenly. If it does not spread in this way the irrigator must follow it out with his shovel and conduct it to the neglected spots. The application of water to crops by the method of flooding is the quickest and cheapest, and hence is almost universally used for grass, meadows and grain crops. On those soils which bake and crack badly flooding is injurious unless the plants stand close enough together to shade the ground well. Water coming directly against the crown is unfavorable to the growth of many plants. It has often been noticed that millet, rye, oats and other crops will be larger and more thrifty a short distance from a ditch bank, where they receive all their moisture by seepage, than they will farther out in the field, where irrigated by flooding, though kept sufficiently moist. Most generally in the spreading of water over farms—particularly those that have not been properly graded as described—plow furrows are run diagonally across the fields. This system is the most practicable to use in flooding land. The furrows which distribute the water are run in such direction, required by the lay of the land, as will give them only a slight descent. A hoeful or a shovel-ful of earth thrown in the furrows at the entrance keeps them closed. When the land needs water the little gate or sliding board at the canals is raised as far as needed to let in the required amount of water. This is raised or lowered as may be necessary in the course of irrigating a field.

"The lateral being filled with water, the irrigator opens the upper end of the plow furrows by taking out a shovel-ful of earth. The little furrows then become filled. The water seeping through or running over the sides gently trickles along over the surface and soaks into the ground. Flowing thus from each side the waters soon unite between the furrows and thus the moisture becomes uniform and general. The farmer may remove all obstructions by clipping off a bit of dirt at intervals from the sides of the furrows, and flood his land till the water will everywhere cover the surface. In this way he can in an hour or two give an entire farm what would be equal to a heavy soaking rain. These floodings are often given about the heading-out time and the result is the production of heavier and more perfect grain. The water should be put on as rapidly as possible with no let-up—the quicker the better. It should not be allowed to stand in pools anywhere, because standing water stops all the pores in the soil, cutting off the air from the roots and, as it were, taking the life out of them for some time. Flooding requires more water than many other methods, but at the same time much less labor is needed, and it may be called the lazy man's system.

"Furrow or Rill System.—It is best to irrigate gardens and orchards by the furrow method. An even greater difference comparatively in the quantity of water used obtains in the furrow irrigation of fruit trees and vines than in the case of cereals. To such an extent does this prevail that not only do districts differ, but, of two neighbors who cultivate the same fruits in contiguous orchards, having exactly the same slope and soil, one will use twice or thrice as much water as the other. Judging as far as possible from conflicting testimonies, the cardinal principle appears to be just the same. As we have endeavored to show, it is desirable to have the lateral taken out of the main canal at a point higher than the grade of the ground to be irrigated. In garden and orchard

ONE CENT Per Hour is Cheap.

That is what "WEBER" GASOLINE ENGINES COST to run per H. P. Simple, Safe, Reliable, Economical. Get Posted. Weber Gas and Gasoline Engine Co., 459 Southwest Boulevard, Kansas City, Mo.



work the character of the furrow is governed largely by circumstances, and the kind of planting will largely govern one's actions in laying out furrows. From a general head furrow smaller ones are run at right or obtuse angles into the plantation. A grade of one inch to the rod is usually sufficient, and an orchard should be set with this end in view. In the West we prefer to have the trees set closest together in the north and south rows, so that one tree shades another from the 2 o'clock sun, which in winter especially is very damaging to young trees. Always set orchard or small fruit rows to conform to the proper irrigating grade, as this precaution will save much subsequent trouble.

"A new furrow in orchards or vineyards should be plowed every time an irrigation is to occur, for the closely following cultivation which is the most important part of this work will close over and obliterate the furrows. Make a furrow on each side of the trees and give an irrigation that is calculated to carry the water well down into the soil—lower than the roots, if possible, and for this reason the writer advises subsoiling before the planting is done. The first year after planting the rill may be run within a foot of the trees, but the water should never be allowed to touch the trunks. Some horticulturists set out small fruits in rows four or five feet apart longitudinally with the trees, while others put such plants as raspberries and blackberries in the tree rows themselves. The advantage of the latter plan is that it affords more shade to the cane fruits, but at the same time they are more apt to receive less water than they need, as cane fruits require more water than is given to trees. By planting in the open between the tree rows cane fruits may be irrigated more frequently, and this can be done independently of the trees themselves.

"As trees grow older year by year their furrows should be carried farther away from the trunks, a good rule being to keep them in a vertical line with the outer tips of the branches. With full-grown trees the irrigating should be done with several parallel intermediary rills.

"This system is much in use in the citrus groves of southern California. When the orchard is steep then plant, not in straight rows, but lay out ditches with a fall of one-quarter of an inch to every rod, and plant the trees along the ditches on the lower side. Prof. Blount, of New Mexico, lays out his orchard on a grade of one inch to 100 feet east and west, and on a level North and south. He admits water at the northwest corner of his quincunx plantation, and by double furrows his trees are irrigated on all sides, by which means his rootlets are uniformly watered.

"In all furrow operations it is best to allow the water to trickle gently through them until the land is well moistened at a spade's depth between the furrows. Before allowing to dry, hoe back the earth into the furrows and cultivate as soon as the land will admit. By irrigating in this way evaporation will be reduced, water will be economized, the earth will be moistened to a depth of at least two feet, and one irrigation of this kind will last as long as two or three by flooding."

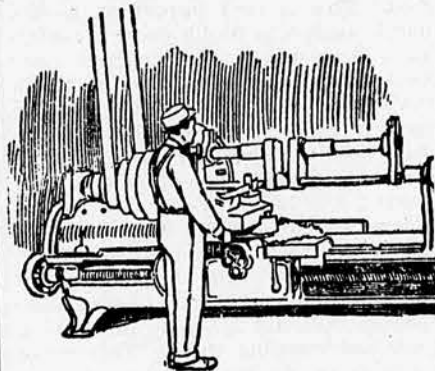
Gasoline Engines.

The most notable revolution in recent years in motive power has been the displacement of steam by gas and gasoline engines. The latter are so much simpler in construction and operation and are so much more economical that they have achieved a widespread popularity. One factory in Kansas City—the Weber Gas and Gasoline Engine Company—makes 300 engines a year, from three up to 130 indicated horse-power. Texas, California, Louisiana and Mexico are large buyers of gasoline engines. On Kansas farms they shell and grind corn, run threshers and pump water from murky creeks into irrigation ditches. A vast number of them are in use in Louisiana, where they are

used on rice plantations and as general farm engines.

The things that recommended gasoline engines are many, among them their great simplicity, economy of operation, no steam, no fires to build, no ashes, no smoke, no engineer, no water service, no time lost in starting and no coal. The dullest farmer's boy can care for a gasoline engine.

This is the way a gas engine is operated: The gasoline is kept in a tank just large enough to carry a supply for a day, according to the capacity of the engine. In starting up, on the first outstroke of the piston a mixture of air impregnated with sprayed gasoline is drawn into the cylinder, passing through valve chambers. On the in-stroke of the piston this mixture in the cylinder is compressed into the space between the cylinder and piston. The combustible mixture is then ignited and a

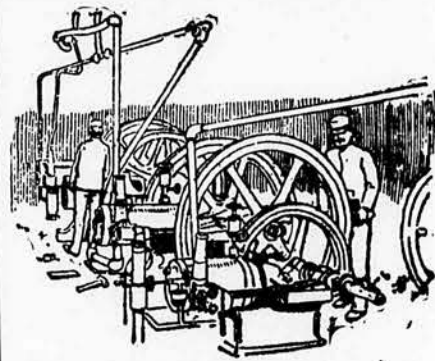


FINISHING A CRANK SHAFT.

slight explosion occurs. The air, being heated, expands and the piston is driven forward. The momentum of the fly-wheel throws the piston in and the same operation goes on indefinitely. The ignition takes place from the gasoline coming in contact with a short iron tube kept at a white heat in an iron chimney by a Bunsen burner, also fed with gasoline. The valve gear and governor are incased in an iron housing and run constantly in oil. The engine is kept from becoming overheated by a water-jacket around the cylinder, enclosing the valve chambers, insuring perfect lubrication.

The element of danger in handling gasoline is done away with from the fact that the gasoline is not vaporized. In a gasoline engine it is sprayed into a "mixer" in fluid form, where it suddenly commingles with a comparatively large body of air and goes into the cylinder to be immediately ignited. Standing close to a gasoline engine running to its full capacity the explosions are not heard. The principle of the power is this rapid succession of explosions. The cost of operating a gasoline engine is about 1 cent an indicated horse-power an hour, varying with the cost of gasoline in different places, and is the cheapest power known. This is on the principle that five and one-half gallons of 72° gasoline are equal to 1,000 feet of ordinary illuminating gas.

To show the width of the territory into which Weber gasoline engines go a look over the order book of this factory showed



TESTING THE ENGINES.

the following recent bookings: Texas and Louisiana, a number of times; Missouri, two ferryboats run by gasoline engines, besides newspaper plants, grain elevators and farms galore; California, Kansas, Harper's Ferry, Va., Pennsylvania, Mexico, Wisconsin, Washington and Oregon, Massachusetts, Nebraska, South Dakota, Ohio, Montana, New Mexico, Colorado, Iowa, Arizona.

This factory employs thirty machinists and founders constantly and works to its full capacity all the time. In the foundry are cast wheels which weigh as much as 5,000 pounds. The molds stand a week or more to air-dry and the castings are perfect. The heaviest casting is 6,500 pounds—the cylinder piece of the highest horse-power engine.

In this foundry the core oven and core-making form an important industry. Nearly every casting is made with cores, and the casting of a hole within a hole requires

the utmost skill in core-making and casting of the cylinder and its water-jacket. The cupola, or iron furnace, is outside the works and the foundry is complete.

In the machine shop a gasoline engine of twenty horse-power works away, unattended, driving a wilderness of heavy machines. There are big planers for smoothing off the heavy cylinders, immense drills and lathes and all the tools of the machinist's trade. Along one side of the shop is a row of unfinished engines being tested. They look very undressed, rough pieces of machinery without a dab of paint or streak of gold. When they have been tested by the foreman and found to be perfect they are finished.

The value of gasoline engines in connection with irrigation plants is evident when it is known that one of the engines in connection with a centrifugal pump raises 17,000 gallons of water fifteen feet at a cost of 1 cent. The makers claim for irrigation operated with a gasoline engine that it will do as much work in twenty-four hours as a steam plant twice its size in twelve hours, and pump all through the night without attention.

Gossip About Stock.

The annual meeting of the Iowa Swine Breeders' Association and National Expert Judges of Swine will be held at Des Moines, Iowa, June 9 and 10, 1896. Geo. S. Prine, Secretary, Oskaloosa, Iowa.

The Quality herd of Poland-China swine, owned by W. E. Gresham, Hutchinson, Kas., is reported in very fine shape and prospects for good trade never better. This herd contains a finely-bred lot of grand individuals that are sure to please buyers. erect, shoulders thrown back and torn hat dripping with the rain.

It was late in the afternoon of oration day, and Abraham Lin White had but recently returned town, where he had been one of most thoroughly interested spectators.

The gold medal offered by the American Southdown Breeders' Association has been awarded to Geo. McKerrrow, Sussex, Wis., who was closely followed by John Jackson & Sons, Abingdon, Ont., Can., and F. W. Barrett, Wadsworth, N. Y. W. E. Spicer, Harvard, Neb., made an excellent start in the competition, but was compelled to discontinue his exhibits before the fair season was over.

Attention of stock-raisers is directed to the new advertisement of the Howsley Spaying Co., of New Orleans and Kansas City. The Howsley spaying mixture is guaranteed for mares, cows, ewes. The company write us that they have increased the capacity of their bottles, which makes their method of spaying far cheaper than any other known. Look up their advertisement and write for particulars.

J. W. Rains, of the firm of Rains & Settles, of Clinton, Mo., shippers of hay, grain and live stock, was in Kansas City last week with some hay and cattle. He says there is a large amount of poor quality of clover mixed in his vicinity, but very little good hay. There is a fine prospect for timothy hay the coming season and he expects to do a good business in the new crop. Wheat is looking fine but there was a light acreage, owing to the farmers being disgusted with the low prices of the past year. There is from six to ten cars of cattle shipped from this point every week, part of which goes to St. Louis. There is about \$20 difference in freight in favor of Kansas City, and why St. Louis should ever get the amount of this business that it does is unexplainable, in view of the difference in freights.

J. A. Worley, proprietor of Pleasant View stock farm and breeder of Poland-China swine and Short-horn cattle, Sabetha, Kas., writes: "Our town (Sabetha) was visited by a fearful cyclone last Sunday evening, cutting a swath fully two blocks wide and destroying fully \$50,000 worth of property, besides injuring quite a number of people, some of them fatally. West of town farm property was badly wrecked and three persons killed. Northeast of Sabetha the storm was still more severe; passing through one of the finest parts of Brown county, it swept everything clean in its path, killing three people and injuring several more, besides killing lots of stock. We are having plenty of rain—in fact, too much. Have not been able to get in the fields for a week, and the ground is so wet that it won't be fit to do anything with for several days should it clear up now.... My pigs and Short-horns are doing fine. Rather muddy for the pigs but they have plenty of range, so they manage to keep on top. If nothing happens to them I will have a fine offering for my sale, September 25, next. Pasture is immense and prospects good for a big crop of everything."

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

The Apiary.

Conducted by A. H. Duff, Larned, Kas., to whom inquiries relating to this department should be addressed.

Locating the Hives.

Hives should be located in whatever particular place they are expected to occupy, in readiness to receive swarms when they come off. The apiarist has no time to hunt up hives and make these preparations when the bees are swarming. When thus fixing hives to receive swarms, they should not be placed on benches or set up any distance from the ground. Hives should be set on the ground, not in a low place, where water is liable to stand, but rather upon the highest places, or the ground may be thrown up, forming a high place where the hive is to sit. A bank of coal ashes, with a light sprinkling of sand or sawdust, makes a good stand, and the coal ashes will prevent ants from collecting about the hives. I prefer hives set hexagonal form, six or eight feet apart each way. Bees should not be kept under heavy shade, but a grape vine may be set at each hive and trained to a trellis and kept neatly trimmed, which forms the necessary shade, and besides gives a fine crop of fruit.

Granulated Honey.

Almost all extracted honey will granulate and become like sugar during cold weather. Heretofore this has been considered rather a detriment to the sale and use of extracted honey. But when brought more prominently before the public, and consumers have become better acquainted with it, it may be called now the leader. We have always taken the ground that honey after granulation is in the most perfect form in which it can be used. Granulation improves the appearance of any quality of honey and never fails to give it a lighter shade. It also has a tendency to drive from it any wild taste and make it a purer sweet. In this condition it is in the best possible shape for keeping any length of time. By being free of wax, and is taken from the comb just as the bees placed it there, without any melting of combs or mixing of any kind, by the latest improved machinery, it is without doubt the purest of all sweets. It is easily returned to its original form by simply melting it; and if sealed up air-tight after being thus melted it will retain its liquid form for a long time.

Swarms Returning to the Hives.

The question is often asked, why swarms often issue and return again to the hive. This occurs frequently, and is repeated several times in some cases, and finally the swarm will remain in the parent hive, or at least for a time. In most cases the second attempt of the swarm's issuing is successful. This is usually on account of the queen not being able to take wing. Queens usually cease laying some time before swarming to prepare themselves for taking wing. A queen in her full capacity of egg-laying, on account of her weight, could not possibly take wing and fly; swarms often issue when queens are in this condition, and, as a result, the swarm returns to the hive.

Queens often cannot fly on account of bad wings, and in this case the swarm will be a failure, and it may issue repeatedly, until finally the queen, in either case, becomes lost. In most cases this trouble can be remedied by keeping a sharp look-out for the queen when the swarm is coming out of the hive, as she will always issue with the swarm, and will be found crawling over the ground in the vicinity of the hive.

To secure these swarms requires different management from the hiving of swarms the usual way, as these swarms do not usually cluster, but in some instances they do. If the swarm clusters and you have secured the queen, just liberate her in the cluster of bees, and you have them all right. If the swarm does not cluster, and you have secured the queen, remove the hive from the old stand—a rod or two away—and place the new hive, all ready to receive the new swarm, on the old stand, and when the swarm re-

turns they will go straight into the new hive. This requires quick work, but there is usually plenty of time to do the work if everything is in readiness. Of course the queen must be liberated with the swarm, and she should be placed directly in at the entrance.

Swarming Box.

Every bee-keeper or any one having a few hives of bees, should have a swarming-box. A swarming-box answers two purposes; it is not only convenient in hiving a swarm of bees, but it saves cutting and mutilating fruit trees and other shrubbery about the orchard and lawn, where bees are liable to cluster. A convenient box for this purpose may be made of some light stuff, eight or ten inches square and fifteen inches long, with one end closed, and the other left open; a hole put through the center of the same to receive a handle, some ten or twelve feet long. A number of holes about one inch in diameter should be made in the box for ventilation. When the swarm is clustering, the swarming-box may be pushed up among the bees, when they will readily go into it; the bees can be thus carried to the hive and easily dislodged from the swarming-box by shaking, or brushing them off with a stiff feather. A small portion of the swarm should be thus brushed off at first, showing them the way into the hive, and when thoroughly started, the remainder may be shaken down at the entrance of the hive.

Bee-Hives and Fixtures.

During the winter is the proper time to prepare everything in the line of bee-hives, sections, honey crates, etc. Everything should be ready so that the apiarist can lay his hand on any article needed at a moment's notice. There is no time during the spring months, if the apiarist is single-handed, for the manufacture of apiarian implements needed for immediate use. If this is neglected many things will have to go undone when but one opportunity presents itself for the work. Work in the apiary cannot be put off from day to day, but must be done in the nick of time, when the opportunity presents itself. Bee-keepers are styled by many as lazy persons, but if any one enters the pursuit of bee-keeping to make money without hard work, he will most certainly be disappointed.

The latest bee-hives and fixtures are very simple and easily made, but it requires a small outlay in the way of machinery to do it properly. It requires very accurate cutting, and only with buzz saw and gauges can we get them together so that manipulation is a success. Hives and fixtures of all kinds are now furnished so low by all supply dealers, that we can buy them cheaper than we can make them.

Better than

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

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

THE STRAY LIST.

FOR WEEK ENDING MAY 14, 1896.

Cherokee county—T. W. Thomason, clerk.

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

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

FOR WEEK ENDING MAY 21, 1896.

Franklin county—J. K. Bailey, clerk.

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

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

Chase county—M. C. Newton, clerk.

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

FOR WEEK ENDING MAY 28, 1896.

Cherokee county—T. W. Thomason, clerk.

MARE—Taken up by J. L. Church, in Pleasant View tp., April 27, 1896, one dark bay mare, fifteen hands high, white strip in face, collar marks, 5 years old; valued at \$25.

HORSE—By same, one light bay horse, fifteen hands high, white strip in face, four white feet, shod in front, 14 years old; valued at \$10.

HORSE—By same, one dark bay horse, fifteen hands high, white strip in face, three white feet, shod in front; valued at \$15.

MARE—Taken up by R. F. Hartley (P. O. Baxter Springs), April 25, 1896, one gray mare, fourteen hands high, shod all round; valued at \$15.

MARE—By same, one sorrel mare, white strip in forehead, two white feet; valued at \$15.

Johnson county—J. W. Thomas, clerk.

MARE—Taken up by W. C. Montgomery, in Oxford tp., (P. O. Morse), April 15, 1896, one bay mare, sixteen hands high, 6 years old, star in forehead; valued at \$20.

MARE—By same, one sorrel mare, 6 years old, fifteen and a half hands high, white hind feet, blaze in face; valued at \$20.

MULE—Taken up by W. J. Wedd, in Shawnee tp., (P. O. Lenexa), April 30, 1896, one dark bay horse mule, 9 or 10 years old, collar mark on each shoulder; valued at \$20.

Make Cheese at Home

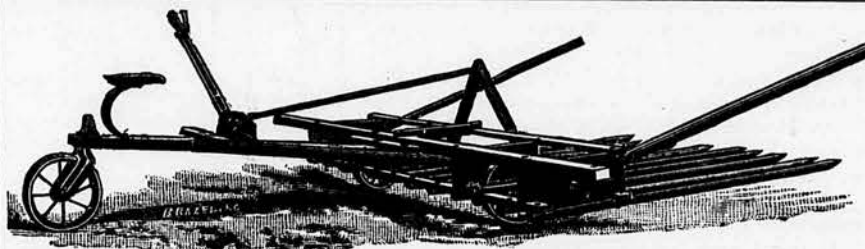
with such simple apparatus as every farmer now has. Send one dollar to C. E. KITTINGER, Powell, S. Dak., who will mail to you ten rennets, with such plain printed instruction as will enable you to make a perfect cheese the first time. Money refunded to all who fail.

DEAD • EASY!

The Great Disinfectant Insecticide KILLS HEN LICE

By simply painting roosts and dropping-boards. Kills Mites and Lice, cures Colds and Cholera, also kills Hog Cholera germs. Half gallon, 45c.; gallon, 75c.; two gallons, \$1.25; five gallons, \$3.

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

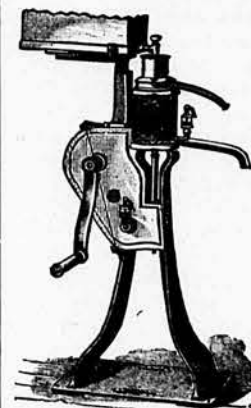


CHAMPION HAY RAKES AND STACKERS ARE BEST.

Write for Circulars. KANSAS CITY HAY PRESS CO., Kansas City, Mo.

Wonderful Efficiency

Recognized by the Experiment Stations.



Our Dairyman has made a number of very careful tests with the No. 6 Improved United States Separator, and says that he does not find enough fat with the Babcock test, after running the milk through, to enable him to read it. The separation is almost absolutely perfect: a mere trace is all that can be detected.

Wooster, O.,

April 6, 1896.

J. FREMONT HICKMAN, Agt'ist,

OHIO AG' EXPERIMENT STATION.

Would you know more of this Separator? Write for catalogue and prices.

WE WANT AGENTS in all unoccupied territory.

VERMONT FARM MACHINE CO., Bellows Falls, Vt

The Home Circle.

DECORATION DAY.

BY EVA BEST.

Hark, how the bells of a nation ring!
Hark, how the tongues of a nation sing!
Songs of no triumph, with joyous tilt,
But saddest and tenderest songs they
know
Of brave, young heroes, whose blood
was split
On terrible battle-fields long ago—
Bells, toll ye softly,
Tongues, chant ye low
Of brave, young heroes of long ago!

Backward the thoughts of a nation turn,
Brightly the fires of memory burn
On love's own altar; while long, long
years
Drop swiftly away, and we, in the glow
Of fond recollection, see sadly through
tears



The shadowy faces of long ago!
Dimly before us
March to and fro
The forms of the heroes of long ago!

Mother and father whose brave son died,
Brother and sister and widowed bride,
Comrade and friend of the blue and
gray—

Soldiers who fell as they faced the foe—
Gather together to weep and pray
For heroes they lost in the long ago!
Under the mounds
So green and low
Lie heroes they lost in the long ago!

Flowers of springtime, so rich and rare,
Showers of blossoms, so bright and fair,
Roses of yellow, and pink, and red,
Lilies as white as the winter's snow
Drift odorless petals above our dead—
Our brave young heroes of long ago!
Brightest and sweetest
Flowers that grow
Cover our heroes of long ago!

After the wearisome toil of life,
After the battle and worldly strife,
Past the dark tide, on whose golden
sands

The lights of the heavenly harbor glow,
We'll find them at last, and we'll clasp
the hands

Of brave, young heroes of long ago!
Transfigured mortals—
But we shall know
Our brave, young heroes of long ago!

A FEDERATION OF PEACE.

BY MRS. M. L. RAYNE.

"You won't forget, Arthur, what you
promised me for Decoration day?"

"A ride to Woodlawn with the chil-
dren? But, Margie, we have no soldier
grave to decorate."

"Yes, dear, we have. I have adopted
one."

"I don't understand, Margie."

"You remember that one lone grave
beyond the monument on the hill slope?
We noticed last year that it had been
overlooked, and I found out the reason.
No one knew that it was a soldier's
grave, because it was so apart from the
rest. I looked the matter up. The man
was a soldier of the same company to
which my father belonged—my father,
who fell fighting for his country when
I was in my cradle! So I have his grave
to decorate to-morrow."

"All right, little wife, you shall have
the best box of flowers to be had for
love or money."

"Give them for love, Arthur, love of
our dear country, and of those who
fought her battles and left us a legacy
of peace."

"What a good commanding general
you would have made, Margie, with
your patriotic spirit!"

"Oh, it's easy enough to be patriotic
in piping times of peace," answered his
wife, "but you and I are old enough
to have heard the echoes of shot and
shell. We imbibed patriotism with our

mother's milk, but with these children
it is different. They know only the
splendor and glory of war. They are
old enough now to be taught its reality,
so that they may not only learn to live
like soldiers, but to die like them."

The two children, a girl of 12 and
a boy of 14, listened with interest and
curiosity, for to them war was indeed
a splendid pageant, in which music,
flags and glittering uniforms made up
a grand tableau, and they looked for-
ward with great anticipation to Deco-
ration day, when they could witness
the ceremony of strewing flowers on
the graves of the honored dead.

Arthur Lyman felt rather small
when he left home after having heard
his wife's oration. It seemed to him
almost as if he were to blame for be-
ing only five years old at the time of
the war, and not shouldering arms and
going into the battle. But he had no
need to be ashamed of his vocation, for
he was a soldier in the bravest sense
of the word—a soldier of peace.

It is a common saying that a man is
often his own worst enemy.

Arthur knew what this meant. His
hasty, impetuous disposition was con-
tinually getting him into trouble, and
sometimes it took all his wits to get
out again. He had at last found help
by helping others. A white-haired
man had come to his office one day and
asked for desk room. He had no
money and was blind. The presump-
tion of the man in thus demanding as-
sistance surprised Arthur so much as
to render him for the moment speech-
less, and he looked at the intruder in
blank amazement. If a blind man can
hypnotize, then Arthur was hypno-
tized into giving the old man the space
he wanted. There the blind stranger
set up a little stock of pencils and sta-
tionery, and at the end of a month ten-
dered a small rental for his stand.

On this morning, when Arthur en-
tered his office, he saw that the little
stand was gone; and that his blind pro-
tege, upon whom he had come to rely
as a friend, was not present. It wor-
ried him so much that he sent a clerk
off to the old man's lodging, but he
was not there.

"Something has happened to him—he
has met with an accident," Arthur said,



THE OLD MAN ASKED FOR DESK ROOM.

anxiously, and he determined to look
up his whereabouts as soon as pos-
sible.

He had never mentioned the blind
man to his wife, for it struck him as a
Quixotic sort of venture at which she
might laugh. Besides, it was a business
deal in one way, and belonged to the
store, where Arthur left all business
details under lock and key. But this
evening he was so disturbed by the loss
of the old man that he related the in-
cident to Margie, and she suggested
that the hospitals be searched as soon
as Memorial day was over.

The little family went to Woodlawn
the next day, and formed in them-
selves an interesting part of the grand
federation of peace which was being
celebrated with flowers and flags, and
beating drums, in memory of the sil-
ent heroes who long have slumbered
beneath. To the lonely grave on the
hillside, which Margie had "adopted,"
as she quaintly expressed it, they took
their way, laden with the flowers Arthur
had provided. While the children dis-
tributed the floral tributes on the nar-
row mound, Margie seated herself and
read aloud a poem she had cut from the
morning paper at the breakfast table.

A Ripple of Dimples

comes when healthy babies
wake in the morning and
laugh. A good share of
those dimples are made
by Scott's Emulsion.
Half the cod-liver oil, i. e. Scott's Emulsion, is
taken by babies. It makes them happy by cushion-
ing out their little bodies and making them com-
fortable. Dimples are health. Did you ever see
a sickly baby with dimples? 50 cents and \$1.00 at all Druggists

It was so appropriate that Arthur ac-
cused her of writing it. The last stanza
ran thus:

There's a grave on the hillside, Father,
Thy searching voice shall yet
Rouse up the sleeping soldier
For Thou dost not forget.
There's a lonely grave on the hillside,
But, oh, before Thy throne
The humble shall be honored,
The unknown shall be known!

Suddenly Arthur gave a loud excla-
mation of "Look there! That is he!"
They looked, expecting to see a gen-
eral of the army in splendid regalia.



"IT'S MY OLD BLIND MAN!"

but they saw only a little band of vet-
erans in their faded uniforms, led by
a blind man who played melting mili-
tary music upon a fife.

"It's my old blind man—I never knew
that he had been a soldier. He never
told me," Arthur said, breathlessly.

"He looks like a hero," said his wife,
enthusiastically, and she did not take
her eyes from that noble and resigned
face until her husband had waylaid
the old man and said to him:

"So I have found you and you cheat-
ed me nicely, never telling me you were
once a soldier."

"I am a soldier—once a soldier al-
ways one," replied the blind man,
proudly, "but sir, I did not mean to de-
ceive you—it is the fortune of war that
caused me to be poor and alone in my
old age."

"Not alone," said Margie, laying her
hand gently on the faded sleeve, "not
while my husband and I live."

The old soldier started violently as
he heard her voice. He took off his
soldier's cap, stood erect, with one
hand raised to heaven.

"Who speaks?" he cried, "whose voice
is it? Margaret, my wife—oh, God, I
cannot see you!"

His weakness was pitiful—tears
streamed from his sightless eyes, but
his new friends soothed him, and at
last he consented to accompany them
home and, as Margie said, "be adopted."

He was very grateful, and told them
his story, the husband and wife sitting
on either side of him and the children
at his feet.

"I was a soldier in the Army of the
Potomac, and it was at the siege
of Petersburg, when reconnoitering
with a field glass, that a splinter from
an exploding shell struck the glass
and shattered both my eyes. While
I was in the hospital my wife and child
died, and for a long time—how long
I cannot tell—I was a wreck mentally
and physically. At this moment I have
not a relative on earth. When I heard
your voice to-day—he reached out
gropingly and clasped Margie's cling-
ing hand—"it reminded me of her—my
wife!"

When Margie heard the name of her
adopted soldier—Darius Poole—she be-
came thoughtful.

"My father was a soldier and that was
his name. He died at the battle of

Petersburg. We may be related. I
never knew him, for I was only a babe
when he went to the war, and on my
mother's death I was taken and reared
by strangers."

"What regiment was he in?" asked
the old man, excitedly.

"That I do not know, but I have pa-
pers which belonged to my mother
containing all particulars. Gen. Har-
tranft was his division commander.
I have tried to learn the particulars
of his death, but could only find his
name among the hospital dead at
Petersburg."

Here Arthur interfered, dreading the
shock of joy it would occasion his wife
when she should first entertain the idea
—so plausible to him—that the soldier
she had already adopted might be her
own father.

"It has been Decoration day every
day since grandfather came home from
the war!"

To Prevent Mold on Preserves.

An exchange says that preserves may
be kept from becoming moldy by put-
ting a few drops of glycerine around the
edges of the jar before screwing on the
cover—a simple but sure preventative.

FREE TO INVALID LADIES.

A lady who suffered for years with uterine trou-
bles, displacements, leucorrhoea and other irregu-
larities, 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.

A friend advised me
to try Ely's Cream Balm
and after using it six
weeks I believe myself
cured of catarrh. It is
a most valuable rem-
edy.—Joseph Stewart,
Grand Ave., Brooklyn,
N. Y.

ELY'S CREAM BALM

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

ELY BROTHERS, 56 Warren Street, New York.

CATARRH



COLD IN HEAD

RHEUMATISM



Results
from a Bad
Liver and
can be
Cured by
Using

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

A Certain Remedy for
Diseases of the Liver,
Kidneys and Urinary
Organs

At Druggists. Price, \$1.00 Per Bottle

THE DR. J. H. McLEAN MEDICINE CO.
ST. LOUIS, MO.

The Young Folks.

PLEA FOR THE FLOWERS.

Shall all these flow'rs be sacrificed
On Decoration day?
The lily was far more to Christ
Than Solomon's array;
Our nation's dead, where'er they tread,
Must cry: "Let live the rose:
Let live the pansy in its bed;
Slay not—there is no hero dead—
Slay not a flow'r that grows!"

Give songs that ripple over words
Like brooks o'er pebbled sands,
As glad as are the hymns of birds
In sunny southern lands.
Give thoughts that thrill, but do not kill,
Give lessons broad and grand,
Hug to thy bosom "Peace, be still!"—
Strip not the fragrant wood and hill
With desecrating hand.

Heap all these graves of precious mold
With deeds of love and cheer;
And make the day a thread of gold
To mark the graying year.
Be thy soul's food a comrade's good,
Thy strife to banish pain;
The day is hardly understood—
No violet in yonder wood.
Should mourn her children slain.
CHARLES EUGENE BANKS.

IMPROMPTU CELEBRATION.

BY ELLIS PARKER BUTLER.

Abraham Lincoln White, aged six,
stood in the middle of the muddy road
in front of his mammy's shanty, head
erect, shoulders thrown back and his
torn hat dripping with the rain. Dec-
oration day, and Abraham Lin-
White had but recently returned from
town, where he had been one of the
most thoroughly interested actors
of the ceremonies. He had a very
vague idea of the meaning of it all, but
his small black head was full of the
idea of decorating the graves, and he
felt a huge desire to do some decorating
on his own account.

Consequently when mammy had
taken off his Sunday garments, and he
had scrambled into his old clothes, he
set about it.

Flags, flowers, bright sashes and gay-
ly decked horses; these had been most
strongly impressed on his mind.

Flag he had not, but one of his mam-
my's big red bandanas on a broken
broom handle made a good substitute.
A bunch of snowballs from the bush
in the yard comprised the flowers; a
strip of blue calico made an excellent
sash, and a stick was metamorphosed
into a prancing steed.

Thus arrayed the procession started
down the muddy road. The band
played, the flag waved, the steed
pranced, and the flowers nodded and
the whole procession, complete in one
very wet and muddy little ducky,
moved towards the only grave in the
neighborhood. Unfortunately, just as
the parade reached the grave it fell
headlong in the mud, and it was a mass
of mud when a horseman dismounted
and picked it up.

It was the colonel himself, and he
laughed as he put the muddy proces-
sion on its feet.

"Well! well! Abe," he said, "what
are you doing way off here in the
mud?"

"It's a procession," said Abe, "I is, an'
I's goin' to decorate the grave!"

"What grave?" asked the colonel;
"there are no graves hereabouts."



PLANTING THE BANDANA.

"Yes, they is," said Abe, "they's one
in there," and he pointed through the
fence.

"You are right," said the colonel,
"there is. And I will join the proces-
sion, my boy."

And the proud, dignified colonel and
the dirty little negro clambered over
the rail fence side by side and planted
the bandana, and laid the flowers on
the solitary grave.

And although the little negro
grinned during it all the colonel's eyes
were moist and his hands arranged the
flowers tenderly.

For it was the grave of old White
Nancy, the gallant mare that had borne
him through many a hard-fought bat-
tle.

THE DAY AND THE PEOPLE.

As the two stones upon the ephod of
the high priest of the Jews were a
memorial of the mercy and the ever-
lasting care of Jehovah, so Decoration
day has been fixed in the hearts of the
American people as an eternal memo-
rial of the heroic self-sacrifice of those
who more than a generation ago lay
down their lives for the cause of free-
dom. The oft-repeated implication
of the ingratitude of nations and kings
does not rest in any sense with this
free people, who, enjoying as no other
nation that has been, or is, the price-
less boon of liberty, are properly able
to estimate as well as to appreciate the
price of freedom. Time has subdued,
if not altogether removed, the pas-
sions and the prejudices evoked by the
demon of war, so that former foemen
gladly gather to pay homage to the
heroes who fell that the union might
live. The minor causes are forgotten
in the glory of the achievements of
those who fought and died, as well as
those who fought and survived.

America needs no triumphal arch or
towering monument as perpetual me-
morial of the heroism of her sons; for
deeper than the mark of the chisel in
the obelisks of Egypt are set the records
of their doings in the hearts of those
who enjoy the benefits of union and
liberty. Just so long as this people is
free; just so long as admiration is had
for courage and devotion, every recur-
ring Memorial day will be set apart as
one of cherished and grateful recol-
lection for the heroes of Bull Run, Get-
tysburg, Chattanooga, the Wilderness
and Petersburg—all the hundreds of
battles that made up the sum of the
late civil war.

Day that comes at the full maturity
of the springtime, when nature has as-
sumed her richest robes; day of blue
sky and warm soft air; day suggestive
of all that may be glad and bright—fit-
ting is it that such a time shall be the
esto perpetuo of this free people.

True, there are hearts that yet mourn
the loved and the lost, Rachels weeping
for their children that are not; but above
all, with all, is the sublime thought that
in the death of these soldiers came a
heterogenesis, a new birth of the na-
tion in peace, amity and bonds of union
that are indissoluble. They who came
not with their shields were borne upon
them. The children of those who died
take their own children by the hand
and lead them to the grassy mounds of
the soldier dead and say with pride,
"these died for their altars and their
firs." So being dead they yet speak
to the living, keeping alive those coils
of patriotism which, upon occasion,
shall spring into a full flame.

So let the flowers be strewn, the
banners wave, hymns be sung and
eulogiums be rendered; thus let the
living pay homage to the dead; for that
nation is always safe which places its
heroes above the price of gold and of
silver. As the blood of the martyrs
became the seed of the church, so the
blood of our soldier dead has become
the life of the union that is—one and
inseparable, now and always.

Time goes by with ceaseless tread.
The living heroes of the war have sil-
ver mingled with the gray of their hair.
Only too soon shall they join their
sleeping comrades. While they live let
it not be forgotten that equally with
the dead they share the honor and the
glory of the struggle. When they are
gone let their memory be as precious as
that of those who yielded up their
lives on the fields of battle.

WILLIAM ROSSER COBBE.

Hall's Hair Renewer enjoys the confi-
dence and patronage of people all over the
civilized world, who use it to restore and
keep the hair a natural color.

DAYS OF REMEMBRANCE.

Again the day that should bring all
men into sympathetic harmony has
come around with its golden memories
that time, so far from diminishing,
beautifully enhances and sentimentally
ennobles. Tender feelings mingling
with pride and a loyal sense of grati-
tude inspire a lofty state of mind, and
to these no man not sordidly selfish
should be insensible on a day set apart
as a memorial of patriotic valor and
devoted manhood, and of life surround-
ed by the country's weal. So remote
and shadowy is the epoch of the civil
war that even they that participated in
its dangers and hardships and had its
horrors stamped with graphic force im-
perishably upon their minds may hardly
think of it other than as of a wonder-
fully intense and realistic dream. The
empty sleeve, the missing leg, the bent
frame and broken health are eloquent
reminders of the stern fact, it is true,
but it is a benevolence and a com-
pensation of nature that adversity and
pain and loss soften into counterfeits
of beauty and sweetness and love as
they recede further into the perspec-
tive of human experience.

Love of country is love of country-
man; and we who visit the graves of
the soldier dead do so less to pay defer-
ence to memory than to give pledge to
the future. It is respect to the living
that bids us revere the dead, that lofty
respect that arises from our recognition
of man in God's image as our brother,
and our knowledge of the truth that the
animating spirit is the heir to the
eternities.

Memorial day, says the Chicago In-
ter Ocean, tends to restore the moral
and personal equilibrium disturbed
by the selfish activities of life. The
spirit of it is a leveler, an eliminator of
distinctions, a creator of the close bond
of affectionate sympathy that is under-
stood by the word comrade. We all
become comrades under that influence
—the veteran of a hundred battles
and the youth who knows war in his
imagination alone; the man of wealth
and the victim of poverty; he who is
distinguished and he who is obscure;
he who fought and he who served in
other ways; comrades all for one day in
the year, and the grind of the world is
a little the easier for it, and the music
of the spheres comes a little nearer to
our hearing. Days of peace and days
of love are these days of remembrance.
Blessed be the days of remembering.

Lesson of Decoration Day.

The lesson of Memorial day is to
keep fresh the memories of our illus-
trious dead, to preserve intact what
they fought for and saved, to keep alive
the patriotic spirit, and resolve, in the
immortal words of Abraham Lincoln,
"that from these honored dead we take
increased devotion to that cause for
which they gave the last full measure
of devotion—that we here highly re-
solve that these dead shall not have died
in vain—that this nation, under God,
shall have a new birth of freedom—and
that government of the people, by the
people, for the people, shall not perish
from the earth."

Grant's Troublesome Soldiers.

Gen. Grant used to tell a story of a
soldier in a certain regiment during
the war who was continually bother-
ing him by asking favors. Grant one
day said to him: "Look here; I be-
lieve you are the most troublesome man
in the union army."

The man quickly replied: "Why,
that's funny, sir!"

"Funny; how do you make it out
funny?"

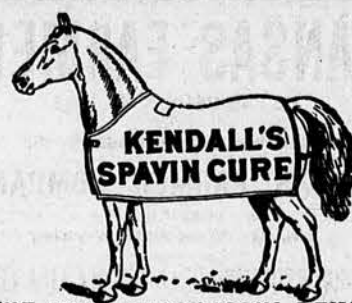
"Because it is just what the enemy
says about you."—Harper's Round
Table.

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spavin is gone now and I have been offered \$150
for the same horse. I only had him nine weeks,
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Cure.
W. S. MARSDEN.

KENDALL'S SPAVIN CURE

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Victims of the Civil War.

According to the official figures the
union armies lost 359,528 officers and
men by death; the returns from the
confederate armies are incomplete, but
those in the provost marshal general's
report show that at least 133,821 offi-
cers and men lost their lives. The
losses in battle were comparatively
small in the revolutionary war. About
6,000 persons all told were killed, and
the usual proportion of those who die
of wounds is about two-thirds of those
killed. That would give a total of 10,-
000. Then at least 11,000 prisoners
died in the prison ships; so that prob-
ably not less than 25,000 to 50,000 per-
sons lost their lives during and owing
to the war.

Being Elevated.

"Did you ever hear of a man who
had striven all his life faithfully and
singly toward an object, and in no
measure obtained it? If a man con-
stantly aspires, is he not elevated?
Did ever a man try heroism, mag-
nanimity, truth, sincerity and find
that there was no advantage in them—
that it was a vain endeavor?"—
Thoreau.

The Bivouac of the Dead.

On fame's eternal camping ground
Their silent tents are spread,
And glory guards with solemn round
The bivouac of the dead.

—Theodore O'Hara.

"BROWN'S BRONCHIAL TROCHES" are a
simple and convenient remedy for Bronchial
Affections and Coughs. Carry them in your
pocket. Sold only in boxes.

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think of some
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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, other-
wise pay nothing. A Handsome Gold
Plated Chain, sold in certain stores
for \$3 goes free with each watch.

OUR GRAND OFFER.
FREE One of these \$7.50 watches and
chain, if you buy or sell SIX
WORTHY TO-DAY, as this price holds good
for 50 days only. ROYAL MFG CO.,
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An extra copy free fifty-two weeks for a club of six, at \$1.00 each.

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Electrotype must have metal base.

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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.

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KANSAS FARMER CO., Topeka, Kas.

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

The extreme prices for wheat in Chicago in 1895 were 48½ cents in January and 85½ cents in May.

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

Kansas State Horticultural Society has received a bronze medal and elegant diploma from World's Columbian Exposition for display of grapes—eighty-two varieties.

The Chicago Trade Bulletin estimates the yield of Kansas wheat crop for 1896 at 61,728,000 bushels, against 35,315,000 last year. The estimate for twenty leading wheat-producing States is 301,955,000 for 1896, against 260,052,000 for the same States last year.

Wheat-seeding in Minnesota and in North Dakota has been much retarded by the excessive rains. It was estimated last week that nearly 2,000,000 acres then remained to be seeded. The crop sown on this land must necessarily be very late and more than usually liable to rust and to frost before harvest in the northern portions.

The hay crop is an assured fact in Kansas. It is a very important one, yet the most neglected of any crop produced. It represents not less than thirteen million dollars, even under the reckless system employed in the State. If farmers would give this crop the attention that corn or wheat receives it should represent this year nearly twenty million dollars. Attention is directed to an article in this issue by "Timothy Bales," that should be read with care, as it was prepared for the FARMER especially by an authoritative writer.

The annual commencement exercises of the Kansas State Agricultural college, at Manhattan, will take place June 7 to 10, 1896. The following is an outline of the program: Sunday, June 7.—Baccalaureate sermon, at 4 p. m., by President Fairchild. Monday, June 8.—Address before the societies, at 8 p. m., by Dr. Bernard Bigsby, of Detroit. Tuesday, June 9.—Class day exercises for invited guests, at 4 p. m.; address before the Alumni Association, by Prof. Frederick J. Rogers ('85) of Cornell University, at 8 p. m. Wednesday, June 10, commencement day.—Commencement exercises, at 10 a. m.; annual address, by Hon. Eugene F. Ware; society reunions, at 2 p. m.; military drill, at 3:30 p. m.; business meeting of Alumni Association, at 5 p. m.; alumni banquet in Ulrich's hall, at 8 p. m. Closing examinations, Saturday and Tuesday, from 9 a. m. to 12:20 p. m. Public conveyance to and from college. Dinner on Wednesday, served in Armory hall, by ladies of the M. E. church.

WHERE IS THE OUTLET FOR HAY?

In the face of an immense crop of both tame and wild hay, the question of the greatest importance to the trade and one that is sorely distressing the thinking portion of hay men is, where is our outlet for the coming crop? It has been claimed that prior to two years ago there was no shipping demand for Kansas prairie hay, and the demand of the past two years was owing to the fact of a great drought each year. But now that the season is well advanced and no signs of a short crop in any section, there seems to be a slight uneasiness that the large crop of prairie hay cannot be accommodated at prices that will not be disastrous.

The hay crop is fast following in the footsteps of grain, as it went a few years ago. Farmers declared that they could not take 60 cents for their wheat, and many held one and two years for more money, but were finally compelled to sell at much less than 60 cents. It was also stated that wheat could not be grown for 60 cents per bushel, but it has since been demonstrated that it can be grown for much less. The hay crop has been gradually seeking a lower level of prices for several years, and must still be handled on a very narrow margin. There is one fact, though, that is as sure to be overlooked by some penny wise and pound foolish individuals as is the season to roll around, and that is that every year choice green hay is always in demand at fair compensation, and the men who handle this grade of hay never complain. If the farmer or shipper could just understand that it is necessary, first, to know what is wanted and then supply that want regardless of his own ideas, he would be in a position to put up a class of hay that would make him money and lend stability to the business. It costs just the same to ship poor hay as it does choice hay, and when the loss that is almost inevitable on poor stuff is added to the labor and hire of handling, the cost is much greater to the countryman on poor hay than on choice. The trouble is that the majority of shippers each year are beginners—as one hay man said, "Next year we will have a new crop of hay and a new crop of shippers." This is the key to the situation.

If hay shippers could but be convinced that there is an immense field for talent in the hay business and that it cannot be rushed into blindly, but requires a knowledge of the quality that is in demand as well as the manner in which it should be prepared, there would be a great diminution in the amount of kicking that is done each year by shippers who have been buying experience unnecessarily. There are numbers of shippers who understand their business and whose hay is always sought after because they put it up according to the demands of the trade. Another significant fact is you never hear them kick on the prices. Why? Because they are always posted and know when the market is dull and hay hard to move. When farmers and shippers begin to understand that curing hay is an art, they will then be in a fair way to be successful.

Now, as to the first proposition, what shall be done to move the immense quantities of hay that will be turned loose on us in a few more days? There is a possibility of a small trade with Ohio and the States where Kansas hay was shipped the past season, providing their crop of timothy is poor, which seems to be a possibility, in view of the fact that the meadows were injured last year by the drought, but if there is any demand at all it can only be limited, by reason of the fact that they will prefer their native tame hay to our prairie, and will take it at an advance. Then, again, even with a good demand the supply will nearly always be in excess. The only way to reduce the supply is for the countryman to keep all poor hay at home and either burn it or use it for mulching, but under no circumstances send it to the market. As an indication of the wind, we will tell of a conversation we heard between a shipper and a Kansas City dealer, just recently. The shipper said he had 300 acres of prairie hay and wanted to know whether it was

worth while to cure it. The dealer said if it could be cured into a grade not lower than No. 1, it would be safe to put it up, but otherwise he had better let it stand and burn it off. A great many more would be dollars ahead to do the same thing. Do not look for much better prices unless a phenomenal drought occurs in some section of the United States.

SECRETARY COBURN AMONG THE CREAMERIES.

The more the subject is given attention the more evident it becomes that Kansas possesses the natural conditions favorable to an extensive dairy industry. In several other States no more favorably situated the creamery and cheese-making interests have been built up to tremendous proportions, and wherever the cows and their products have been fostered the people are out of debt, occupy good homes and have pleasant surroundings. It is an ambition of the present Secretary of our Board of Agriculture to see more of this sort of thing in Kansas, and he has just returned from a ten-days' tour of investigation through the most prosperous dairy sections of Iowa, Minnesota and eastern South Dakota, where he went with some other enterprising Kansas gentlemen, to observe and get in better touch with the methods and means pursued by those who are leaders in the business. He comes back, as have his associates, Messrs. H. M. Brandt, of McPherson, and J. K. Forney, of Dickinson, (both prominent dairymen), more than ever enthusiastic as to the possibilities of our State for dairying and desirous of helping to their better utilization. Within a short time the Secretary will make a trip to Wisconsin to investigate the methods in use there, where 753 creameries and 1,300 cheese factories are in successful operation and the annual dairy product amounts to \$30,000,000.

Minnesota, with a less number of cows than Kansas, is marketing butter alone to the value of \$8,000,000 annually, and Iowa has 860 creameries and cheese factories, the former having 80,000 patrons and making butter from 670,000 cows. Secretary Coburn insists that what these States can do can at the very least be approached by Kansas.

MORE TORNADOES.

A terrific tornado—generally mis-called a cyclone—passed through central Iowa last Monday. The incomplete reports received at this writing indicate that some forty lives were lost, many persons hurt and considerable property destroyed. The greatest destruction took place at Valeria. Storm reports from northeastern Iowa, from Illinois and from Michigan have led some to conjecture that the Iowa storm passed on through these parts and did damage there.

The prevalence of these destructive storms this season is alarming, and will doubtless lead many to a closer study of storm theories and storm literature. Most of the weather prophets base their predictions as to storms upon the relative positions of the planets and their nearness to the sun. In this they are but following in the footsteps of the ancient astrologers, who, on the plains of Chaldea and in Egypt, attempted to forecast, not only physical phenomena but human fortunes and political changes, by the stars.

But modern scientists of recognized standing have traced some coincidences which, to say the least, are interesting. Thus, there is a seeming periodicity of the appearance of dark spots on the sun. These spots are thought to result from tremendous storms or tornadoes which tear great holes through the luminous, burning, gaseous envelope of the sun. These solar storms have been thought to occur with special frequency about every twelve years, and to gradually diminish to a minimum and again increase to the maximum. The period in which the great planet Jupiter revolves around the sun is about eleven and seven-eighths years. This planet is many millions of miles nearer the sun when at the nearest than when at the farthest point of its orbit. It has been noted and tabulated in astronomical

works that the number and magnitude of sun spots or storms on the sun is much greater at the period of Jupiter's near approach. It has been conjectured, and possibly more than conjectured, that the periods of maximum disturbance on the sun are also periods of maximum disturbance in the atmosphere of the earth—periods of frequent and violent tornadoes.

It is interesting to note that, according to the theory of the twelve-year periodicity, 1896 should be a year of unusual solar and terrestrial disturbance, and that after this season there should be a gradual diminution for five or six years.

RETAIN THE MOISTURE IN THE SOIL.

There has fallen in most portions of Kansas during the last few weeks enough water to make the wheat and oats crops and to carry the corn well forward, if only the moisture thus generously provided can be kept in the soil until drawn out by the growing crops. Two sources of loss of moisture usually waste far more of it than is used in the crop growth.

It has long been understood by observing farmers that weeds and grass sap the soil of moisture and that they must be kept in check or they will rob the crops of this essential to their growth. The total amount of water actually used by a good crop in its processes of growth and maturing is about seven acre inches. But if there is as great a growth of useless weeds and grass as of useful plants the weeds will get as much of the soil's moisture as will the crops. This moisture will be sent off into the air and wasted as the weeds grow, mature, die and become dry. Soils free from weeds are under some conditions rapidly robbed of moisture by evaporation. Under other conditions they lose comparatively little water in this way. The investigation of the conditions favoring the retention of moisture against evaporation is one of the most important works undertaken by any of our experiment stations. Probably the best work yet done in this direction is that of Prof. King, of the Wisconsin Experiment Station.

The importance of protecting the present store of soil moisture against the persistent efforts of evaporation to steal it which the sun and wind will make during the next few weeks can scarcely be overestimated. How shall it be done?

In falling upon the soil rain compacts the surface. When much rain falls a part may run off, but a good deal of it enters the soil, moving gradually downwards. This downward movement continues until nowhere in the soil is there left any "free water," that is, water which will drain out, but only so much as is held as water is held in a sponge, by what is called "capillary attraction," or, as more recently designated, "surface tension." The amount of water thus held by Kansas soils averages not far from 25 per cent. of the volume of the soil. Stated otherwise, each cubic foot of dry soil will absorb and hold against gravitation nearly two gallons of water. Plants can draw from the soil nearly half of this. When, by evaporation and plant growth, the moisture in the surface soil is reduced to less than that in the soil just below the surface, there is a tendency to equalization of moisture, and some water comes from below to take the place of that evaporated. If the surface soil is compact, as it is often left after a dashing rain, the rise of moisture from below to the surface is rapid. If, however, the surface is broken up and made light by cultivation, the rise of moisture is much less rapid, and if the loose surface becomes dry as well as loose, it acts as a mulch and comparatively little moisture escapes. The irrigators long ago found that cultivation after every irrigation is necessary in order to retain the moisture in the soil. Prof. King has made many experiments as to the best form of implement for this cultivation to prevent evaporation, and has obtained the best results with implements which cut off as well as pulverize the top layer of soil. These are much more efficient

Horticulture.

OUT-WORMS.

There is growing complaint of cut-worms. This article may be too late to do much good this spring, but it should be carefully read and laid away until later in the summer and then re-read, and lay away again until early next spring. A recent bulletin of the Kentucky Experiment Station gives the following remedial treatment for cut-worms:

"Early fall plowing to destroy growths of grass or weeds likely to harbor cut-worms during the winter is a lesson taught by the facts in the life-history of these insects. Fire, too, can sometimes be employed in burning over land that is to be cultivated. All grasses along fences should be destroyed in the fall, winter, or early spring, but preferably in the fall, when cut-worm injury threatens. By so doing the young are deprived of food and must either starve or go elsewhere. In the fields already in cultivation it is necessary in cut-worm years to keep down all volunteer vegetation, both before the crop is planted and afterward. Clean culture will do much to guard against injuries. The worms invade an unkempt garden by preference. Scattered boards, bricks, stones, and other rubbish afford them lurking places. These should be removed.

"Enclosing the plants with paper or tin.—One of their most annoying habits is that of cutting off newly-set plants. For thirty years or more intelligent gardeners have employed cylinders of stiff brown paper placed about newly-set cabbage or tomato plants as a means of keeping the worms from them. The cut-worms are unable to climb up a smooth, vertical surface, and consequently a cylinder of paper about a plant, with loose earth drawn up about its lower edge, so that the worms cannot creep under, is an effective protection so long as it is not wet from rain, and can often be made to keep the worms away until the enclosed plant is too large to be injured. Cylinders of tin about five or six inches high can be used in the same way, and while costing something at the beginning, can be put away when the cut-worm season is past, for use another season. Some one has suggested that such cylinders may be made of strips of tin with the two ends folded so that they will hook into each other when brought together.

"Small apple and other fruit trees are sometimes injured by what are known as climbing cut-worms, which ascend the trunk by taking advantage of the roughness of the bark, and eat the buds. A tin cylinder secured about the trunk of a tree has been found an effective protection against such species. I have not thus far witnessed injury of this sort in Kentucky, but it has been observed in adjoining States and is liable to occur here.

"The use of poisoned bait.—Precautionary measures, such as fall plowing, clean culture, removal of rubbish and the like, are always to be employed in dealing with cut-worms if possible. But where the worms are in the soil before their presence is recognized the only thing to do is to employ the cylinders, take them from about the plants each morning by hand, or else to use bait that will destroy them. Professor C. V. Riley, some years ago, in one of his reports as United States Entomologist, suggested the use of Paris green on bundles of clover or other plants relished by cut-worms, placed at intervals among newly-set plants. Bundles about as large as one's fist are dipped into Paris green water (a tablespoonful of Paris green in a bucketful of water) and placed about the infested land in the evening. The worms feeding upon this bait may not be killed at once, but it requires very little to make them so sick that they will not eat other vegetation, and probably none of those eating the poison become mature. This fact is to be borne in mind in testing the remedy. I have sometimes heard it stated that worms which fed upon weak mixtures of Paris green were not killed, and the inference was drawn that such

mixtures were useless. Worms may remain alive for several days after eating leaves poisoned with the mixture used for ordinary spraying (one pound to 160 gallons of water), but I find by experiment with the tobacco-worm that such worms take very little or no food, and finally die. A small worm is more quickly killed than a large one.

"I make these statements in the interest of a fair test of this remedy by gardeners. Because some cut-worms found about the poisoned bundles are alive is not good evidence that the bundles are not doing their work.

"It is claimed on first-class authority that land can be cleared of cut-worms before the crop is up by employing these poisoned bundles."

Kansas' Rank on Horticultural Products.

From census of 1890, by William H. Barnes, Acting Secretary Kansas State Horticultural Society:

Apples.—1, Ohio; 2, Michigan; 3, Kentucky; 4, Illinois; 5, Indiana; 6, Pennsylvania; 7, New York; 8, Virginia; 9, North Carolina; 10, Pennsylvania; 11, Tennessee; 12, Iowa; 13, West Virginia; 14, Kansas—grew 3,713,019 bushels.

Pears.—1, New York; 2, California; 3, Ohio; 4, Michigan; 5, Indiana; 6, Pennsylvania; 7, Kentucky; 8, Georgia; 9, Oregon; 10, New Jersey; 11, Massachusetts; 12, Maryland; 13, Missouri; 14, Illinois; 15, Virginia; 16, Tennessee; 17, Florida; 18, North Carolina; 19, Washington; 20, Delaware; 21, Connecticut; 22, Alabama; 23, New Hampshire; 24, Kansas—grew 18,891 bushels.

Peaches.—1, Georgia; 2, Texas; 3, North Carolina; 4, Tennessee; 5, Alabama; 6, Kansas—grew 1,798,781 bushels.

Cherries.—1, Indiana; 2, California; 3, Michigan; 4, Ohio; 5, Kansas—grew 101,060 bushels.

Plums.—17, Kansas—grew 18,128 bushels.

Potatoes.—8, Kansas—grew 8,242,953 bushels.

Experience With Orchard Grass.

EDITOR KANSAS FARMER:—Please tell your readers that tar paper put on apple and other trees to protect against rabbits, will kill them if left on over summer.

My orchard grass in 1893, 1894 and 1895 had a hard, dry time. To get a stand of grass with wheat in fall, or oats in the spring, make the land in a first-class condition, and sow grass seed always ahead of press drill. In this way, in 1894, I seeded down forty acres with oats and a mixture of red clover, timothy, blue grass and orchard grass. All the grass seeds came up splendidly but the blue grass and timothy died. The orchard grass took well, and now, in 1896, I have a good stand of orchard grass, and sowed only four bushels on the forty acres. H. A. A. Leavenworth, Kas.

Thayer's Berry Bulletin for June, 1896.

Fruits and vegetables are composed mostly of water. No component part of same is so plentiful, yet so difficult to supply in proper quantity. The fruit-grower should, then, know how to guard against seasons of drought and preserve the natural moisture of the soil. This can be done in two ways. First, by irrigation, which is practicable only in certain favored localities, by ditches and canals and by various pumping devices, pipes and drains, necessarily limited in extent, and then only with considerable expense. Success by these methods requires about one thousand barrels of water per acre for each application. [Twice this amount is better.—EDITOR.] Second, by retaining moisture already in the soil by mulching. This may be practiced by all.

Well-prepared ground receives sufficient moisture in the spring to fully mature the largest crop. Tons of moisture from every acre are escaping daily in the growing season. The best and most practical way to preserve this moisture and place it just where it is most available for plant use is by frequent shallow cultivation, forming a fine earth mulch. This applies to gardens and all hoed crops. Where soil cannot all be cultivated, as with small

fruits, then use manure, leaves, straw, clover, marsh hay, or any material to shade the ground and retard evaporation. With coarse mulch close around fruit plants, and a fine earth mulch between the rows, large crops may be carried safely through severe droughts. Commence at once and continue until products are mature.

The new strawberry plant should not be allowed to bear fruit the first season. Pick off all fruit stems as fast as they appear.

Three methods of training the strawberry are in use. The hill system, where all runners are removed; the narrow row, where only part of new runners are allowed to form plants, and the full matted row, where plants are allowed to fill all the space, excepting a narrow path between rows. All have advocates and all have special merits, depending on soil, climate, variety and grower. The full matted row is most used, being easiest to manage.

Guard against too many plants in small space. They consume moisture, suffer from drought and produce small berries. Each plant should have from four to six inches square space in which to grow and mature its fruits.

When new canes of the raspberries and blackberries are fifteen or eighteen inches high, pinch off the top about three inches. This will cause side branches to grow, making well-formed bushes, and greatly increase the bearing surface of the canes.

The English government pays from \$175 to \$200 apiece for the cavalry horses it is taking in great numbers from Canada.

The man who habitually walks briskly and gets there quickly does not wear out a day sooner than the heavy, slow old poke who drags his feet after him as though they were coming loose. And the briskly stepping horse will live as long as the stupid one with ox-like motions.

Pulmonary consumption, in its early stages, may be checked by the use of Ayer's Cherry Pectoral. It stops the distressing cough, soothes irritation of the throat and lungs, and induces much-needed repose. Hundreds have testified to the remarkable virtues of this preparation.

Live stock is essential to the prosperity of agriculture, and if we have stock we must adopt the improved breeds to keep abreast of the competition. We must cheapen the production, and here is the great benefit of the early-maturity breeds that command top prices. Let South America and Australia raise scrub ranch cattle and small sheep. Our markets have changed.

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

CORRUGATED STEEL IRON ROOFING

\$1.75 PER SQUARE.
The above, partly from World's Fair Buildings, we guarantee good as new. We have only a limited amount on hand and would advise forwarding orders at once. CHICAGO HOUSE-WRECKING CO., Largest Second-hand Depot in the World. 3025 S. Halstead street, Chicago, Ill.

Carnahan's Tree Wash and Insect Destroyer

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

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

SPRAY GRAPES and POTATOES
With our improved machines. Our New Victor Horse-power Machine is fitted for three or five rows. Our Red Jacket Wheelbarrow sprays two rows. We also make the Garfield Knapsack and Little Gem. Perfect agitation and perfect satisfaction guaranteed. Catalog free. **FIELD FORCE PUMP CO.,** 70 Market St., LOCKPORT, N. Y.



These Pants
Were Made
to Sell

and the man
who bought
them was

SOLD.

The dealer said they were all wool, and that they would last like iron, but you might have known that was not true because they were

**Too Cheap
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It's just the same with Harvesting Machines and Binder Twine. Your only protection is to buy good goods from reputable men, and pay an honest price for them. When you buy

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you get a guarantee from the greatest harvesting machine firm in the world that they are thoroughly well made and are in every particular just exactly what we say they are. Send for catalogue. Free to farmers.

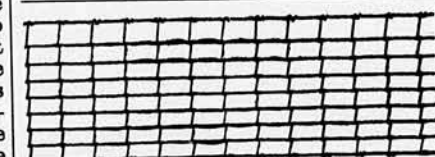
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Fullerton and Clybourn Aves. **CHICAGO**

When you write mention Kansas Farmer.

FARMERS

**DO YOU WANT TO BETTER YOUR
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dress: The Pacific Northwest Immigra-
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Cabled Field and Hog Fence,

24 to 36 inches high; Steel Web Picket Lawn Fence; Poultry, Garden and Rabbit Fence; Steel Gates, Steel Posts and Steel Rails; Tree, Flower and Tomato Guards; Steel Wire Fence Board, etc. Catalogue free. **DEKALB FENCE CO.,** 23 High St., DeKalb, Ill.



SUMMER IN THE EAST The Ocean Resorts

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

In the Mountains

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

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



When you write mention Kansas Farmer.

In the Dairy.

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

Milking and Development of Milking Power.

There can be little doubt that the milking of cows has done a very great deal towards the development of their milking power. In a state of nature, a comparatively small quantity of milk is required by the calf, and it is drawn out at irregular intervals. When the tissues and vessels of a cow's udder become swelled with material ready to be transposed into milk, and the transposition is not allowed to take place by the withdrawal of some at the teats, this material becomes reabsorbed by the lymphatics back into the general circulatory system of the cow, and the secreting power of the cells of the udder becomes weakened, and the cow would gradually dry up. This is what happens when a calf sucks its mother, and thus suckling prevents the development of deep milkers, and checks those which are deep to begin with. We intentionally put this principle into practice when we "dry-off" a cow; we do not milk her at all unless and until she is distressed with a distended milk bag, and the secretion of milk soon stops altogether. In the artificial milking of a cow we draw off all that she can possibly produce, and far more than any one calf could need, and thus give the secreting tissues free play; and, from the action of the natural law that exercise develops the exercised part, either in the milk vessel of a cow, or in the calf on the leg of a man bred among the hills, the udder is stimulated to yield more. Quickness, quietness, gentleness, and other conditions relating to the art of milking all help this development; while our artificial treatment in the way of selecting the individual animals, housing them, feeding them well, and so on, are other influences improving the milk secretion.

The Men Who Defraud the Dairymen and Consumers.

On this matter the *Farmer's Union*, of Chicago, well says:
"The stock yards concerns, with twenty to fifty millions of capital each, are the ones which rob the dairymen by coming in competition with their pure products by putting upon the market millions of pounds of their bogus mixtures as substitutes therefor. The richer they get the meaner man apparently becomes. In fact, the majority of the millionaires were mean from the beginning, in the sense of being unscrupulous as to the methods by which money should be obtained. Such fellows, too, are sticklers for the enforcement of the laws. They insist on the obedience to the written statutes, which they want as few as possible as far as they themselves are concerned, but the unwritten law or moral obligation is not worth noticing or binding at all on them. Their business methods are cold-blooded and lacking in every impulse born of a spirit of fraternity and brotherly kindness, love and mercy, standing not in the way of the accomplishment of their ends. The midnight marauder and highwayman are more entitled to our esteem and sympathy, who take their lives in their hands to commit their daring deeds, than the monopolies and trusts which fill the markets with the bogus butters and other adulterated foods by which to add to their millions of ill-gotten gains. During the past year the Legislatures have been quite busy in several of the States setting up bars against the aggressions of these pirates, but the effort has been to regulate instead of to abolish what should be considered wicked and criminal offenses. The fact that we have laws for the punishment of poor criminals which are measurably well enforced, should be at least a plausible reason for the enactment of laws for the government of the rich marauders which prey as parasites upon the body politic. It is a matter of self-defense, and the people owe it to themselves to protect their own interests at any cost, and to

do so against the strength of these powerful combinations of capital and corporate power they must necessarily organize."

Brindle's Causes for Thanksgiving.

A clean bed.
A quiet and gentle milker.
An abundance of good food.
A stall large enough for her to turn around in.
A stable with no cracks or knot-holes to let in the wind.
A yard wherein there are no horses or colts to make her afraid.
A dry barnyard and a sheltered spot where she can lie down and chew her cud.
Water pumped fresh from the well and not allowed to freeze over before she can drink it.
An owner who looks after her general welfare and who shows his kindly disposition by occasionally stopping to scratch her back as she passes through the barnyard.

Buying and Selling Cows by Tests of Their Milk.

The North Carolina Experiment Station proposes a plan for buying and selling cows. It is based on the yield of their milk, together with the quality of the same, as determined by tests of the milk. The rule is to pay for the cow at the rate of \$12 per gallon of milk given per day that is rich enough to show 3½ per cent. of fat. To this price add or subtract \$1 for every one-fourth of 1 per cent. of fat which is above or below the 3½ per cent. By this rule a cow is bought entirely on her merits. It is believed to be a conservative plan, and one which, if adopted—or one upon a similar plan—will certainly raise the standard of cows, and increase their milk and butter production, for if they cannot be sold easily for milk cows, they will soon be turned over to the butcher, and a better animal be kept or a willing purchaser be found. The result cannot fail to be beneficial to all parties.

Milk in the Cow Barn.

When a patron agrees to sell milk to a creamery he is under certain moral obligations to deliver that milk in the best possible condition. Knowing that the price the creameryman receives for his butter is necessarily dependent to a very great extent upon the condition of his milk, he should use his best endeavors to deliver the milk sweet and clean and free from all taints which influence the quality of the butter. More than this, it is to the patron's interest, financially, to see that the creameryman receives good milk, for the price he receives for his milk must depend upon the price that the creamery receives for its butter, and this in turn depends largely upon the condition of the milk. During the summer the great trouble is with sour milk, owing to the warm weather. During the winter the trouble is with tainted milk, and the fact that the milk reaches the creamery at a temperature which makes the detection of the taint almost impossible, makes such milk all the more dangerous, because when it is mixed with other milk that is free from taint, it may damage the whole. Hence it is a matter of some surprise that patrons will insist upon keeping the milk in the cow barn when it must be plain that in doing so they are taking money out of their own pockets as well as their neighbors'. As soon as the milk falls to the temperature of the barn it begins to absorb the foul odors, or if it be closely covered to prevent this, it becomes tainted from itself—"smothered"—because the odors peculiar to it have no opportunity to pass off. In either case, the quality of the butter made from such milk, and all other milk that is mixed with it, is impaired and must sell for a lower price than it should. If there is no clean place to keep the milk, where the air is pure, it is much better to make a cave of some kind for it. It is not a difficult matter to make a frame of poles and cover it with clean straw deeply enough to prevent milk from freezing in it. This can be done with almost no expense, and certainly the improved condition of the milk will pay many times over for the labor required to construct such a milk-house.

Dairy Notes.

Cotton strainers will do more thorough work than wire strainers.

In cold weather many of the creameries churn at a temperature of 50° to 52°.

A brush is much better than a cloth to clean milk vessels. It gets at places that the cloth will not reach.

Never churn in a room whose temperature is higher than that of the cream. If it is 10° or 15° lower, so much the better.

To secure the most exhaustive churning, says H. B. Gurler, churn at a low temperature. But it is necessary to have rich cream to do it.

Few realize how much is lost by imperfect skimming. In some cases as much as 2 per cent. of the fat is left in the milk. This is an enormous loss.

It is not a good plan to take the milk from the creameries back to the farm in the cans. If it must be done, be sure to clean thoroughly. It is better to cart the milk back in barrels.

Abundant experiment has shown that the natural flavor of butter cannot be removed by washing it with pure water. Careful manipulation, with the cream and everything else just right, will make good butter without washing.

Ventilate your cow stables, keep your cows clean, give them good food and pure water, keep yourself and your surroundings clean while handling the product, from the udder to the butter-tub, and you will never be troubled with the "animal odor," says a writer.

The main principle to be observed in feeding the milch cow, is to feed moderately. No matter what you feed, do it in reasonable quantities, and no sudden or radical changes should be made, but in changing feeds do it gradually and with moderation. A sudden change from dry food to succulent pasturage often causes serious disturbances of the digestive organs, and therefrom results a serious loss to the owner of the cow.

E. P. Goodrich says, in *Farm, Field and Fireside*: "I had always supposed good pasture was good enough—as good as anything could be for milk production, but in 1887 I determined to try grain-feeding with it. I fed a small ration of corn and oat meal. It seemed to add but little to the flow of milk, and some men of good judgment who knew about it were of the opinion that I was throwing away and wasting the grain so fed. But the cows held out better in the fall and gave more when it came winter than in previous years. When I came to figure up at the end of the year, I found that my herd had averaged fifty pounds of butter more per cow than ever before. I was satisfied that for every dollar's worth of grain fed on pasture I had got back in butter \$2. You may be sure I have fed grain every summer since."

SUFFERING WOMEN,

Read What Dr. Hartman Proposes to Do for You.

Dr. Hartman, President of the Surgical Hotel, Columbus, O., has arranged to answer all letters that are sent to him from women troubled with any form of female weakness, free of charge, giving them the benefit of knowledge which has cost him forty years to accumulate. The medicines he prescribes are within the reach of every woman, and she can get them at any drug store. All she is required to do is to send her name and address, together with her symptoms, duration of sickness and age. This offer holds good only during the summer months. Thousands of women are taking his treatment to-day and are rapidly regaining their health. Dr. Hartman's favorite prescription for female complaints is Pe-ru-na. Mrs. Maggie Turner, of Holly Springs, Miss., writes:

"Last September Pe-ru-na was recommended me by a friend and I began to take it. I had no faith in anything any more, as I was not able to sit up and was a mere skeleton. After I had taken one bottle of Pe-ru-na I began to improve. I kept on taking it, and I believe myself to be permanently cured. I have discharged all my help, am doing my housework alone, and weigh 155 pounds. Although I am 41 years old I feel as well as I did at 16. I cannot express my gratitude to you. I love the name of Pe-ru-na, for it has given me back to my little children, a well and hearty mother."

A medical book on female diseases will be sent to all who want it by the Pe-ru-na Drug Manufacturing Co., Columbus, O.



More Brains

Are often required to determine what shall be "kept out" of a harvester than to say what shall "go into" it. It is so easy to do the wrong thing—and the wrong thing has such an inviting appearance—that less experienced manufacturers than the McCormick Co. frequently find themselves "putting their foot in it" and building a machine one season which they are obliged to abandon a season or two later.

Because a good thing is a good thing in its place, it doesn't necessarily follow that it is a good thing in a harvester or mower.

Fight shy of the machine whose best recommendation is that "it seems to have a bright idea" in its make-up. Remember this every day in the year:—McCormick Machines will work where others fail.

The makers of McCormick Machines have been at it for sixty-five years. By long experience they have found out how to build the best binders and mowers.

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

Agents Everywhere.

Cream Separators.

SEND FOR
BRAND NEW
CATALOGUE
No. 246.

New Facts, New Results;
New Machines, New Prices.

A Practical Education
in
Up-to-Date Dairying.

THE DE LAVAL SEPARATOR CO.,

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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., 2109 Indiana Avenue, Philadelphia.

Piles

Cure guaranteed. For particulars and free sample address Hermit Remedy Co., Dept. 1., 183 Dearborn St., Chicago, Ill.

Prepare Your Hay Properly.

EDITOR KANSAS FARMER:—As the season draws near for making hay, the prospect for a good crop is assured, and there is also a growing desire on my part to whisper in the ear of every man in the State of Kansas who expects to have any hay to sell, and suggest that he take care of it at the right time. My desire is to whisper it loud enough to make an impression on the wax that has accumulated in the aforesaid ear, so that it may play the phonograph and keep grinding out the injunction until the grass is all cut, cured and baled and on its way to market. It needs care and attention all the way. The hay crop of Kansas is said to be valued at *thirteen million dollars*. That's a good deal of money—more than most of us will make in thirteen years. Now thirteen is an unlucky number, so I've heard, but if the hay crop of Kansas is worth \$13,000,000, as it is usually taken care of, it can just as well be worth \$20,000,000, and twenty million dollars is a luckier number than thirteen million dollars. The hay crop is more valuable than the wheat crop, but in most cases it does not receive nearly so much attention. We talk about our wheat with our neighbors. The newspapers publish the crop bulletin and comment on the wheat. The "bills" and "bears" wrestle with each other on the market. We plow and harrow and buy seed wheat, and drill in the fall; we watch it come up and watch it all winter and spring; we harvest it, thresh it, and then haul it off to market and sell for 40 cents what cost us 50 or 60 cents.

But the grass, like Topsy, "just grows," and after we have disposed of our 40-cent wheat and laid our corn by, and plowed up the ground for more wheat, we go out and cut down the grass in our meadows. We have nothing else to do. If we have had plenty of rain we have more hay than we need. If very much more, we buy a hay press; if not very much, we get neighbor Fisher to bale it, and we ship it to market. When we get returns on it the commission man says: "Your hay graded No. 3 and No. 4." Why? Because it was not cut soon enough. Some of it was allowed to lay in the sun too long; some of it got wet. It sold on the market for \$3 per ton. Choice or No. 1 hay was selling for \$6 to \$7, and scarce. Freight just the same on both grades, cost just as much to cut it, bale it and load it. The moral is plain. Some who read this will say: "That fellow is talking through his hat," but I could quote a little scripture right here which would be applicable: "We speak that we do know, and testify that we have seen." Some of our friends who have given special attention to the hay business have realized the importance of sending the best grades of hay to market, and give their hay crop the same careful attention as their wheat.

TIMOTHY BALES.

London Purple.

This by-product in the manufacture of aniline colors, contains about 43 per cent. of arsenite of lime, the rest is composed of rose aniline, lime, insoluble residue, some little oxide of iron, and water. As the material is cheap it would be used much more frequently if it came in convenient packages and not in bulk. At all events it is just as good an insecticide as Paris green, and can be used in the same manner, dry and with water. It is much lighter than Paris green, more finely divided, remains better in suspension in water, and can therefore be applied more evenly, with less stirring, adheres better to the foliage, and is consequently not so readily blown away by the wind or washed down by rains. As most of the commercial London purple contains some free and soluble arsenious acid we must add some milk of lime to prevent injury to the foliage. If this precaution is kept in mind we have in this substance a very superior insecticide. It has this additional advantage, that it can be used with the Bordeaux mixture and we can add to its effects as an insecticide that of a fungicide.—*Farmer's Voice*.

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.

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.

41

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 ask most every part of the Great Southwest.

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 Cars, 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.

42

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.

Reduced Rates to Washington.

The Young People's Society of Christian Endeavor will hold their Annual Meeting in Washton, 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.

Republican Convention at St. Louis, via Burlington Route.

For the National Republican Convention, at St. Louis, June 18th, 1896, excursion tickets will be sold at very low rates over the "Burlington Route."

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

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

Consult your Ticket Agent in regard to time and rates.

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

"Farmer's Ready Reference, or Handbook of Diseases of Horses and Cattle." A few copies yet on hand that will be sold for \$1 each, by mail. The chapter on "Corn Stalk Disease" alone worth the price. Address S. C. Orr, V. S., Manhattan, Kas.

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.

Free to Every Subscriber.....

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

WOMAN IS QUEEN,
and Home is Her Realm.



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

Who Has Not Heard of theLadies Home Companion?

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

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

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

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

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

Fashions Under this head are the prevailing fads and fancies which count for so much in my lady's toilet.

Flowers Lovers of flowers will find this department, ably edited by Geo. W. Park, B.Sc., of absorbing interest.

Literary The delightful stories, interesting articles and charming poems afford ample evidence of the care bestowed on this department. Many of the most popular writers in the country are regular contributors.

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

Address

KANSAS FARMER CO., Topeka, Kas.

TAKE THEM BOTH!

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

Semi-Weekly Capital

When you can get both for little more than the price of one. The *Semi-Weekly Capital* is issued twice each week, Tuesday and Friday—eight pages, fifty-six columns of choice reading matter every issue. It contains the full report of the Associated Press and the full run of Kansas news, amount of fresh and interesting miscellaneous reading matter of every description. The KANSAS FARMER CO. has made arrangements with the publishers whereby it can offer the *Semi-Weekly Capital* and KANSAS FARMER for the very low price of \$1.50, or with Almanac and Kansas Year Book, \$1.60.

KANSAS FARMER CO., Topeka, Kas.

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.

SKIN DISEASE.—My driving mare has some itching disease which causes her to rub her mane and tail during warm weather. What will cure it?
Rocky Ford, Col. J. F. K.

Answer.—Take 2 drams of corrosive sublimate and 1 dram of sodium chloride; rub fine and dissolve in 1 pint of water. Apply to the affected part, with a swab, once a day for two days, taking care not to let the mare lick or bite where the medicine is rubbed on, as it is deadly poison.

BRAIN DISEASE.—I have a mare that has been ailing for six months. She eats and drinks very slowly and appears drowsy and slow. Sometimes she paws and sometimes she stands with her legs crossed as if about ready to fall. I would like to hear from you.
Ellinwood, Kas. MRS. E. N.

Answer.—Your mare has some disease of the brain—probably a tumor and incurable, but you can try the following: Dissolve 1 ounce of Barbadoes aloes in 1 pint of warm water and give at one dose, then give one of the following powders morning and night: Iodide of potassium, 2 ounces; bromide of potassium, 2 ounces; mix and divide into sixteen powders. The mare should be allowed to run idle on grass but should be sheltered from the hot sun in the middle of the day. If there is improvement in ten days the treatment may be continued; but if there is no improvement the case will require a personal examination.

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.

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. 93

Uniformed Attendants for Eastern Passengers via Vandalia-Pennsylvania Lines.

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

Chicago Horse Market.

According to a late report, the receipts of horses at Union Stock Yards have been moderate during the week, and with a fair attendance of buyers the market has continued steady with little change in prices. Horses of extra good quality are selling fairly well, while the common grades of stock are selling low. These offerings have been easily disposed of at market values, and while prices are a trifle lower than two weeks ago, there is no probability of any advance in prices soon. Parties having stock purchased and intending to ship to this market should not delay in getting them here, as in all probability there will be a further break in the course of two or three weeks. We quote: Expressors and heavy drafters.....\$700-\$175 1,100 to 1,400 pound chunks.....500 85 Coaches and fast road horses.....900 275 850 to 1,100 pound chunks.....250 45 Ordinary drivers, 300 and upwards.

These prices are for sound horses, 5 to 8 years old, well broken and in good flesh. Of course, plain, blemished and green stock sells at a discount.

Horse Owners! Use



GOMBAULT'S Caustic Balsam

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

MARKET REPORT.

Kansas City Live Stock.
KANSAS CITY, Mo., May 25.—Cattle—Receipts since Saturday, 5,391; calves, 61; shipped Saturday, 73; cattle, no calves. The market was strong to 10c higher on handy cattle and slow on heavy grades. Following are representative sales:

SHIPPING AND DRESSED BEEF STEERS.			
No.	Ave. Price.	No.	Ave. Price.
47.....	1,322 \$4.00	19.....	1,329 \$4.00
63.....	1,291 3.95	186.....	1,234 3.90
41.....	1,513 3.90	22.....	1,358 3.90
27.....	1,519 3.75	1.....	1,010 3.75
33.....	1,541 3.75	40.....	1,303 3.75
17.....	1,247 3.70	8.....	1,296 3.70
6.....	1,316 3.25	3.....	1,043 3.25
1.....	1,080 3.25	2.....	1,361 3.00

TEXAS AND INDIAN STEERS.			
No.	Ave. Price.	No.	Ave. Price.
45 fed.....	1,155 \$3.45	48 fed.....	1,100 \$3.45
90 fed.....	1,053 3.31	100.....	1,046 3.35
19.....	891 2.85	51.....	912 2.90
11 tails.....	960 2.60	10.....	888 2.75

COWS AND HEIFERS.			
No.	Ave. Price.	No.	Ave. Price.
53.....	1,215 \$3.75	1.....	870 \$3.60
2.....	1,097 3.55	1.....	1,040 3.50
2.....	720 3.50	1.....	1,220 3.50
4.....	1,210 3.00	1.....	1,140 3.00
1.....	1,200 3.00	2.....	885 3.00
1.....	1,430 2.80	1.....	1,240 2.80
1.....	810 2.80	2.....	1,025 2.75
1.....	1,070 2.60	1.....	1,110 2.60
23.....	915 2.55	1.....	1,000 2.50
1.....	810 1.70	1.....	810 1.75

STOCKERS AND FEEDERS.			
No.	Ave. Price.	No.	Ave. Price.
2.....	557 \$3.85	1.....	620 \$3.70
4.....	695 3.70	1.....	540 3.70
1.....	850 2.80	16.....	487 2.90
2 lot.....	52.00	1.....	1,130 2.80

Hogs—Receipts since Saturday, 4,660; shipped Saturday, 2,029. The market was strong to 5c higher. Following are to-day's sales:

Hogs—Receipts since Saturday, 4,660; shipped Saturday, 2,029.			
No.	Ave. Price.	No.	Ave. Price.
70.....	171 \$3.20	14.....	183 \$3.17½
41.....	154 3.17½	81.....	134 3.17½
77.....	169 3.17½	26.....	185 3.15
72.....	227 3.15	52.....	182 3.15
38.....	220 3.12½	69.....	206 3.12½
14.....	231 3.10	63.....	243 3.10
70.....	264 3.10	69.....	225 3.10
6.....	236 3.10	95.....	194 3.10
66.....	280 3.07½	58.....	245 3.07½
11.....	191 3.05	55.....	321 3.05
8.....	328 3.05	50.....	257 3.05
2.....	300 3.03	1.....	1,160 2.85
1.....	301 2.75	3.....	413 2.75
7.....	450 2.75	2.....	340 2.75
1.....	450 2.75	1.....	270 2.75
4.....	372 2.50	1.....	450 2.50
2.....	470 2.50	1.....	300 2.50
1.....	90 2.25	31.....	76 2.25

Sheep—Receipts since Saturday, 2,892; shipped Saturday, 4,403. The market was uneven and slow. Following are to-day's sales:

751 Texas 88 \$3.12½
Horses—Receipts since Saturday, 190; shipped Saturday, 55. There was little activity about the horse and mule market to-day.

Chicago Live Stock.

CHICAGO, May 25.—Cattle—Receipts, 10,000; market active and generally 10c higher; beefs, \$3.50@4.35; cows and heifers, \$1.70@4.00; Texas steers, \$2.80@4.00; stockers and feeders, \$2.90@3.90.

Hogs—Receipts, 39,000; market fairly active, light 5c higher, others steady to strong; light, \$3.30@3.55; mixed, \$3.15@3.42½; heavy, \$2.85@3.05.
Sheep—Receipts, 14,000; market strong to 10c higher.

St. Louis Live Stock.

ST. LOUIS, May 25.—Cattle—Receipts, 4,000; market active, 10c higher; native steers, \$3.30@4.25; Texas steers, \$2.50@3.50.
Hogs—Receipts, 4,000; market 5c higher; light, \$3.00@3.30, mixed, \$3.00@3.25; heavy, \$3.00@3.50.
Sheep—Receipts, 7,000; market 10c higher.

Chicago Grain and Provision.

	May 25.	Opened	High'st	Low'st	Closing
Wht.—May.....	59½	59½	59½	59½	59½
July.....	61½	61½	61½	61½	61½
Sept.....	62½	62½	62½	62½	62½
Corn—May.....	28	28½	28½	27½	28
July.....	29½	29½	29½	28½	29½
Sept.....	30½	30½	30½	29½	30
Oats—May.....	18½	18½	18½	18½	18½
July.....	18½	18½	18½	18½	18½
Sept.....	19	19	18½	18½	18½
Pork—May.....	7 00	7 00	7 00	7 00	7 00
July.....	7 30	7 30	7 07½	7 07½	7 07½
Sept.....	7 42½	7 42½	7 22½	7 22½	7 22½
Lard—May.....	4 20	4 20	4 20	4 20	4 20
July.....	4 40	4 40	4 27½	4 27½	4 27½
Sept.....	4 55	4 55	4 42½	4 42½	4 42½
Ribs—May.....	3 77½	3 77½	3 77½	3 77½	3 77½
July.....	3 90	3 90	3 82½	3 82½	3 82½
Sept.....	4 05	4 05	3 95	3 95	3 95

Kansas City Grain.

KANSAS CITY, May 25.—There was the usual small trade in wheat here, chiefly in low grade samples. Prices were nominally steady.
Receipts of wheat to-day, 11 cars; a year ago, 50 cars.

Sales were as follows on track: Hard, No. 2, 2 cars 55c; No. 3, 1 car 48c, 1 car 47c, 2 cars 44c, 1 car 43c; No. 4, nominally 35c@40c, 2 cars 38c; rejected, nominally 33c@35c. Soft, No. 2 red, nominally 62c; No. 3 red, nominally 50c@55c, 1 car 52c; No. 4 red, nominally 45c@50c; rejected, nominally 33c@40c. Spring, No. 2, nominally 54c@54½c; No. 3, nominally 49c@52c, 1 car 50c; rejected, nominally 45c@50c; white, nominally 40c@54c.

WOOL

QUICKER SALES and QUICKER RETURNS for wool than any house in this market. THAT'S OUR RECORD and we are going to keep it. Don't Dispose of your Wool until you write us for our report and other valuable information which will be sent you at once free of charge. SACKS FURNISHED FREE.

SUMMERS, MORRISON & CO., COMMISSION MERCHANTS,
References: Metropolitan Nat'l Bank, Chicago, and this paper. 174 S. Water St., CHICAGO.

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.

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.....	322,107	2,170,827	507,016		
Sold to feeders.....	1,367	322,267	1,576		
Sold to shippers.....	218,505	273,999	69,784		
Total Sold in Kansas City, 1895.....	1,633,234	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'l. Superintendent.
W. S. TOUGH & SON, Managers HORSE AND MULE DEPARTMENT.

A good deal of low grade corn was on the market and it was ¼ to 2c lower. Much of it was out of condition. Very few samples of No. 2 were on sale, most of them going to fill contracts. There was little trading in futures. A sale of 5,000 bushels May at 23½c was reported. June was quoted nominally 23½c, July 23½c, September 24½c.
Receipts of corn to-day, 69 cars; a year ago, 23 cars.

Sales by sample on track: No. 2 mixed, nominally 22½c@23½c, 1 car yellow 23c; No. 3 mixed, 2 cars 21½c, 5 cars 21½c; No. 4 mixed, 4 cars 21c; no grade, freely offered, 4 cars 18c; white, No. 2, 2 cars 21c, offered later at 23½c; No. 3, 2 cars 23½c.
Oats sold slowly, though offerings were not heavy.

Receipts of oats to-day, 9 cars; a year ago, 6 cars.
Sales by sample on track: No. 2 mixed, nominally 16c; No. 3, nominally 13c; No. 4, 1 car 14c; no grade, nominally 12c@13c. No. 2 white, 2 cars 19c; No. 3 white, 2 cars 18½c.
Hay—Receipts, 2) cars: all but good hay sells very slowly. Timothy, choice, \$11.00@12.00; No. 1, \$9.50@10.50; No. 2, \$7.50@9.00; No. 3, \$5.50@7.00; choice prairie, \$6.50@7.00; No. 1, \$5.00@6.00; No. 2, \$4.00@4.50; No. 3, \$3.00@4.00; No. 4, \$2.50@3.50, straw, \$3.50@4.50.

St. Louis Grain.

ST. LOUIS, May 25.—Receipts, wheat, 22,533 bu.; last year, 31,146 bu.; corn, 38,415 bu.; last year, 74,130 bu.; oats, 51,210 bu.; last year, 74,856 bu.; shipments, wheat, 5,730 bu.; corn, 13,910 bu.; oats, 24,900 bu. Closing prices: Wheat—No. 2 red, in store, 59½c; May, 58½c; July, 57c; 57½c bid; August, 57½c@57¾c. Corn—Cash, 26c; May, 26c; July, 26c@26¼c. Oats—Cash, 18c bid; May, 18c bid; July, 18c bid. September, 18½c.

Kansas City Produce.

KANSAS CITY, May 25.—Butter—Creamery, extra fancy separator, 13c; firsts, 12c; dairy, fancy, 12c; fair, 10c; store packed, fresh, 7c@8c; packing stock, 7c.

Eggs—Strictly fresh candled stock, 7c per doz. 7½c in new No. 2 cases; southern, 5c. Poultry—Hens, 5½c; springs, 13c per lb.; turkeys, hens, 6c; gobblers, 5c; old, 4½c; ducks, 8c; geese, not wanted; pigeons, 9c@11.00 per doz.

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

Rogers Commission Co.

Live Stock Commission Merchants.

Rooms 265 and 266 Live Stock Exchange Building
Kansas City, Mo.

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.

John Moffett, Manager. L. B. Andrews, Office.

T. S. Moffett, W. C. Lorimer, Cattle Salesmen.

H. M. Baker, Hog and Sheep Salesman.

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.

GROWERS OF AND DEALERS IN

Cattle, Hogs and Sheep

MAKE YOUR CONSIGNMENTS TO
Ben. L. Welch & Co.

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.

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

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 \$16.75). 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

The Poultry Yard

CHAMPION FOWL PICKER.

Frank Gurner Can Pick a Chicken in Just Five Seconds.

Here is an account of the feats of Frank W. Gurner, of Eastport, L. I., who claims the title of "champion chicken-picker of the world." He is willing to bet \$5,000 that he has a right to the title and his record is one chicken picked clean in five seconds. This extraordinary performance Turner has repeatedly accomplished, and in all the contests in which he has taken part has distanced his competitors to such an extent that it was almost painful to witness their puny efforts.

Some time ago Gurner thought he had a rival worthy of his metal in John Daly, of Fire Island, who had a great reputation as an expert in this line. A friendly contest was proposed. Daly in an evil moment accepted.

The chickens were produced and Daly went to work. Gurner did not move a hand, but watched his opponent.

When his opponent was half through Gurner doused his fowl in scalding water, tossed it in the air, rubbed it after his own peculiar method, and before the astounded Daly knew what had happened the chicken was handed to the judges without as much as a pin-feather on it.

The Greenport champion fared even worse, and after a ridiculously one-sided match Gurner offered to pick four chicken's to the Greenporter's one, but even with this handicap the offer was refused.

In the presence of a New York World reporter Gurner equaled his record time of five seconds, and then offered to pick one "slowly" in 12 seconds, to show how it was done.

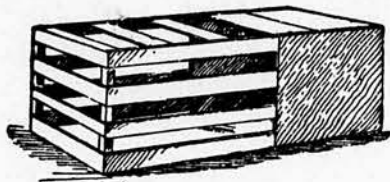
This is what happened: Gurner plunged the fowl into scalding water, seized it and threw it into the air, caught it as it came down with one hand around each wing. With lightning-like rapidity the right hand then shot out carrying away all the feathers of the wing on that side. The same motion on the opposite side carried away the feathers on that wing.

The chicken was then laid on Gurner's right leg, and Gurner, both hands moving like piano keys operated by a rapid player, literally struck off the feathers on the upper side. It was immediately tossed over to the left leg and similar treatment followed on its other side. The chicken was then placed between the operator's legs and a clawing movement of the hands followed. When this ceased the chicken was absolutely picked clean.

CONVENIENT NEST BOX.

The Best and Most Simple Device for Setting Hens.

In the early spring the average chicken-raiser has a large amount of care and trouble in the management of his setting hens, especially if he has a large number setting at one time. If a number of hens are setting in open nests in the same room, two or three will get off at one time perhaps, and then ensue fighting, and probably an attempt on the part of two hens to occupy the same nest, leaving the other eggs to get cold. If the hens are confined to the nests, each one must be lifted off each day, fed and watered and then put back upon the nest, necessitating no little



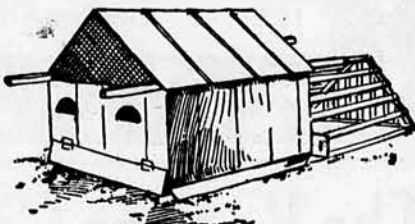
labor. The very best possible device for setting hens is shown in the cut. It is a box without front or bottom, with slats in front, as shown. The nest is made on the floor of the sitting-room and the box turned down over it. In the slatted portion is placed a dish each of cracked corn and water. The hen can come off whenever she pleases, and must go back to her own nest, and that, too, without any care on the part of the chicken-raiser. When the chicks hatch they can be kept with the hen in this coop for several days, secure from many of the mishaps that are apt to befall

very young chickens. Make up a lot of these affairs before the hatching season opens, and you will find later on half the ordinary labor in setting hens taken away.—N. Y. Tribune.

HANDY POULTRY COOP.

One That Is Easily Moved from One Part of a Field to Another.

During winter poultry men should find time to repair old chicken coops and make new ones. With ordinary care more vigorous pullets can be raised by scattering them about the fields in small colonies after haying, as insects then form a very cheap and important portion of their diet. When biddy brings forth her brood, place her in one of the coops with the movable run in position. This allows her to get to the ground. After she leaves her chicks the run is removed, the roosts placed in position and the family moved to any convenient spot. Pullets may be sheltered in such a house until cold weather or until they begin to lay. The coops will accommodate 25 chicks or 10 well-grown pullets. It is 4 by 3 feet, and 2½ feet high at the eaves. The run is 4 by 3 feet. The run and roof are built with a pitch of 90 degrees. The



SUMMER POULTRY COOP.

sills are of 2 by 4 material, and extended as shown in the cut to facilitate moving. The plates are of 2 by 2-inch material, and extended each way 1 foot beyond the eaves for handles. The sides, roof and floor are of jointed pine boards. The roof is covered with one thickness of sheathing paper held in place by cleats. If this is jointed it will make a waterproof roof that will last a number of seasons. The first 15 inches below each gable should be of half-inch wire netting for ventilation. Each end is provided with a door 1 foot wide, one hinged, the other arranged to slide. The roof should have a 2-inch projection all around to throw rain. The run is made by nailing laths 2½ inches apart upon a frame made of 2 by 2 scantling. Two men can easily move this coop from one part of field to another, giving the chicks new feeding room.—American Agriculturist.

Do not pull up covers that the bees have closely sealed down. They want their houses air-tight at the top to prevent ventilation or cold draughts.

One of the best places to locate hives is in the orchard, as usually there the bees will be less free from annoyances and will be less liable to annoy anything else.—St. Louis Republic.

MANLY VIGOR

ONCE MORE in harmony with the world, 2000 completely cured men are singing happy praises for the greatest, grandest and most successful cure for sexual weakness and lost vigor known to medical science. An account of this wonderful discovery, in book form, with references and proofs, will be sent to suffering men (sealed free). Full manly vigor permanently restored. Failure impossible.

ERIE MEDICAL CO., BUFFALO, N. Y.



KILLS AND PREVENTS TICKS, LICE AND SCAB. MAKES WOOL GROW. Dipping pamphlet free from COOPER & NEPHEWS, Galveston, Tex.

\$2 packet makes 100 gallons; 50c. packet, 25 gallons. If druggist cannot supply, send \$1.75 for \$2 packet to Evans-Gallagher Co., Kansas City, or J. W. Allen & Co., Atchison, Kas.

ARMSTRONG & McKEE
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CONSIDER THE COST. Suppose the building is 60x25x20. It will require to paint it, 14 gals. ready-mixed paint at \$1.25 per gal.—\$17.50; or, four 25-lb. kegs of white lead, \$6.00; five gals. pure linseed oil, \$2.50; four cans tinting colors, 80 cts.; ½ pt. Japan dryer, 15 cts.; ½ pt. turpentine, 5 cts. Total, \$9.50—a saving of \$8.00 in favor of

Pure White Lead

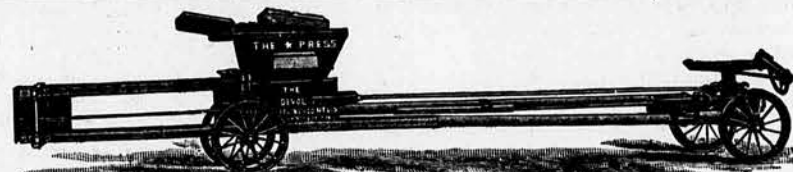
without considering its greater durability. Examine the brand (see list). For colors use the NATIONAL LEAD CO.'s Pure White Lead Tinting Colors. No trouble to make or match a shade.

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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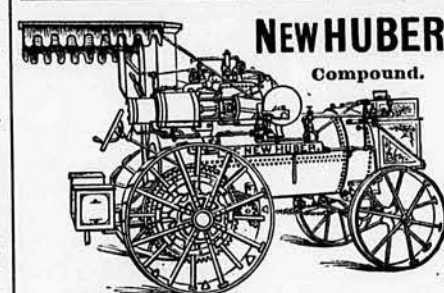
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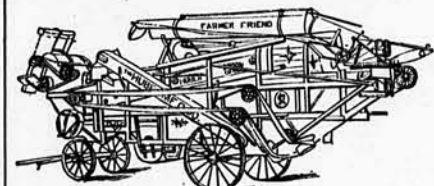
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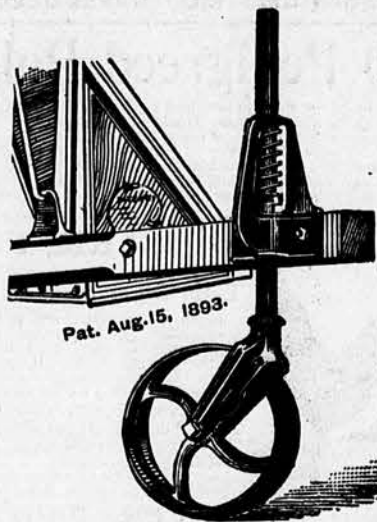
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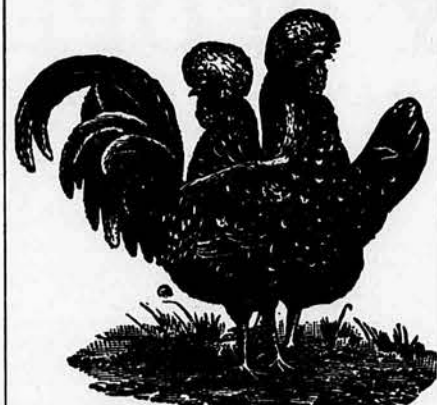
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