

KANSAS FARMER



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KANSAS GRAIN INSPECTION.

The Kansas Grain Inspection Board met last week to consider what changes, if any, were needed in the rules governing inspectors. No very considerable changes were made. The millers asked that wheat containing rye be excluded from the No. 2 grade. Ex-Governor Glick made the point that this year's crop is now grown, and that it would be unfair to farmers to change the grade at a time when the producers could do nothing to remedy the evil. The rule was slightly amended and made to provide that wheat containing objectionable quantities of rye should be excluded from the No. 2 grade. This provision was thought to be sufficient hint to farmers that it will be wise to use a seed-separator and rid their seed-wheat of rye. Wheat containing any rye will probably go over to No. 3, after the present crop shall have been marketed.

Fortunately, the improved seed-grading machines are capable of separating the last grain of rye from seed-wheat. These machines are not very expensive. They are worth their cost and the labor of using, on account of increased yields which result from the separation of light and inferior grains, leaving only prime wheat for seed.

Kansas wheat has not attained its deserved place in the markets, on account of vicious practices at elevators and at the hands of dealers. Kansas No. 2 wheat possesses most valuable qualities. Flour made from it is unexcelled. Millers who have had to compete with Kansas flour know that it is the product of most excellent wheat. But the tricks of the mixers have made it very difficult for the Northern, the Eastern, or the foreign miller to obtain Kansas No. 2 wheat. This fine wheat is mixed with "scalped" wheat in as large proportions of the latter as can escape detection, and is then forwarded under the Kansas certificate of inspection. Various other schemes are used to sell inferior grain on the credit of Kansas No. 2.

The result to the farmer is that the price of his fine wheat is degraded, and he loses the difference between the actual value of his excellent product and the value of the mixture. Whether this evil can be corrected is yet an unanswered question.

THE NEW RAILROAD LAW.

The Interstate Commerce law enacted by the Congress at its late session is variously viewed by the several interests affected. The law is very long and goes into so many specifications that a full synopsis is a difficult thing to make. Its central provision is that the Interstate Commerce Commission is empowered and required to hear and investigate complaints against common carriers—chiefly railroads—and to determine whether charges are unjust or unreasonable, or unjustly discriminatory, or unduly preferential, and if so, to determine and prescribe what will be just and reasonable rate or rates, charge or charges, to be thereafter charged; and what regulation or practice in respect to such transportation is just, fair, and reasonable to be thereafter followed.

The great discussion in Congress finally turned upon the court review provisions of the act. At first the President and the more radical members of Congress were in favor of omitting any allusion to review of the findings of the Commission, leaving to the courts' discretion the determination of the extent to which under the constitution the acts of the commission

might be subject to review. The corporation Senators fought hard for the inclusion of court-review features in the law. It is believed by the friends of efficient regulation that the court-review features do not confer upon the courts powers other than they already possessed under the constitution, so that the law as finally passed will be considered as satisfactory and likely to go far towards curing the evils that have attached to our transportation systems.

FIRE DAMAGES AND RAILROADS.

A subscriber inquires about the railroad's liability for damage by fire, set by a locomotive or otherwise, in the operation of the railroad.

In Section 32, Chapter 70, General

liability is one of greater latitude. If the farmer should negligently leave hay, straw, or litter scattered in such a way as to invite fire, there would be little doubt of his contributory negligence.

In the case of the farmer whose inquiry is under consideration, a meadow extends for nearly a mile along the right-of-way. He has been asked to plow a fire-guard through this meadow—for which work the railroad is willing to pay—or to sign a contract releasing the railroad from liability for damages by fire. He declines to plow the fire-guard because he does not wish to deface his meadow and start a wash, which in this case would soon become a gully. He also declines to sign the contract releasing the rail-

handed and the other left-handed, may be used. There is no patent on this machine.

It is so much better to avoid trouble than to get paid for it that the editor strongly urges every possible precaution against fire. See the proper railroad officials and join hands to prevent fires, asking the railroad for compensation for the work and expense.

KANSAS FARMER IN HIGH SCHOOL LIBRARY.

EDITOR KANSAS FARMER:—We are building a new graded or village high school in Homewood. The work above the eighth grade is to be especially up-to-date, and planned especially for farmers' children, and as this should include up-to-date reading matter on subjects especially agricultural, it seems to me that THE KANSAS FARMER would be a useful and welcome visitor every week to the Homewood high school. Would you donate us one copy of THE KANSAS FARMER during the school term free of charge as a public-spirited offering? As a plain business proposition, wouldn't it have a tendency to materially increase your subscription list? Thanking you in advance for a reply, I am,

Yours very respectfully,
HENRY REH, Clerk Dist. No. 99.
Homewood, Kans.

The Kansas Farmer Company takes pleasure in complying with this request. It asks only that a file be kept of the papers. This file will be found to constitute a most valuable book of reference. It is likely to become the oftenest used book in the library.

SIGNED CONTRACT UNDER MISUNDERSTANDING.

EDITOR KANSAS FARMER:—I would like to know through your reliable paper how I can make ———, Grinnell, Iowa, take their vehicle away from my place. They left it here and I signed some papers. There was a misunderstanding about it and I ordered them to take it away, which they failed to do. I never used it.

G. W. LANCASTER,
Chickasaw Nation.

This letter is printed, not in the hope that the editor will be able to help Mr. Lancaster out of his present difficulty, but to illustrate and emphasize the importance of care in signing papers. The best advice possible to give about this is that every reader of THE KANSAS FARMER withhold his signature from a paper until entirely familiar with its contents and their meaning, and until certain that there is no possibility that by removing a portion of the paper the remainder will have a different import. The editor is aware of the ways in which swindlers make one feel ridiculous at hesitating to sign promptly and without carefully reading their papers. It is better to feel ridiculous on such occasion than on being brought into court on a contract over one's own signature.

If the paper signed obligates our correspondent for only a small amount, he had better compromise and pay out. If the amount is considerable and the swindle evident, employ a lawyer to look after the matter.

STANDARD AND LOCAL TIME.

EDITOR KANSAS FARMER:—Will you please inform me through your paper of the difference between sun time and mountain time in Scott County? Please locate the meridian from which mountain time is calculated.
Scott County. EDWIN R. STEINBERG.
By agreement of the railroads of the

OUT THERE IN KANSAS.

[EXTRACT FROM A RECENT LECTURE BY I. D. GRAHAM OF THE KANSAS FARMER.]

No land in all my world has so deep and strong a charm for me as sunny Kansas. No other land so pleases me, so satisfies my every desire, and so fills me with the joy of living as does this.

When I go away I enjoy the sights and sensations of other regions, but they are soon forgotten or only half remembered. Memory always carries me back to Kansas. Other lands leave me, but this always stays. Its balmy breezes always waft spicy odors, its grassy seas wave in the sun, and its shady groves invite me.

If I stand on Pike's Peak, the world lies at my feet, and I gaze upon nearby summits piled in wild confusion by the Titans of the Underworld. Beyond lie granite and cloud so merged that a billowy ocean appears studded with islets gleaming in the sun.

If I am at the foot of the Niagara and watch the vast flood of tumbling waters and the encircling shroud of rainbow mist, I am awed in the presence of another of Nature's greatest works.

When I return to Kansas, these are forgotten in the presence of a greater wonder. The vast plains that were once the bed of an inland sea are now blooming for a harvest of all that is good for man. They lie, "Fair as the Garden of the Lord," in a beauty plucked by human hands from the bountiful lap of Nature. Nowhere else is such ever-changing beauty, such plenty, such comfort, such contentment. Nowhere else does trouble seem so little and paradise so near.

I'm glad I live—in KANSAS.

Statutes of Kansas, it is provided that "In all actions against any railway company organized or doing business in this State, for damages by fire, caused by the operating of the said railroad, it shall be only necessary for the plaintiff in said action to establish the fact that said fire complained of was caused by the operation of said railroad, and the amount of his damages, (which proof shall be prima facie evidence of negligence on the part of said railroad;) provided, that in estimating the damages under this act, the contributory negligence of the plaintiff shall be taken into consideration." Section 33 provides: "In all actions commenced under this act, if the plaintiff shall recover, there shall be allowed him by the court a reasonable attorney-fee, which shall become a part of the judgment."

There are two principal points to be considered in every case under this act. The first is, Did the railroad set the fire? The second is, Was the farmer guilty of contributory negligence?

The first is a question of proof; but when a fire has started on the leeward side of a railroad just after the passage of a train and there is no other reasonable way of accounting for it, the question of how the fire started is not usually considered one of doubt. The section foreman is required to report all such fires on his section, so that the evidence is usually pretty conclusive, and, knowing the facts, the railroads of Kansas have not generally sought to deny them.

The question of contributory neg-

road from liability for damages. But the stubble in the meadow has, at times, been very dry, and the farmer has been apprehensive of fire. Under these facts, there is little doubt but that the railroad would be liable for damages should a fire result in this meadow from its operation.

But it is better to avoid trouble than to get pay for damages. In this case, a little extra precaution to prevent the spread of fire would doubtless be willingly paid for by the railroad, and would make the situation comparatively safe. It is possible to burn out fire-guards without plowing. Walter Wellhouse has followed this plan in the Wellhouse orchards, in Osage county, for several years. This is accomplished by the use of a machine which consists essentially of a guard of sheet-iron, 16 by 60 inches, near one end of which is a gasoline torch. A small sled is used to support the sheet-iron guard on edge and to carry the gasoline can, burner, and the connecting parts. A boy's coasting sled would answer admirably for this purpose. The machine may be drawn by a horse, but is usually drawn by a man. The sheet-iron guard may be allowed to cut a little into the sod, and in order that it shall not bend the grass down and run over it, the front end is left square. The torch sets fire to the grass, but as soon as the fuel beside the sheet-iron guard is consumed, the fire goes out on that side. Where there is nothing to obstruct the spread of the fire on the other side of the guard, two machines, one right-

contry, the system called Standard time was adopted. By this system the country was divided into sections by lines running in a northerly and southerly direction. Colonial time agrees with sun time on the sixtieth meridian west from Greenwich. Eastern time is one hour slower than Colonial time and agrees with sun time on the seventy-fifth meridian. Central time is one hour slower than Eastern time and agrees with sun time on the ninetieth meridian. Mountain time is one hour slower than Central time and agrees with sun time on the one hundred and fifth meridian. Pacific time is one hour slower than Mountain time and agrees with sun time on the one hundred and twentieth meridian. Eastern time is correct at Philadelphia. Central time is one minute too fast at St. Louis. Mountain time is about a minute slow at Denver. Pacific time is correct on the boundary between Northern California and Northern Nevada.

Meridian 101 passes through Scott County. On this meridian, Mountain or railroad time is sixteen minutes slower than sun time.

The Great Western Sugar company, through President Havemeyer and General Manager Morey, has offered a magnificent solid silver loving-cup, valued at \$500, for the best State exhibit of sugar-beets at the exposition of irrigated products to be held at Boise during the Fourteenth National Irrigation Congress, September 3 to 8, inclusive. For this valuable trophy, the sugar-beet raisers of Colorado, Utah, Idaho, Washington, and California will enter into competition, and the largest and most varied display of this profitable crop ever exhibited will be a leading feature of the exposition. The subject of sugar-beet-culture will be one of the most important agricultural topics discussed at the congress.

The Rock Island railroad has issued an attractive folder entitled "Chicago as a Summer Resort." It is finely illustrated with views of Chicago's attractions and suburbs. Special round-trip rates are given from all Rock Island points. These are to be obtained from June 1 to September 30.

Miscellany

Suggestions for the Construction of Small Pumping-Plants for Irrigation.

WRITTEN FOR THE KANSAS FARMER BY F. H. NEWELL, CHIEF ENGINEER U. S. RECLAMATION SERVICE.

KIND OF WELLS ADAPTED FOR SECURING WATER FROM GRAVELS.

The most economical well for securing water in the quantities needed for irrigation is a well from 12 to 15 inches in diameter, extending into the water-bearing gravels 30 to 60 feet, according to the thickness of the gravels at the place where the well is drilled. Strainers for these wells can be made of slotted galvanized iron. The perforated metal should be placed opposite all the coarse gravels, or at a depth of 10 feet below the surface of the water. These strainers can be made by any mechanic by punching 1/2 by 1 inch slots into heavy galvanized iron and then riveting the sheets into cylinders of the proper diameter. The cylinders should be rolled in such a way that the burr made by punching the slots will come on the outside of the finished casing, and so that the slots will be vertical. A much better strainer can be made by purchasing the metal in sheets already perforated. For this purpose, steel sheets, 48 by 120 inches in dimensions, perforated with hit and miss shots, 3-16 by 1 inch, and galvanized after the perforations are made, will make ideal strainers. When rolled into cylinders, these sheets form a casing about 15 inches in diameter. In constructing the well, the perforated sections should be put in place, one above another, to within about 10 feet of the water level; from this depth upward, the casing should not be perforated.

AMOUNT OF WATER THAT CAN BE OBTAINED FROM THE WELLS.

Wells constructed as above, in gravels similar to those in the South Platte and Arkansas Valleys, will furnish at least 1-4 gallon of water per minute for each square foot of strainer surface in the well, when the water in the well is lowered 1 foot by pumping. If the water in the well is lowered 10 feet by pumping, the amount of water recovered should amount to at least

ten times as much, or 2 1-2 gallons per minute per square foot of strainer. If a 15-inch well is drilled in good water-bearing gravel to a depth of 40 feet, the lower 30 feet of which is strainer surface, and if the pump lowers the water in the well 10 feet, the amount of water supplied by the well should amount to at least 300 gallons per minute. A careful test of the water-works, at North Platte, Neb., showed that the strainers in the wells were furnishing 3-10 gallon of water per minute per square foot of strainer surface, when the water in the wells was lowered 1 foot by pumping. The

well, 6 to 10 feet in diameter, to a depth of 5 to 10 feet below the water level, inserting in the bottom of the dug well several feeders of perforated galvanized iron, as described above. This method has the advantage of permitting the pump that is to recover the water to be submerged in the water of the well. A well of this sort is shown in figure 1.

In order to sink a dug well the proper distance below the water level, it is necessary to construct a wooden, brick, or concrete crib that will sink as the material is removed from its interior. The crib of the well shown

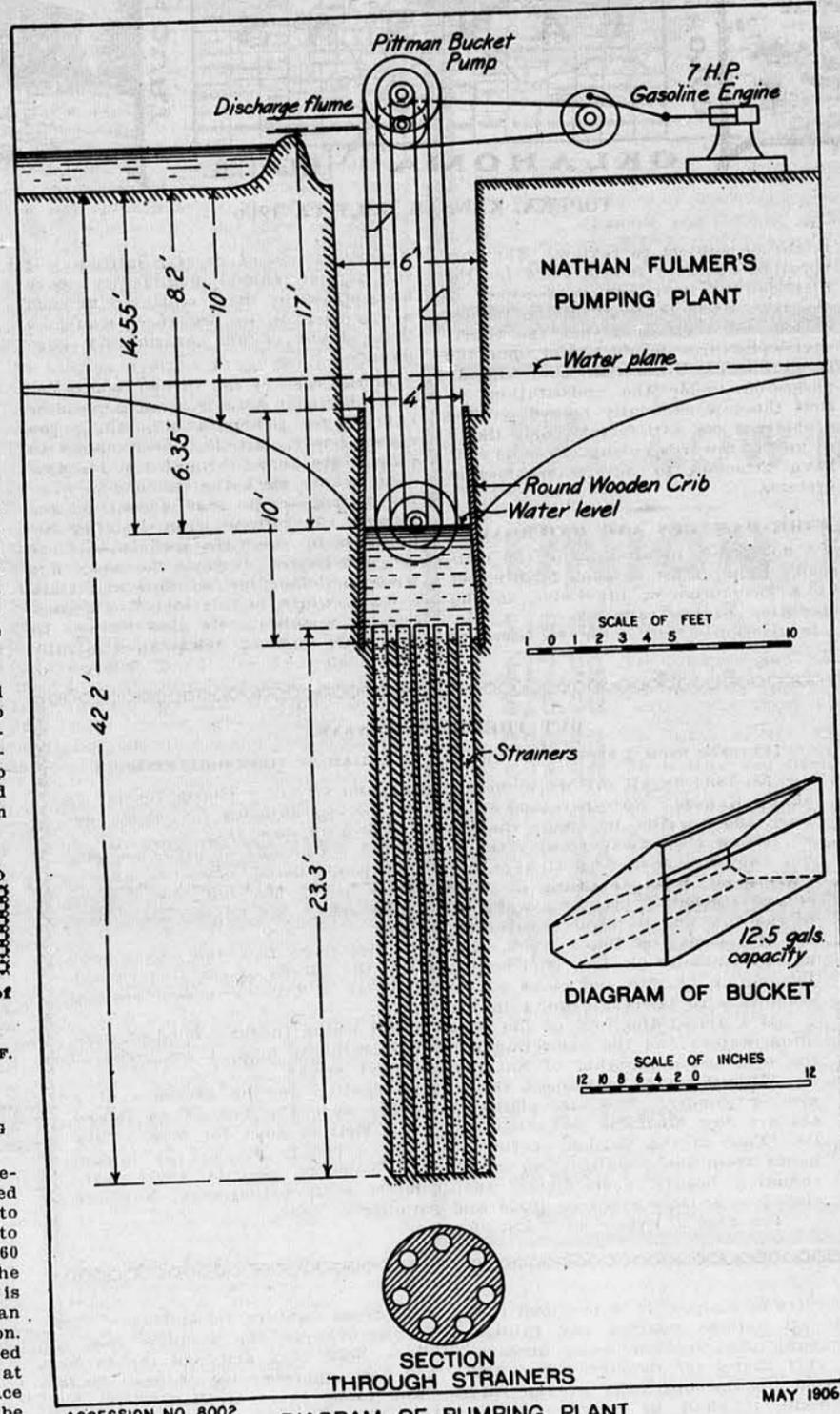
at the same time running clear water into the neighboring well. By this means it should be possible to clear out all the fine material between the two wells. If the water-bearing gravels are of the kind usually found in the river valleys of the Western prairies, a pumping-plant can be constructed sufficiently large to supply from 2,500 to 3,500 gallons of water per minute without lowering the water more than 10 feet. Pumping-plants of greater capacity than this will usually not be profitable. A large number of moderate-sized plants is more desirable than a few large ones.

KIND OF PUMP.

Probably the most satisfactory pump for use in irrigation is the centrifugal pump. However, there are many kinds of small centrifugal pumps. It does not pay to purchase any but the very best machinery for the pumping of water, as poorly designed machinery soon proves too expensive. The various kinds of pumps differ greatly in this respect. The centrifugal pump used by the irrigator should be of the enclosed-runner type, provided with self-oiling bearings of the oiling type. There are several excellent makes of centrifugal pumps on the market, and any of them will do good work if the size and design of the pump fit the conditions under which it must work. The maker of the pump should have full information of all the conditions under which the pump is to be installed. These conditions should include the distance that the pump must discharge the water above its outlet; also the amount of suction or the distance the water must be lifted below the pump inlet. The following points are important to those about to install pumping-plants:

1. The efficiency of the centrifugal pump under actual working conditions is higher for the large-size pumps than for the small size. Pumps having less than 3-inch-diameter discharge-pipe will show a low efficiency.
2. A centrifugal pump will work better and be more efficient if the suction-pipe is as short as possible, relative to the length of the discharge-pipe. On this account, the pump should be placed as near the level of the water as the securing of a good foundation will permit.
3. If the pump is to be driven by means of a belt, it should be provided with a large pulley. The pulley usually supplied with the pumps is so small that a great amount of slipping takes place between the belt and the pulley, and the efficiency of the pump is greatly decreased. Of course, it is necessary to secure the proper proportion between the sizes of driving and driven pulleys, but both should be larger than are usually furnished with pumps and engines.
4. The suction-pipe on the pump and the discharge-pipe should be large. A No. 4 centrifugal pump that draws water from a single well should have at least a 6-inch suction-pipe, and

(Continued on page 732.)



ACCESSION NO. 8002 MAY 1906
DIAGRAM OF PUMPING PLANT IN WHICH WATER IS RECOVERED FROM A DUG WELL WITH A CRIB AND STRAINERS

Figure 1.—Diagram of pumping-plant in the Arkansas Valley in which the water is recovered from a dug well having a wooden crib, in the bottom of which are placed seven galvanized iron strainers or feeders. A chain and bucket pump is used on this well. Better results would undoubtedly be obtained by using a vertical-shaft centrifugal pump submerged in the open well.

average of 11 pumping-plants in the Arkansas Valley was 0.33 gallon of water per minute for each square foot of strainer surface, under one foot head.

For small pumping-plants, a single well of the depth indicated above would probably be sufficient, but if no good water-bearing gravels extend to the requisite depth, it would be necessary, to increase the number of wells and connect several of them to the pump.

DISTANCE BETWEEN WELLS.

If it is necessary to construct several wells in order to secure the amount of water required for an irrigation plant, it becomes important to consider the best and most economical arrangement of the wells. Two different methods will be found available for this purpose. If the amount of water required is not greatly in excess of that which can be supplied by a single tubular well, it is often found practicable to construct a large dug

well, 6 to 10 feet in diameter, and is made larger at the lower than at the upper end to facilitate sinking.

Another method of recovering a large quantity of water is to sink a battery of wells and connect them by suction-pipe to the pump. This method is adapted to secure a larger supply than the method just mentioned. Three or four, or more wells can be arranged in a straight line, 20 or 30 feet apart, and connected to a pump placed near the center of the row of wells. In the diagram (fig. 2) will be found an arrangement suitable for a battery of eight to twelve wells. These wells are arranged in pairs, close together, each pair of wells being 40 to 60 feet from the next pair on the same suction-line. The object of placing the wells close together in pairs is for the purpose of removing a large amount of the fine sand from the water-bearing gravel. This can be done in gravels like those found in the Western valleys, by pumping vigorously from one of the pair of wells, and

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Agriculture

Seed-Wheat—Preparation of Seed-Bed.

I write to find out if the college will supply me with about six bushels of seed-wheat. If so, at what price? If you have any bulletin on the preparation of the seed-bed, amount of seed to sow per acre, etc., I would be pleased to receive it.

Reno County. C. A. RUNDALL.
We will have pure seed of several varieties of winter wheat for sale for fall seeding. Of the soft wheat we have only the Zimmerman variety; of hard red wheat we will have a supply of the Kharkof, Malakoff, Defiance, Bearded Fife, and Red Turkey. Price of well-cleaned seed-wheat is \$1.50 per bushel, with extra charge of 15c each for two-bushel sacks.

We have no bulletin now in print discussing wheat-culture. I have mailed copies of briefs of lectures given last fall on the Rock Island "Corn and Wheat Train." I have also mailed a letter discussing the preparation of the seed-bed for wheat and other crops.

At this station we plan to sow about five pecks of winter wheat per acre. Further West less seed is sown, and a smaller quantity of seed is required for early than for late sowing, and in the most favorable seed-bed a small amount of seed may give a good stand where a larger amount of seed will be required for sowing under less favorable conditions. The quality of the seed is also a determining factor as to how much should be sown per acre. A bushel of well-cleaned, plump, sound wheat will give a better stand and a better growth than a bushel and a half of seed-wheat poorly cleaned and containing shrunken unsound grains. It pays well to clean and grade wheat for seed.

In the preparation of the seed-bed, it is essential to have the soil mellow at the surface, but well settled and firm beneath the point at which the seed is planted, in order that the soil may make good connection with the subsoil, giving proper conditions for the germination of the wheat and proper environment for the growth and development of the roots of the wheat-plants. With loose, mellow soil below the depth at which the seed is planted, wheat may not germinate well, or if there is plenty of rain and the wheat starts, the plants are much more apt to "freeze" out or "burn" out in such a seed-bed. I believe these points will be made clear in the discussion of the preparation of the seed-bed referred to above.

A. M. TENEYCK.

Questions About Measuring Hay.

I have 130 acres of prairie meadow which usually yields 10 tons of hay. Have been stacking in the field in 10-ton stacks, but much of the hay is damaged when put up in this way. Will you please tell me what per cent of hay I am losing, and how much room a ton of baled hay occupies? If a barn holds 25 tons of loose hay, how many tons of baled hay will it hold? I sell all of my hay to local parties. What make of hay-press do you consider the best?

Marshall County. GRANT EWING.
The per cent of loss in hay stacked out-doors will depend on how well the hay is cured and how well it is covered, also on the size of the stacks. If the hay is put up in small stacks, such as you describe, even if the hay is well covered, there may be an average loss of 10 per cent. This would mean one ton in ten. Occasionally, of course, where an accident happens, such as the top blowing from a stack or uneven settling causing the wetting from one side, the percentage loss may be much greater.

An average bale of alfalfa hay sold on the market at Manhattan weighs about 85 pounds, the average length of the bale is about 40 inches and the other dimensions are 15x20 inches, making the total volume of a bale about 7 cubic feet. 2 3/4 bales will make a ton, figuring 85 pounds per bale, and 164.5 cubic feet of space will be required to store these 2 3/4 bales, that is figuring actual volume; doubtless, we should add 10 per cent more space for room lost between bales in storing, making about 180 cubic feet of space required for storing a ton of baled alfalfa hay. Ordinarily, 5 1/2 cubic feet is figured as the volume of a ton of hay in the mow or stack upon after stacking, or about the time it is well settled. The volume of a ton of baled hay is therefore equal about one-third the volume of a

ton of loose hay in the stack or mow. If the total space in the barn holding 25 tons of loose hay could be used for storing the baled hay, the barn would hold in the neighborhood of 75 tons of baled hay.

We are now using the Auto-Fedan hay-press, manufactured by the Auto-Fedan Hay-Press Co., Topeka, Kans. We have used the Kansas City Hay-press, manufactured by the Kansas City Hay-Press Co. I have just had my attention called to a new type of hay-press, known as the Leubben baler, manufactured by the Leubben Baler Co., Lincoln, Nebraska. It is claimed for this press that it has a very great capacity. It puts the hay up in cylindrical bales, which is claimed to be an advantage when alfalfa is baled from the field, since the cylindrical bale has a hole through the center, allowing the alfalfa to cure in case it should not be fully cured when baled. I have never seen this baler nor do I know anything of its work. I hope to secure one of these machines and give it a trial at this station.

A. M. TENEYCK.

Grass for Meadow.

I would like to sow some kind of grass for meadow. I understand that Bromus inermis makes a good hay for horses. Please advise when to sow, how much seed per acre, where the seed may be purchased, etc. What mixture of grasses would you recommend for meadow? Early this spring I plowed a field in the creek bottom and let it lie fallow, keeping it free from weeds. Would it do to sow to Bromus inermis this fall, or would the grass be apt to winter-kill?

WILLIE WIEMERSLAGE.

Lincoln County.

I know of no domestic grass which is likely to succeed better in Lincoln County than Bromus inermis. Bromegrass makes an excellent hay for horses, as you have stated. The grass is also excellent for pasture for all kinds of stock. It is not so productive as alfalfa, either for pasture or for hay. In your part of the State I would usually advise to sow early in the spring, although if the fall is favorably moist and if you have ground ready, you may safely sow Bromus inermis about the first of September. Seed 16 or 20 pounds of good seed per acre. I would advise to sow a little alfalfa with the Bromus inermis, sowing a little less Bromus with 4 or 5 pounds of alfalfa per acre. The alfalfa will improve the quality of the hay and there is little danger of injury to the animals by pasturing cattle on the combination of Bromegrass and alfalfa. Unless the fall is very unfavorable, the piece of land which you are summer fallowing and cultivating ought to be in excellent condition to seed this fall. Bromus inermis will not winter-kill if it makes a good start before freezing weather.

For further information regarding the preparation of seed-bed, etc., I have mailed copy of a letter answering questions on this subject. I have also mailed you a copy of Press Bulletin Number 129, giving information regarding the culture of Bromus inermis.

A. M. TENEYCK.

Methods of Planting Cow-Peas.

I have a field in oats and want to put in cow-peas when oats are out. Will you kindly advise me as to the best way to put the peas in? The land has not been plowed in a number of years.

ROBT. HERON.

Marion County.
If your purpose is to use cow-peas for forage or green manure, I would advise that you disk the oats stubble as soon after harvest as possible and sow the peas in close drills with a disk drill, or, if you do not have a disk drill, the peas may be sown broadcast and covered by disking. A very successful method of planting cow-peas after oats is to plant immediately behind the binder, following the binder with a disk harrow and the harrow with a disk drill. If the stubble ground is clean and mellow, the peas may do fairly well if the drill is put directly behind the binder. In an experiment carried on at this station last season, we found that it paid to use the disk harrow when this method of sowing was practiced. Cow-peas, planted on the disk-harrowed ground immediately after the binder, made a thicker stand and a ranker growth than the peas planted without cultivation previous to planting.

You will hardly be able to mature cow-peas for seed planted after oats are harvested. Perhaps, if we have a good growing season and the frost

holds off until late in the fall, such varieties of cow-peas as the New Era and Blackeye may mature seed. When planted for seed-production, it is preferable to plant the peas in rows and cultivate the crop. We usually plow the ground and prepare a good seed-bed and plant with the grain drill, setting the drill to sow about two bushels of wheat per acre, which will sow the cow-peas at the rate of about a bushel per acre. Plant in rows about three feet apart. Cow-peas may be planted with the lister, using the high gear and an enlarged plate so as to drop the peas about two inches apart in the furrow. It is preferable to list rather shallow. Doubtless, by cultivating the crop, you will produce as much forage by planting in rows in this way as may be produced by planting in close drills or sowing broadcast, but the labor required is greater when the crop is cultivated, although the effect of the cultivation on the land may result in a greater benefit in the increased yield of succeeding crops than the expense of the extra labor required for the cultivation.

The fact that this land has not been plowed for a number of years would favor the method of planting in rows and cultivating as compared with sowing broadcast or planting the peas in close drills. However, I would about as soon plow the ground after the cow-peas are taken off for forage, or preferably the cow-peas may be plowed down for green manure, planting the land with corn or spring crops the succeeding season. There is little question but that cow-peas make an excellent crop to grow in rotation with wheat, small grains, and corn. Oats after cow-peas this season will double the yield per acre given by oats after Kafir-corn on an adjacent plot, and the crop is much superior to the oat-crop after corn or small grain. These cow-peas were planted in rows and cultivated last season, and the crop was removed for seed.

I have mailed copy of an article giving further information regarding the culture and use of cow-peas.

A. M. TENEYCK.

Dwarf Milo (Maize) for Western Kansas.

EDITOR KANSAS FARMER:—There is a very large area of land in the Western half or two-thirds of Kansas upon which something besides wheat should be grown. There are two fundamental reasons why this should be done. First, continuous wheat-growing is very productive of ever decreasing yields. It exhausts the moisture and available nitrates; reduces the vegetable matter in the soil so that the moisture is less readily taken up, and when taken up is much more rapidly lost by surface evaporation. The loss of the vegetable matter also permits the soil to run together and become hard and uncongenial for any crop.

Second, a diversity of crops, especially if they grow and mature at somewhat different times of year, gives the grower greater insurance against crop failure. One of the best crops for the Western Kansas farmer, to grow in the place of part of his wheat acreage, is the Dwarf Milo. This is a good crop for that locality, because it is well adapted to the moderate rainfall and generally severe crop-conditions that are apt to prevail in that section during the growing season. It is also a good crop for that locality, because it is giving evidence of being a most excellent feed for the fattening of cattle and hogs, and that locality should, for the sake of the productiveness of their land if for no other reason, grow and fatten a large amount of live stock.

It is a well established fact that one year's experimentation does not establish any given point, but the work here last year in cooperation with the Department of Agriculture indicates that quite thick planting of this crop will give larger yields of grain than will the thinner plantings. In the rate of planting test, the thickest planting gave a yield of 40 bushels per acre and the thinnest planting but 30 bushels per acre. The thin planting results in large heads and an appearance of a larger yield of grain when looking at the field. But the greater number of smaller heads on the thick stand turned out the grain the fastest when thrashed.

This factor, of yielding more grain from thick planting, is a quite important one, as it enables the crop to be grown in a way to produce the highest quality of forage without decreasing the yield of grain. The forage of this crop is not generally considered of much value, but this is due

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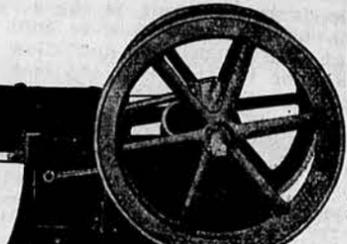
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to the fact that it is not cut at the proper time. If cut at the right time, it is most excellent feed. It should be cut when the seed is in the stiff-dough stage. Left until the seed is fully ripe, the leaves turn brown rapidly and many of them drop off. The stalk also becomes rapidly woody at this stage.

As above indicated, this result in yields is not to be taken as conclusive but only as an indication. In other years under somewhat different condition as to distribution of rainfall, the result might be greatly changed. The rate of planting in the above test ranged from 4.25 to 17.00 inches between the plants in the row, and the rows were 42 inches apart.

As to the feeding value of the grain above referred to, we are now conducting an experiment with it, and while it is not yet completed, it has progressed far enough to justify the statement that the grain is a most excellent feed for fattening purposes. The steers that we have been feeding for four months have made very satisfactory gains and on a comparatively small amount of grain. We have a bunch of hogs behind each lot of steers to pick up the waste, and up to this time less than five and a half pounds of grain have been consumed for each pound of beef produced, and less than five pounds of grain have sufficed to make a pound of beef and pork combined. Taking our results thus far as a basis, a thirty-bushel crop of Milo would produce over 380 pounds of beef and pork, and a forty-bushel crop over 500 pounds of beef and pork per acre. A small amount of cottonseed-cake is fed in the above ration to partially balance it.

From the time of cutting this crop last fall until late this spring, our horses were fed entirely upon bundle Milo together with some bundle Kafircorn used as a variety. The horses were at hard work most of the time and kept in excellent condition. In fact, they improved after they were put on this feed. The Milo has sufficient laxative action to keep the bowels in excellent condition all the time. It is not so hard as corn and can be ground with much less power. Fed in the bundle or in the head to horses, it will be masticated so that seldom will there be a grain passed whole; but for cattle or hogs it should be ground whether thrashed or in the head.

J. J. EDGERTON.
Hartley, County, Texas.

Insect in Cocker-Bur.

Please find enclosed some cockle-burs which contain the remains of weevil; also one which contains insect in live form. I am farming a field which has been set in cockle-burs for years. Noticing the almost total absence of green burs, I made an examination and found that many of the burs contained specimens of this insect, while many more were destroyed and the insect gone. Please make examination and report to me.

W. V. TURNER.

Chautauqua County.

The "weevil" found in the cockle-bur is really the grub or maggot of a pretty, little fly that is to be seen in plenty during August or early September running over the leaves of the plant. This fly is not quite as large as a house-fly, is of a pale-yellow color, and has the wings regularly patterned with brownish black, surrounding many small spots of the yellow ground color. The parent fly has the posterior end of the body prolonged into a slender tip, with which it places the egg in the proper position. The eggs are laid during the summer on the young bur, and soon hatch into the grub which eats the seed contained within the bur, and on reaching full growth, changes to a dormant pupa, later disclosing the perfect fly.

From your observation, and from the fact of the presence of the unchanged grub still in the bur, it is evident that the insect passes the winter in the grub or maggot stage. Curiously, though the cockle-bur contains two seeds, but one of the seeds is found to be attached, and probably the weak little fly is dependent on the germination of the sound seed to split the tough hull of the bur and allow the escape of the imprisoned insect.

As the cockle-bur is a troublesome weed in all parts of our state, we shall recognize as a friend any insect that reduces the number of its seeds, though unfortunately this insect attacks but one seed of the pair found in every well-developed bur, and, however abundant the insects, there will still be seeds to grow.

E. A. POPENOE, Entomologist,
Kansas Experiment Station.

Horticulture

Cut-Worm Moth.

I enclose a miller about which I would like some information, whether it is harmful or otherwise, and all about it in its different stages. We have them here in annoying abundance this summer. Do you think they would breed in the ivy growing on the house?

Mrs. C. H. KELLOGG.

Russell County.

The specimen enclosed is a cut-worm moth, of which several species have been very much in evidence this spring. This species is the moth that produces what is called the greasy cut-worm, one of the most common kinds. The abundance of these moths at the lights, on hiding in the house in the daytime, indicates that now the first brood of worms has fully matured, and that a corresponding number of their larvae may soon be expected to be at work in the garden and field. The first brood of worms have doubtless made themselves known to you in the weeks past by the cutting off of young plants in the vegetable garden and corn-field. The work of the second brood will be less obvious, however, because of the present greater abundance of vegetation of all kinds, as they are by no means limited in their food to cultivated plants.

The parent moth lays her eggs in various places, usually on vegetation, but sometimes strangely on objects not at all suited to the purpose, as we judge it. I have found them on the corners of pieces of lumber, and often on the body of a tree or branch. Wherever they are found, there is no doubt, however, that the young caterpillars finally reach their required food, as the numbers of the insects will testify. The eggs are small, round, glistening, white objects usually deposited in clusters and in rows with great regularity in their arrangement. The larvae hatching from these are, in most of the species, dark, smooth caterpillars, of color and appearance suitable to their protection on or in the ground in which they hide during the day, their destructive work being mostly done at night. As they reach full size, they naturally require more food and destroy more small plants, to reach which they wander about at night over the surface of the soil. Some species, known as climbing cut-worms, even ascend the trunks of small trees, on the leaves of which they feed, much to the mystification of the orchardist, who finds the evidence of their presence without being able to detect the cause. A visit to the trees after dark, however, will show them at work, and they may be jarred from the trees on a sheet spread beneath, and destroyed by any ready method. A coat of arsenical poison applied by spraying will have the effect of full protection from such attacks, and its use in such cases is quite a practical solution of the difficulty.

With the non-climbing species, other methods must be made use of. For the protection of small garden-plants, and plants like asters in the flower garden, the old-time practice of searching in the soil about the base of the injured plant will usually discover the enemy hidden near its work, when it may be crushed or traps consisting of chips or small pieces of wood will attract many that will be found in the morning in hiding beneath. On a larger scale it is entirely practicable to kill many of the traveling worms by the method of poisoned bait, using for the purpose freshly cut leaves of attractive food-plants, prepared by dipping in Paris green in water, and placing among the plants to be protected.

In field-culture, such methods are mainly inapplicable for obvious reasons. In most cases, the abundance of the worms in corn-fields is due to cultural methods that must be changed to accord with the known habits of the insects, if we are to escape the destructive attacks of the worms. The most troublesome attacks are apparently due to certain species which pass the winter in the ground, or under rubbish, as half-grown larvae. In spring these are at once on the ground and attack the early plants in disproportionate abundance. These worms have been fed the previous fall on the late vegetation growing in the fields where they winter. They will accordingly be much less abundant in clean fields than in weedy ones. Further, where they are in semi-dormancy in the fields during winter, their healthy revival in the spring following necessitates that they be not disturbed in their snug winter quarters in the earth. Fall

plowing will, therefore, do much to destroy them in this condition. But to be of advantage, this operation should be deferred until the close of the active season of the worms.

When the worm has reached full size, it burrows a few inches into the soil, pushing away the loose earth to form about itself a small oval cavity, compacts the wall by the application of juices from its mouth, and transforms to a pupa, in which condition it is dormant for a while, the length of this stage depending on the season in which it is assumed. Some pupae disclose the moth in a fortnight, while others, assuming this stage in the fall, remain quiet until the following spring, when the moth appears. The winter stage is, therefore, different in different species, and yet the field practice is equally to be recommended in the destruction of those of either habit.

As a common experience, the moths are greatly attracted by a bright light at night, buzzing heedlessly around the lamp, and falling frequently to the table beneath. This habit may be used for the destruction of the mother moth. If a broad, shallow pan, containing water with a little coal-oil upon it, be placed beneath the light, the moths will all sooner or later fall therein and be killed. Adaptations of this trap may be profitably used in the garden when the moths are abundant as noted by our correspondent.

While I do not doubt that some cut-worms of the climbing species will feed on the ivy, by which I take it the Virginia Creeper is meant, yet this plant is certainly not to be charged with their abundance in the case reported.

E. A. POPENOE,

Entomologist, Kansas Experiment Station.

Method of Destroying Sand-Plum Growth.

Is there any season of the year that a person can cut sand-plum-bushes to destroy them? If so, when? They have gotten a start in my orchard and are spreading very rapidly. They are also found in patches in my pasture.

Harper County. D. H. HOYR.

The probability of killing plants by cutting off the parts above ground depends very considerably upon the character of the plant, especially as regards its ability to produce adventitious buds from the woody tissue, somewhat upon the season at which it is cut, and somewhat upon the weather conditions at the time of cutting.

Plants which, like the locusts, plum, wild cherry, and many other trees and shrubs, sprout readily are difficult to kill without grubbing the roots from the soil. The roots contain considerable quantities of plant-food, and buds are readily formed from woody parts of the root or stem. The least number of sprouts is likely to be produced when the plant is completing its growth for the season and the wood is hardening. At this time it seems that the roots contain less reserve food than at other times. If the weather is hot and dry, the plant sometimes dies without forming any buds, but deep-rooting plants are rarely killed so easily. The season at which this condition prevails is usually about midsummer, but I am unable to name any date, as the weather conditions change the period of growth very considerably. In the dry summer of 1901 some mulberry and hedge, cut in midsummer or a little before, were killed entirely. Some more vigorous plants did not show sprouts until the following spring and then the sprouts were few. Other plants of the same species in moist soil sprouted vigorously during the very dry weather.

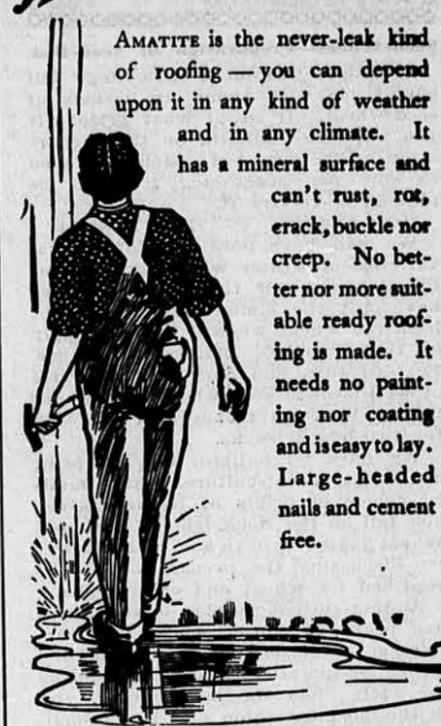
There is probably no "royal road" to the killing of brush and trees of any species that sprouts readily. It frequently requires several seasons of thorough work before all the roots capable of forming buds are entirely killed.

Where plants are not very large, we have had fair success by plowing deep with a heavy team and strong plow, harrowing well, and repeating the operation when a new crop of sprouts appeared. The first plowing is difficult, but the later plowings need not be so deep to be effective.

I am sorry that I have not some easy method to suggest. But any substance that will kill plum-brush by application to the soil will render your soil unfit for other plants for some time. The old date, "Dark of the moon in August," probably was recommended by some one who had all the conditions of plant-growth and weather in his favor at the time, and he possibly forgot to note some later sproutings.

In regard to the pasture, I think that some years or a great deal of time must elapse before the growth can be

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easily killed, but I have noticed that in some sections of the State, where sand-plums were numerous some years ago, where they have been repeatedly burned and pastured heavily, the plums are killed. It really sums up that it must take a good deal of time with some work, or a great deal of work at some one time in order to kill such plants.

ALBERT DICKENS.

Dying Apple-Trees.

Some of my apple-trees are dying. I dug around the ones that are dead and found that from the top of the ground down the bark seems to be dead, and from the ground up the bark is green. I can not find anything working on them. Can you tell me what to do for them and what the trouble is? The orchard is about fourteen years old.

Brown County. J. E. RADER.

It may be that the excessively wet weather of the past two years has injured your trees, but more probably the very cold weather of February, 1905, caused the trouble. Our trees were not in the best condition to resist the low temperature at that time. We have some Ben Davis trees sixteen years old that are dead or dying from the latter cause; they are on low ground but where drainage is good. The damage to your trees could hardly be attributed to root rot or woolly aphids that cause trouble farther south.

We know of no treatment that would be beneficial, except the ordinary care given the orchard to keep it in good growing condition.

WALTER WELLHOUSE.

Propagation of Roses.

Several inquiries on the propagation of roses are answered by Prof. Albert Dickens as follows:

The rose is propagated in various ways. Some varieties succeed well by cuttings, namely, the China and many tender roses; but with most of the hardy kinds, this is only resorted to by skillful gardeners.

All of the summer-flowering roses may be propagated by layers. Where only a few plants are required, this method may be employed. Layer in spring, using wood of the last year's growth; the bark of the buried portion should be abraded.

R. Lucida, R. Carolina, R. nitida, and Crimson Moss are easily propagated by division. Plants are taken up after making three or four years' growth and torn apart. These divisions should be planted either in the nursery or where they are to remain.

Roses are grown from seed mainly for the purpose of getting new varieties. The seeds should be gathered in the fall and at once stratified with moist sand. When well rotted they can be easily rubbed or washed clean, and should be planted at once in carefully prepared and well-manured beds out of doors or in pots or pans in a cool greenhouse.

Last year the writer had fine success in striking hardy rose cuttings under glass. Cuttings were taken from the wood of the current year's growth in October, and placed in sand in a cool greenhouse. These cuttings were made like any other greenhouse cutting and given exactly the same care. Out of a total five hundred cuttings, eighty per cent made fine, large roots. Any of these methods may be followed with success, but where named roses can be procured so cheaply from reliable florists, it is far better to procure healthy, vigorous plants from such a source.

Farm Notes.

N. J. SHEPHERD, ELDON, MO.

It is a waste of feed to give more than an animal can digest. Groom and clean up the working press twice a day, morning and evening.

It is equally as dangerous to work a horse too soon after feeding as to feed too soon after working.

Methods and surrounding differ so much that the cost of production is a ever-varying quantity.

One of the most beautiful things that can be placed about a home is a well-kept lawn.

In breeding, defects are peculiarly persistent and are more easily stamped on the next generation than good qualities.

As a general rule, the finer the mare and the more evenly distributed, the more accessible it is to the crops.

Selling everything we produce and buying everything we consume, increases the trading and manufacturing classes and diminishes the percentage of farming classes.

No man is so certain of success in any line of business as the one who

lives his particular calling and who devotes all his power and energies to it.

With improved stock, a sudden change from liberal feeding and good shelter to poor food and no shelter and a great increase of exertion will tell unfavorably in almost every case.

In nearly all cases, other things being equal, of two animals the one which is the better feeder will be the more profitable.

Stock with inherent good qualities will make money on the same care and feed with which nondescript varieties will only bring loss.

Many cases of diseased feet are the result of allowing shoes to remain on too long. The result of carelessness of this kind may not be noticed at once, but it will surely crop out in the future.

In buying a horse, reject one that is split up—that is—shows much daylight between his thighs. Propelling power comes from behind, and must be deficient in horses without due muscular development between the thighs.

Good shelter goes a long way towards keeping stock of any kind in good condition, and where the supply of provender is limited, it is an important matter to have good stabling.

It is conducive to health to feed the hogs where they can have the range of the pasture fields. It may take a little more corn to make a pound of pork, but it is better pork.

The animal that does not gain, in fact is losing flesh, is simply a machine to destroy food. There must be growth and gain in flesh to compensate for labor and the food.

All kinds of stock thrive best with a good variety of feed. Perfect health can not be expected in a diet that will produce only bone and muscle; and the same is equally true of a fat-forming ration.

The pig will give a larger return for food consumed than any other farm animal, and in nearly all cases the returns made will be in proportion to the kind and quality of food given.

A Satisfactory Hay-Press.

The manufacturers of the I-M-ITT Hay Press, Kansas City, Mo., evidently believe they have the best press on the market. If they were not certain, it is not likely they would make the liberal offer that they do to prospective buyers. Their offer is to ship their hay-press freight prepaid to any one wishing to buy a press, either for cash or on time, and give him 30 days in which to test it, and they guarantee its working qualities and strength. This is a bona fide offer, and they are willing to take the chances of demonstrating to any prospective buyer that their press is all they claim for it. The I-M-ITT Press is now in its sixth year, and this year is having the largest sale of any factory in Kansas City, and this is on account of its splendid showing of the past few years. Its principal features are as follows: Owing to the great pressure necessary to make neat bales and to make the baling of hay profitable, the power mechanism of a hay-press is one of its principal features. In the majority of presses it is necessary to have a strong, clumsy, heavy pitman, the head block being pushed into the baling chamber. On the I-M-ITT, a one-inch steel rod takes the place of a pitman and the power is applied to the block head by a pulling instead of a pushing. This rod has a tensile strength of 35,000 pounds. The catalogue, which the manufacturers of the I-M-ITT will send to any person desiring one, will explain and illustrate the merits of this plan more fully. All correspondence concerning the press should be addressed to the I-M-ITT Hay Press Co., Kansas City, Mo.

Confidence in Their Hay-Press.

The New Century Hay-Press, made in Kansas City, is well named, and it is refreshing to note the confidence that the manufacturers have in this press. Hay-press buyers should not have any difficulty in satisfying themselves as to the merits of this hay-press, for the manufacturers offer to send it to any press-buyer, freight prepaid, and let him test it in his own way and on his own ground. When a manufacturer offers to do this on such a large piece of machinery as a hay-press, it must be true that there is more than usual merit in the article.

Some of the best points about the New Century Press are that it has a pull power for compressing the bale instead of the heavy, clumsy, push power heretofore found in hay-presses. It also has an automatic feed and an automatic block-dropper, and both these features have no doubt saved hundreds of accidents to arms and legs of the operators. The advertisement for this factory appears elsewhere in these columns, and the catalogue, which the manufacturers will send to any person desiring one, will fully explain all the points.

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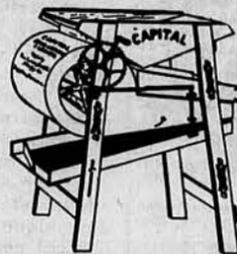


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Stock Interests

PURE-BRED STOCK SALES.

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

- August 15, 1906—Maple Hill Shorthorn Sale. H. C. Duncan, Osborne, Mo.
- September 20, 1906—Duroc-Jerseys at Hutchinson State Fair, N. B. Sawyer, Cherryvale, Kans.
- September 16, 1906—Peek, Putman and Lamb Bros. Tecumseh, Neb.
- September 25, 1906—Valley Brook Shorthorns, J. J. Mason, Overbrook, Kansas, owner, T. J. Workman, Liberty, Mo., manager.
- September 25, 26, 27, 1906—Hope Agricultural and Live Stock Fair & Sale. H. K. Little, Secretary, Hope, Kans.
- October 2-3-4-5, 1906—Glasco Live Stock Association sale of pure-bred stock, Glasco, Kans.
- October 10, 1906—H. L. Faulkner, Jamesport, Mo.
- October 11, 1906—American Galloway Breeders' Association Combination Sale, Kansas City, Mo.
- October 17, 1906—W. J. Honeyman, Madison, Kans.
- October 17, 1906—Poland-Chinas, W. A. Pruitt, Asherville, Kans.
- October 18, 1906—East Lynn Herefords, Will H. Rhodes, Tampa, Kans.
- October 18, 1906—Choice Duroc-Jerseys. C. A. Wright, Rosendale, Mo.
- October 18, 1906—Poland-Chinas, W. A. Davidson, Simpson, Kans.
- October 20, 1906—W. R. Dowling, Norcatur, Kans.
- October 20, 1906—Poland-Chinas.
- October 23-24, 1906—E. A. Eagle & Sons, Agricola, Kans.
- October 24, 1906—Poland-Chinas, Frank A. Dawley, Waldo, Kans.
- October 25, 1906—D. W. Dingman, Clay Center, Kans., Poland-Chinas.
- October 25, 1906—Poland-Chinas. T. J. Triggs, Dawson, Neb.
- October 26, 1906—Poland-Chinas. O. W. Stalder, Salem, Neb.
- October 27, 1906—Poland-Chinas. Chas. A. Lewis, Beatrice, Neb.
- October 28, 1906—Jno. W. Jones & Son, Concordia, Duroc-Jerseys.
- October 30, 1906—Leon Calhoun's sale of Poland-Chinas at Atchison, Kans.
- October 31, 1906—Poland-Chinas. O. B. Smith, Cuba, Kans.
- November 1, 1906—Poland-Chinas. Carl Jensen & Sons, Belleville, Kans.
- November 1, 1906—Frank Zimmerman, Center-Ville, Kans.
- November 1 and 2, 1906—Herefords and Shorthorns, Kansas City, Mo., W. C. McGavock, Mgr., Springfield, Ill.
- November 6, 7, 8, 1906—Sale of all beef breeds, Kansas City Sale Pavilion, R. A. Ford, Lawson, Mo., Manager.
- November 8, 1906—T. P. Sheehy, Hume, Mo.
- November 13, 1906—Howard Reed, Frankfort, Kans.
- November 14, 1906—Poland-Chinas. F. R. Barrett, Cadmus, Neb.
- November 16, 1906—G. M. Heberd, Peck, Kans.
- November 20-23, 1906—Blue Ribbon sale of all beef breeds, D. R. Mills, Mgr., Des Moines, Iowa.
- November 27, 1906—L. C. Caldwell, Moran, Kans.
- December 4, 1906—Poland-Chinas, Lemon Ford, Minneapolis, Kans.
- December 5, 1906—American Galloway Breeders' Association Combination Sale, Chicago, Ill.
- December 11-12, 1906—James A. Funkhouser and Charles W. Armour, sale pavilion, Kansas City.
- Jan. 17, 18 and 19, 1907—Shorthorns, Aberdeen-Angus and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.
- Improved Stock Breeders' Association of the Wheat Belt—November 13, 14, 15, 1906, at Arkansas City, Kans., J. E. Knox, Nardin, O. T., manager; Dec. 5, 6, 7, 1906, at Anthony, Kans., Chas. M. Johnston, Caldwell, Kans., manager; Dec. 18, 19, 1906, at Wichita, Kans., J. C. Larrimer, Derby, Kans., Manager; Feb. 13, 14, 15, 1907, at Caldwell, Kans., Chas. M. Johnston, Caldwell, Kans., manager.
- February 19, 1907—Jno. W. Jones & Son, Concordia, Duroc-Jerseys.
- April 3, 4 and 5, 1907—Herefords, Aberdeen-Angus and Shorthorns, Kansas City, Mo., W. C. McGavock, Mgr., Springfield, Ill.
- May 1, 2 and 3, 1907—Aberdeen-Angus, Shorthorns and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.

Bulletin No. 130. Steer-Feeding Experiment at Manhattan in 1903-1904, by the Dairy and Animal Husbandry Department, Kansas Experiment Station.

One car-load of steers was divided into two lots and fed through a feeding period of one hundred forty-four days, the details and results being given in this bulletin.

The use of alfalfa as the sole roughage in full-feeding cattle is becoming quite general and seems to give the best of results. Some feeders, however, are of the opinion that where too much alfalfa of high quality is supplied to steers, they will not consume enough grain to produce satisfactory results. It has been observed in the progress of previous feeding experiments at this station, that cattle receiving nothing but alfalfa as a roughage always seem to have a taste for coarse roughage of various kinds.

It was decided to make a comparative test of alfalfa alone, with alfalfa and several other kinds of cheaper roughage supplied, so the cattle could select and eat at will whatever they desired. It was thought that where a variety of roughage was supplied in this way the steers could choose at will, and, in a measure, balance their own rations. The relative cost of the two methods of feeding also entered into the question. If as good gains could be produced by the use of a variety of roughages, in which alfalfa hay was used as the chief, and cheaper fodders used with it, the cost of feeding would be reduced and more of the rough feed of the farm could be utilized.

MANNER OF FEEDING.

In order to make the conditions as nearly like those on the average farm where the cattle are fed as possible, the steers were placed in lots with open sheds only for protection. The hay was fed in large, movable racks, into which a ton or more could be placed at a time. A manger extended

along each side, and the cattle had free access to the roughage. The grain was fed separately in feed-troughs. Lot No. 1, which received the variety of roughage, had alfalfa hay and prairie hay before them all the time. During part of the experiment they had also a small quantity of corn ensilage furnished them each day. The grain was the same for both lots, being corn-and-cob-meal and, towards the end of the experiment, corn-meal and cottonseed-meal.

STEERS USED.

The steers used in this experiment were purchased in Kansas City in the open market. They were high-grade Angus cattle, fairly uniform in quality. The average weight at the time of purchase was 918 pounds, and the average price per hundredweight was \$3.49.

GETTING THE STEERS ON FEED.

The experiment was started January 1, 1904. The steers were all placed in one lot and fed corn-stover and alfalfa hay, with a small amount

TABLE I.—WEIGHTS AND GAINS BY MONTHS. Lot I.—Alfalfa hay with other roughage.

	Weight, lbs.	Gain, lbs.	Av. daily gain per steer, lbs.
Jan. 1.	9,615	...	...
Feb. 1.	10,730	1115	3.59
Mar. 1.	11,390	660	2.27
Apr. 1.	12,100	710	2.29
May 2.	12,695	595	1.92
May 23.	12,945	250	1.25
Total gain. ....	...	3,330 lbs.	...
Aver. daily gain per steer. . .	...	2.32 lbs.	...

Lot II.—Alfalfa hay alone.

	Weight, lbs.	Gain, lbs.	Av. daily gain per steer, lbs.
Jan. 1.	9,555	...	...
Feb. 1.	10,925	1370	4.41
Mar. 1.	11,740	815	2.81
Apr. 1.	12,600	860	2.77
May 2.	13,380	780	2.51
May 23.	13,615	235	1.17
Total gain. ....	...	4,060 lbs.	...
Aver. daily gain per steer. . .	...	2.83 lbs.	...

of fodder corn from thick planting. They were fed in this way through the greater part of December. Toward the latter part of the month, a small feed of ear-corn was given in the troughs. In this way they were very slowly gotten on feed and by the first of January all were eating well. On this date the steers were divided into two lots of ten each. The lots were divided as equally as possible, taking into consideration the type, quality, and size of the different animals. The weights were taken about 1.30 p. m., and, as there was no intention of doing any experimental work with individual steers, the total weight of the lot alone was taken and this one weight considered as the weight of the lot at the beginning of the experiment. In the case of getting the weights of individual steers, the daily fluctuations are such that it is necessary to get the average of several days' weight in order to have a correct weight of the steers. In getting the weight of a lot, the daily fluctuations of individual steers will tend to balance each other.

WEIGHTS AND GAINS.

In Table I is shown the weights and gains of the two lots by months. The gain for the first month is very large. It is probably due in part to the filling-up process which takes place

TABLE II.—Total Feed Consumed.

Lot.	Ear corn.	Corn and cob meal.	Corn-meal.	Cotton seed-meal.	Alfalfa.	Kafir-corn stover.	Sorghum stover.	Prairie hay.	Ensilage
I.	2078	21,605	4000	530	15,480	3100	540	5045	1400
II.	2078	21,605	4000	530	18,465	....	....	....	....

when cattle are first put on feed. These steers, however, had been receiving grain for a month, and on the day the experiment started received 118 pounds of ear-corn per lot, or 11.8 pounds per head. There was a steady decrease in the average daily gains as the feeding period progressed, and it will be noticed that for the last twenty-two days the two lots gained at the rate of only 1.19 pounds daily.

TABLE III.—Weights and Gains with Pounds of Feed Consumed per 100 Pounds of Gain.

No. of lot.	No. of steers.	Weight 1904.	No. of days fed.	Weight May 23, 1904.	Total gain pounds.	Ave. gain per steer pounds.	Grain eaten per 100 lbs. gain.	Roughness eaten per 100 lbs. gain.
I.	10	9615	143	12,945	3330	2.32	715.01	742.50
II.	10	9555	143	13,615	4060	2.83	578.25	454.80

This phase of the fattening process in cattle had been pointed out by a number of investigators. The gains steadily decreased and the amount of grain consumed to produce a given gain steadily increased. It follows that the quicker cattle can be placed in condition for market after beginning to feed, the more economically beef can

be produced. This is due to the fact that the body increase becomes proportionately greater than the digestive capacity of the animal. For illustration, an 800-pound steer has, as a rule, the same digestive capacity as he will after he has gained a weight of 1,200 pounds. Therefore, since the body increase is one-third more at 1,200 pounds than at 800 pounds, it follows that a more concentrated and assimilative ration must be fed to obtain the same rate of gain at the end as produced in the early part of the feeding period. However, this can seldom be done with economy; consequently, if the same food is fed throughout the feeding period, the gain will necessarily decrease. One should not be led to believe from this that half-finished cattle are always the most profitable, for well-finished cattle always will command a higher price to make up for the loss of the rate of gain.

KIND AND AMOUNT OF FEED CONSUMED.

Table II gives in concise form the total amount of feed consumed by each lot. The first week of the experiment the steers received 14 pounds of ear-corn daily, or 14.5 pounds per 1,000 pounds of live weight. The grain-ration was changed to corn-and-cob-meal January 16. By the end of the month they were consuming 17 pounds a day per steer, or 15.7 pounds per 1,000 pounds live weight. By the end of February they were consuming 19 pounds of corn-and-cob-meal daily per steer, or 16.4 pounds per 1,000 pounds of live weight. In one month more the grain-ration had increased to 20 pounds of corn-and-cob-meal per steer daily, or 16.2 pounds per 1,000 pounds live weight.

By the end of April, 24 pounds of corn-and-cob-meal was the daily grain-ration per steer, or 18.4 pounds per 1,000 pounds live weight. At this point the grain-ration was gradually changed to pure corn-meal. At the same time cottonseed-meal was introduced into the ration, fed at the rate of 1.15 pounds per 1,000 pounds live weight. Reference to the last two columns of Table III shows that these steers consumed very small amounts of feed for the gains made. If this had not been the case, they could hardly have been fed at a profit, considering the small "margin" between the buying and selling price, the price paid in Kansas City being \$3.49 per hundredweight, and \$4.50 being the selling price. It is not generally considered safe to figure on feeding cattle for a smaller margin than \$1 per hundredweight between buying and selling price.

FINANCIAL RESULTS.

The results of this experiment from a financial standpoint appear in Table IV. This table needs little explanation. It will be seen that the lot making the poorest gains was the least profitable. Not only was the total amount received for them less, but the cost of the various kinds of roughage fed was greater than the cost of the alfalfa hay fed to Lot II. The grain consumed by each lot was the same.

CONCLUSIONS.

The results of this experiment would seem to indicate that the advantage lies with the feeding of alfalfa as the



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TABLE IV.—Financial Statement.

LOT I.	
Cost of 10 steers in Kansas City.....	\$320.86
Freight, Kansas City to Manhattan.....	8.02
Commission.....	5.00
Total cost of steers.....	\$333.88
Corn, 409.7 bushels, at 35 cents per bushel.....	\$143.39
Cottonseed-meal, 530 pounds, at \$25 per ton.....	6.62
Alfalfa hay, 7.74 tons, at \$7 per ton.....	54.18
Kafir-corn stover and sorghum fodder, 1.82 tons, at \$2 per ton.....	3.64
Ensilage, 1400 pounds, at \$2 per ton.....	1.40
Prairie hay, 2.52 tons, at \$5.50 per ton.....	13.86
Total feed cost.....	223.09
Cost of steers and feed.....	\$556.97
By sale of steers, at \$4.50 per 100 pounds.....	\$578.14
Balance profit.....	21.17
Grand total.....	\$578.14
Feed cost per 100 pounds of gain.....	\$6.69
LOT II.	
Cost of 10 steers in Kansas City.....	\$320.86
Freight, Kansas City to Manhattan.....	8.02
Commission.....	5.00
Total cost of steers.....	\$333.88
Corn, 409.7 bushels, at 35 cents per bushel.....	\$143.39
Cottonseed-meal, 530 pounds, at \$25 per ton.....	6.62
Alfalfa hay, 9.23 tons, at \$7 per ton.....	64.61
Total feed cost.....	214.62
Total cost of feed and steers.....	\$548.50
By sale of steers, at \$4.50 per 100 pounds.....	608.28
Balance profit.....	59.78
Grand total.....	\$608.28
Feed cost, per 100 pounds of gain.....	\$5.28

Gossip About Stock.

We would call the special attention of our readers to the advertisement of Chas. N. Payne, Hutchinson, Kans., which starts this week. He has some very fine wheat and alfalfa lands for sale in Meade County, Kansas, one of the ideal counties of Kansas. Deep, black, rich soil, unlimited supply of water, and many other good points.

G. M. Hebbard, proprietor of the Spring Creek Herd of Poland-Chinas, Peck, Kans., has added another great brood sow to his herd, sired by Keep On, which he recently purchased of Harry Surling and which is bred to Chief Perfection 2d, and from which he rightfully expects some fancy things for customers who are on the look-out for some young foundation stock.

A Red-Polled breeder of prominence is E. E. Frizell, of Frizell, Kans., a railroad station six miles West of Larned, who conducts the Fort Larned stock-breeders association. The farm is at the station, which was formerly Fort Larned, the stone and brick buildings being admirably arranged for a fine stock farm. Here will be found some of the choicest strains of the Red-Polled breed, fine animals of either sex. Inspection is especially invited, and prices are very reasonable. Any one wishing animals of this breed can not afford to miss this herd.

James Qurollo reports his Berkshire hogs as doing especially well. The produce of Lord Bacon 87145 (one of the best individuals ever produced by any Western breeder) are most in evidence in the herd, and ten of the litters on the farm are out of dams by the famous Masterpiece. Mr. Qurollo deserves the credit of the development of Masterpiece as it was in his hands he first began to attract attention, and when he was sold at \$1,000 it was about the record price. The herd still retains more of his blood than any other. Write to or see Mr. Qurollo, farm fifteen miles from Kansas City on electric line.

The O. I. C. breed of swine is gaining rapidly in popularity. The causes for this fact lie in the qualities of the hogs themselves and in the extraordinary display they made at the Louisiana Purchase Exposition and the American Royal. Three years ago A. T. Garth, of Larned, Kans., attended the American Royal and purchased three first-prize-winning sows. The produce of these sows has given him a good herd of the quality from which he is now prepared to sell choice pigs of this size-winning blood. Bumpas, his herdsman, is a magnificent animal and his pig is choice. Mr. Garth has a hog ranch just on the city limits of Larned that is complete in all its appointments, and capable of caring for a very large number of hogs. Notice his advertisement and write him.

To the high-class Polled Durhams bred and exhibited at the Central and Eastern State fairs by C. J. Woods, formerly of Illinois, now at Chiles, Kans., a great deal of the popularity of the hornless branch of our Short-horn cattle should be accredited. Mr. Woods, on his splendid stock farm at Chiles is producing even better cattle than those he exhibited at the great Kentucky, Ohio, and Illinois State fairs in years past. These cattle carry a preponderance of Scotch blood and are of the thick-flesh carrying type. Any lover of good cattle would be pleased with an opportunity to inspect this herd, and prospective Polled Durham bull buyers should take advantage of the first mail and write to C. J. Woods, or better, go at once and see the young bulls offered for sale. Chiles is only forty miles south of Kansas City. Mention THE KANSAS FARMER.

Chas. Morrison & Son, owners of the Phillips County herds of Red-Polled and Poland-China swine at Phillipsburg, Kans., writes as follows: "We are having good showers here every week, which keeps the corn growing. Corn here is small for this time of the year owing to the dry weather the fore part of June. The wheat

five young herd. We will spare some of our choice young cows and heifers; most of them are sired by Actor 7781. Any one wanting some good milkers can find them here in this herd. Also have some extra good young bulls from 13 months down. I have just returned from a five week's trip in the East, and on my way home, stopped at Peter Mouws, of Orange City, Iowa, and selected a male pig from his largest sow, Prize Maid, and a choice gilt from his Lady S. Show sow that weighs 820 pounds, in breeding condition. Mr. Mouws has five of the largest herd boars in America and also seven of the largest sows. They are business hogs and the kind the farmers see they have to have if they breed Poland Chinas. We have some good early male pigs that are ready to ship and a few gilts that are bred. Will satisfy any one wanting Red Polls or Poland Chinas in quality and price, as I have the best of breeding and good individuals. Write me, or better still, visit the herd."

The Valley Grove Herd of Short-horns, owned by T. P. Babst & Sons, Auburn, is conceded to be one of the great breeding establishments of America, and probably no herd west of the Mississippi River has furnished more good foundation stock for herds throughout the United States than Valley Grove. It has always been the popular headquarters for Western breeders, but recently Eastern breeders have begun to patronize this establishment and are greatly surprised to find such a magnificent herd throughout as the Valley Grove Short-horns afford. The secret of the great success achieved by Mr. Babst has been the fact that he has spared no pains to get the best, and his prices have been exceedingly reasonable and he never fails to land a buyer who wants good, first-class Short-horns. At the present time he has only for sale young stock, consisting of bulls and heifers, and will be glad to hear from any intending buyers.

E. D. King, of Burlington, Kans., has the largest herd of pure-bred Berkshire swine in Kansas and probably the largest in the world. His foundation stock includes the best blood known to the breed, from Lord Lee down. His pig-crop is estimated at about 1200 pigs each year. What a great bunch this would be to select from. When you want good Birkshires, go where they are numerous and then take your choice. Mr. King still has about 200 spring pigs of March farrow, that are in fine shape and big enough for service, that are for sale. He also has a few nice yearling boars for sale. These pigs are by 5 great herd-boars and are not related. Here is an exact copy of a letter received by Mr. King which shows how his pigs are appreciated by his customers: "Newkirk, Oklahoma, June 25, 1906. "E. D. King, Burlington, Kansas. "Dear Sir: I received the March pig in good shape and am well pleased with it. I think it is a fine pig and will sell you some more later on. Respectfully, S. G. LINDSAY."

During the past year Wm. Bumgart, of Dennison, Kans., has been buying O. I. C. brood-sows from the best breeders of the country, and now has a herd that he may justly feel proud of. Among his animals is Luella 6024, Vol. 5 purchased from Doctor Kerr in his great sale last December. Luella was one of the best individuals offered in this sale, and three of her pigs sold the same day bringing over two hundred dollars. She is a good strong sow, with splendid hams, good head and ear, deep sides, good length, and stands up well. Her pigs should be in good demand. Some of Mr. Bumgart's other sows are Kerr Maisie 11233 by Kerr Dick; Kerr Diana 14446 also by Kerr Dick and out of Nancy who is one of Kerr's largest sows; and Kerr Jessie 14429 who is a litter mate to Kerr Riley, winner of first at Kansas State Fair last year. Mr. Bumgart has started right and in the future will spare neither time nor money to keep his stock up to the standard. The Bumgarts are among Jackson County's oldest settlers and have taken a prominent part in its upbuilding. William Bumgart, the proprietor of this herd

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That's what you want to do, and that's what you can do if you use Wright's Stock Feeder. Any man who has a sow and litter of pigs can't afford to be without one of these feeders. It saves feed, and always keeps it in good condition; makes big, strong, thrifty pigs; develops the whole bunch evenly, and will pay for itself in one season. Used for sloop, shelled corn, oats, barley, ground feed, etc.

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My catalog tells all about the hog, sheep and poultry feeder. Send for it.

C. A. WRIGHT, Rosendale - Missouri

of hogs, is a mute and a graduate of Olathe College and the college for deaf and dumb at Washington, D. C. After graduating at these colleges, he commenced farming and by hard and honest effort has succeeded in business, and now owns a farm of over three hundred acres, which is considered one of the most valuable tracts of land in Jackson County. If you are thinking of starting an O. I. C. herd or adding new blood to it, write to Mr. Bumgart. He will treat you right.

In addition to the famous Car-Sul cattle, hog, and sheep dip, manufactured by the Moore Chemical Co., Kansas City, Mo., they are now making the equally valuable Fli-Kil which is by far the best protection against flies the writer has ever seen. It is a sure protection against flies and other insects, and by its use the owner can have his horses and cattle avoid this hot-weather worry, and keep in fine condition. It keeps the hair and skin in perfect order and the animals take on flesh instead of losing it. It is a great boon for the dairyman whose cows may stand quietly all day and give their strength to the production of milk instead of fighting flies. Note what Barry Lucas, the big Aberdeen-Angus breeder, of Hamilton, Mo., has to say about Fli-Kil in the following letter. "Hamilton, Mo., June 23, 1906. Moore Chemical & Mfg. Co., Kansas City, Mo.

"Dear Sirs: I received the Fli-Kil and am using it on my dairy-herd, also some bulls. It is all right—knocks the flies silly. I like yours best of two or three kinds I have tried. Yours truly, BARRY LUCAS."

Secretary F. D. Coburn, of the Kansas State Board of Agriculture, is always progressive. Just now he has issued a neat little folder entitled "The Good Roads Problem," which contains full directions as to how to build and operate a split log or "King" drag. A nicely drawn picture of the drag helps to make the text plainer. Write Secretary Coburn for one of these pamphlets. They don't cost anything and are worth a whole lot.

The American Royal.

The preliminary classification for the eighth annual American Royal Live-Stock Show, to be held at Kansas City, October 6-13, indicates that this year's show has been planned upon broader and more comprehensive lines than any of its predecessors. In addition to the features which have characterized this event in past years, there will be a large display of breeding swine, a contest for dual-purpose Short-horns, and a students' judging contest. Some idea of the scope of this show may be obtained from the following summary of classes for which prizes are offered: Cattle department—Breeding Herefords, Short-horns, Aberdeen-Angus, and Galloways; dual-purpose Short-horns; pure-bred and grade fat steers and heifers; car-lots of fat and feeding cattle. Horse department—Breeding Percherons, Clydes, Shires, Belgians, German Coachers, and French Coachers; draft horses in harness; mules. Swine department—Breeding Berkshires, Duroc-Jerseys, Ohio Improved Chester Whites, and Poland-Chinas. Students' judging contest. The prizes in these various departments aggregate in number upwards of 1,000, and in value upwards of \$28,000.

The Central Business College, of Kansas City, whose advertisement appears in this issue, has within the last few years grown to be one of the largest institutions of its kind in the West. Last year its enrollment reached nearly the thousand mark, and the indications are that its attendance this year will be a record-breaker. Any one who intends to take a business course will do well to write for their catalogue and full information regarding their school.

Skepticism has ruined many a noble mind and many a hopeful work, but it has never helped to produce anything of its own, hopeful or noble or beautiful or great.—Father Henry.

The Guaranteed Lice and Mite Destroyer and Roup Cure for Fowls



Vaporene

Is used by being vaporized in the hen house while the fowls are at roost. The VAPORER does the work 100 fowls treated as easily as one. Just set your Vaporizer going and it does the rest. A revelation in louse-fighting methods. The only sure and perfect cure for roup. If your druggist don't have it, send us \$1 with your druggist's name for full outfit to any address, express prepaid. Vaporene Mfg. Co., Dept. S, Heldrege, Neb.

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IT CURES THEM ANYWAY.
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KILLS
LICE
ON ALL LIVE STOCK
EASY & SAFE TO USE

BLUE CATTLE LOUSE
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KILLS THIS AND ALL OTHERS
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CONDUCTED BY RUTH COWGILL.

The Busy World.

It is a very busy world where we mortals meet; There are so many weary hands, so many tired feet; So many, many tasks are born with every morning's sun. And though we labor with a will the work seems never done— And yet for every moment's task there comes a moment's time; The burden and the strength to bear are like a perfect time; The heart makes strong the honest hand; the will seeks out the way; Nor must we do to-morrow's work nor yesterday's to-day.

We scale the mountain's rugged side not at a single leap. But step by step and breath by breath we climb the lofty steep. Each simple duty comes along our willing strength to try— One little moment at a time, and so the days go by. With hands to do and hearts to dare we strive from sun to sun. A little here, a little there, and all our tasks are done! There's time to toil and time to sing and time enough to play. Nor must we do to-morrow's work nor yesterday's to-day.

—Nixon Waterman, in Sunday Magazine.

The Needs of the Farmer's Wife.

What one wants is one thing and what one needs is quite another. Both may be legitimate and right, and yet the wants are often such as may make one unhappy and discontented, while the needs supplied have entirely a different effect. What seems to be one of the greatest wants of us all is time, more time; but more time would only be a curse instead of a blessing, for the time allotted to us for labor is quite sufficient for our strength. What is needed is a knowledge of how best to use the time we have. There ought to be an economy of time as well as of money, for "time is money."

First of all, the farmer's wife needs a broad education—the education that trains the hand as well as the mind—that she may know how best to use her time. Trained minds and hands are needed in all the walks of life. Some parents think because Sis is not going to teach school, that anything beyond the rudiments of learning is superfluous, and if John is going to be a farmer, a college education is unnecessary. Education is looked upon by many as a means to get money only. It is true that it is a help in that line, but that is not the greatest good. It opens the paths of happiness and enjoyment, that are denied the uneducated, and, other things being equal, the educated woman is the happier. The farmer's wife needs to realize the importance of using a part of her time, if it is only half an hour a day, for the cultivation of her own mind; to see to it that at least one good magazine comes into the home, and that good, interesting books are on the shelves or table. They are a source of joy and instruction. But if a woman is to have time for reading and culture, she must know how to work thoroughly and systematically—and to have wisdom to choose what to do and what to leave undone.

Those who have been denied the blessings of an education need not be discouraged, for by reading much may be learned which will help in everything, and they will be surprised how much even a very little helps.

The farmer's wife needs conveniences and labor-savers. The farmer would never think of doing his work with a few appliances as the average woman gets along with. He has learned that human labor is the most expensive item he buys. The woman denies herself conveniences because she is self-sacrificing and thinks she is saving for the family, forgetting that she is sacrificing something that neither time nor money can replace, and of vitally more value to those whom she serves and loves than anything else. Many fail to realize how much her work can be lessened by proper tools and appliances. I do not see why a woman must run to draw water from a well twenty feet or more away, when for a very small expense both soft and well water might be in the kitchen at a sink with a drain to carry off the waste water. Every kitchen should have a high chair on which the woman may sit while she prepares vegetables and fruit and even wipes the dishes. Is there any sin in sitting down to do these things? Also, a rocking-chair ought to be convenient near a table or shelf, whereon is a paper or

book, so that when a moment of leisure in the work comes, she may drop down and rest both mind and body. It relieves the strain and much more may be accomplished in a day by taking frequent rests.

In the country, where it is almost impossible to hire the washing done, a good, easy-running washing-machine is a great saver of labor and time. There are a number of splendid ones now, and the hard part of the washing can be done with comparative ease and in a much shorter time than on the wash-board. Be sure to get one that is ball-bearing and turns with a crank. There are some that are back-breaking affairs, and while the work may be accomplished in a shorter time, it is hard work. Another labor-saver of which I will speak is the Universal bread-maker. It is no trouble at all to make bread—and good bread, too—with one of these, and the bread made with one is much cleaner and more healthful, as there is no need of putting the hands into the dough. When it is ready to go into the pans to rise the last time, then the dough is cut off and moulded into loaves, but the hands need not become doughy in the least in doing so. Directions come with each of the machines, which should be followed carefully. A good meat-grinder if once used is quite indispensable to the kitchen. So many things can be quickly cut fine or coarse as desired and made into palatable dishes. There are many more labor-savers of which I might speak, but I am going to leave it open for others to tell about them. Won't you help one another by giving your own experiences in the home? This department will gladly welcome any such communication, and if you are timid about your own name appearing, it will be withheld and any name desired substituted—only give your own name to the editor.

Summer Cookery.

Cream Tapioca Pudding.—Soak three tablespoonfuls of tapioca in water enough to cover over night. In the morning heat a quart of milk boiling hot. Pour in tapioca. Put in a double boiler and cook one hour. Then add the yolks of four eggs, one cup of sugar and three tablespoonfuls coconut, a pinch of salt, and beat well together. Add the tapioca and boil fifteen minutes. Pour in pan and beat whites of eggs and spread on top. Sprinkle over this coconut. Set in oven and brown slightly. Serve hot or cold.

Salmon Loaf.—Remove from one can of salmon all the skin and bone, beat two eggs, add them to the salmon with one cup of bread crumbs, salt and pepper to taste, one teaspoon of lemon juice, one tablespoon of fine chopped parsley. Pack in a well-buttered mould and steam two hours; serve hot or cold.

Curried Chicken.—This is an excellent dish for luncheon or supper. The chicken should first be boiled until tender. Now fry two onions in a tablespoonful of oil and a tablespoonful of butter. When they are a rich golden brown, a tablespoonful of curry is stirred in and cooked for five or six minutes until it, too, is thoroughly browned without burning. Then the chicken and the liquor in which it is cooked is mixed with the onion and curry in the frying pan and cooked steadily for ten or twelve minutes, until all are blended. Serve this curry with a ring of boiled rice around the platter.

Cucumber and chicken jelly is a greatly appreciated dainty for luncheon or supper. Take one cupful of chicken, and one grated cucumber; soak one tablespoonful of gelatine in a little cold water; then stir over the fire; add to the cucumber pulp one tablespoonful of lemon juice and a little pepper; when this is a little stiff add the chicken meat, and when quite stiff put a little mayonnaise on the bottom of small moulds and fill with the mixture; place on the ice until stiffened.

Stuffed Tomatoes.—Stuffed and roasted tomatoes are delicious at this season of the year with either mutton or beef. Wash and dry well six fine red tomatoes, those of the beefsteak variety being the best for this purpose. Cut off the tops without detaching, so that they will serve as a cover;

scoop out the pulp with a vegetable scoop, season the inside with pepper and salt, and place the tomatoes on a plate until the stuffing is ready. Peel and chop very fine one medium-sized onion, place it in a saucepan with a half a tablespoonful of butter and cook for three minutes on a brisk fire, being careful not to let it get brown. Add six chopped mushrooms and one ounce of sausage meat, season with salt and pepper and cook for three minutes, stirring once in a while. Add now the pulp of the tomatoes, with a half a cupful of fresh breadcrumbs and a teaspoonful of fresh chopped parsley. Mix well and cook for two minutes longer or until the mixture comes to a boil; then place in a bowl to cool. Stuff the tomato shells with this preparation and close the covers. Lay them in a tin plate, cover them with buttered paper and cook in a moderate oven for eighteen minutes. Stuffed tomatoes are served as a garnishing in various ways.

Tongue Toast.—It would be sacrilege to eat the best slices of the prime part of a tongue any way but AU NATUREL, but when all that best part is gone there is a great deal of nice meat left that does not look very appetizing but makes delicious paste for toast, and can be kept for two or three days in a jar with a little melted fat poured over it. Cut the lean up very fine, removing all gristle and stringy pieces, add enough stock to make it into a paste when well bruised in a mortar with a pestle. Put it into a saucepan where it will get heated through, and add a little lemon juice just before taking it up. Spread at once on squares of hot buttered toast.

Pepper and Tomato Salad.—This is made by peeling the tomatoes and cutting them in slices, cutting sweet peppers in lengthwise strips after having removed the seeds, and piling them on crisp lettuce leaves. Just before serving pour over them a rich mayonnaise.

When He Came to Town.

"And you've been in the city two weeks without knowing a soul? Must be a mighty slow time you're having." The keen-eyed broker looked questioningly into the elder man's tanned face.

"Yes—it isn't very exciting." "How much more of it is there?" "I'll get away next week, I guess. The trials are about over."

Never before had Lawrence served on a federal jury, and when the marshal's summons called him from the farm it seemed a message of joy. Two or three weeks in the city—and he paid for it! Nothing to do after four o'clock; all the sights of the town at his command—he had fairly chuckled at the good fortune that had allowed his name to be drawn from the box. He had not been to the city, except on flying trips with cattle, for fifteen years.

Lawrence was easily moulded by conditions. The round year on the farm alternately exalted and depressed him. It seemed that he never had a vacation. In the local paper he read of the banker going to the mountains and of the physician spending a month on the lakes, and now had come his turn.

Since he left home he had been to two shows, and had ridden twenty miles on the street-cars. He had gone up on an elevator to the top of the highest building, and had gazed in awe at the wonders of the museum. Then he had watched the smoke roll out over the lake front, and, as it hit the ugly sky-line, it formed, for him, instead of towering office buildings and fingerlike chimneys, a long line of hay stacks, a thrifty-gabled barn, a white farmhouse—

"Say, how would you like to take in the town?"

It was the broker back at his side peering into his face. "It would cheer you up and do you good. Might as well have a little fun in this world as you go along, you know."

Take in the town? The expression was familiar. He had heard men tell about it, but into his own sheltered life no such experience had come. At times in the presence of more experienced companions he had known a curious shame that he was ignorant of so much in which they seemed to have found delight. He was outside their fraternity, an alien in worldliness.

"A chance of a lifetime," the broker is saying. "We'll do it right. Be one of the boys once."

A chance—practically the only chance Lawrence ever had, for he was diffident in seeking pleasure. Of course

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has been used for over FIFTY YEARS by MILLIONS of Mothers for their CHILDREN while TEETHING, with perfect success. IT SOOTHES the CHILD, SOFTENS the GUMS, ALLAYS all pain, CURES WIND COLIC, and is the best remedy for DIARRHOEA. Sold by Druggists in every part of the world. Be sure and ask for Mrs. Winslow's Soothing Syrup and take no other kind. 25 Cents a Bottle.

An Old and Well-tried Remedy

Death of Floral Lawn Cause, Smothered by Dandelions

"The dandelion pest has had its day. For one dollar you can get an instrument that can be used by women and children as well as men that will pull dandelions and other noxious weeds at the rate of one thousand an hour, and leave not a drop of dirt nor a visible tear in the sod. No stooping nor bending and is a pleasure not a task to operate it; delivers automatically the weeds pulled, and your hands are not soiled, nor your back tired, no grunting nor humping around to do your work. Pulls any dandelion or weed when tap root does not exceed 16 inches in length. Send one dollar and we will deliver free at your door.

The Standard Incubator Co.

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Our Best \$1 Fountain Pen and the Kansas Farmer one year, both prepaid..... **\$1.50**
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Fitted with solid gold pens, will last 15 years. All pens guaranteed. Our stock is the largest west of Chicago. We refer you to any bank in Topeka or the Kansas Farmer.

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If you'll tell us the number and kind of live-stock your papa will ship this year you'll get a nice set of dominoes.

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he had lived in imagination, he had mutinied in dreams, he had rebelled in moments of mental restiveness, but in the daily walk of his busy life he had been altogether an upright citizen, though professing no especial perfection.

"I'll call for you at—where are you stopping?" the broker continued as they left the cafe. "What—at that swell place? Your taste is all right in hotels—see you later."

Lawrence was again alone in the thronged street, knowing not one face among the eager thousands that he met. He had learned the city walk; he elbowed, dodged, hurried. Somehow he felt more like a man of the world already; he was about to be initiated into the mysteries that had come to his fellows. He halted before his image in the mirror; it showed a vigorous, athletic figure, strong with strength of middle youth. Ah, yes—it swaggered a little. "One of the boys," that was it. The very porter at the hotel must recognize his bearing and understand the guest's world wisdom.

"Have to change your room, sir," remarked the clerk as Lawrence went to the desk for his key. "Theatrical troupe takes your whole floor."

The clerk knew he could take liberties with this guest, so modest and self-effacing in demeanor.

Patently Lawrence followed the bell-boy to his new location. The furniture was luxurious, the hangings rich and heavy, the light dazzling. He was pleased with this hotel. It seemed homelike to him.

He and Helen had stayed here a week on their wedding trip, and instinctively he had sought the place. They had in the bureau drawer in their sitting-room a menu card plifered from the dining-table, and a receipted bill for their accomodation, "seven days at \$8—\$56." He had not looked at the scrapbook in years, but as he entered the new room it all came back to him—for this was their old apartment. The paper was different and the adornments were modern, but the old-fashioned mahogany furniture was unchanged. He had the old bridal chamber. Of course, the hotel did not know it as such—much finer suites were used now.

"Anything I can do for you, sir?"

The bell-boy was waiting for his tip. Lawrence did not answer. He was dreamily looking from one object to another. The boy quietly closed the door and departed.

The man sank into an easy chair. Helen occupied his thoughts. As in a panorama the years of their wedded life spread before him, and he contrasted the last view he had of her as he left the little country station with that of the bride of his younger days. She was yet beautiful to him; she was yet his ideal of womanliness—but he had become so accustomed to things, life was so humdrum at home, perhaps he had neglected some little courtesies due her. He felt a humble material.

Suddenly there came to him an inspiration—he would write a love letter. They had never in all their married life been separated so long as this. Of course, at times he had occasion to write to her—short messages beginning "Dear Wife," and ending "Yours aff.," but no love letters. He pushed a button and ordered writing material.

"Do not let any one come to my room," were his orders as the boy turned away. Then he began:

"My Sweetheart—" the opening ran. "You do not know how much I love you." Lawrence smiled as he read over the words. It had been more than fifteen years since he had used such expressions on paper. On and on his pen flew coining lonesomeness into affection. Page after page, reviewing all the days of happy communion, pouring out his soul as he had never done in all his life. It was the sublime concentration of clean living and pure loving. He was at his best there in the old bridal chamber, the experience of a lifetime illuming his soul.

When with tears glistening in his blue eyes, he signed "Your Husband" to the long letter, he seemed to have thrown off the burden of years.

Briskly he addressed the envelope and hurried to the office.

"Gentleman in the billiard room waiting for you, sir," remarked the clerk as he approached the desk. "We sent the boy to your room, but he didn't get any answer."

Lawrence paused an instant, with the bulky letter held over the opening of the mailbox. In a quick glance he caught the broker's form and a

Every Niece and Nephew of Uncle Sam

should be deeply interested in what he has said about soda crackers, because they are the one food with which all of them are familiar.

Uncle Sam has given out figures showing that soda crackers are richer in nutriment and body-building elements, properly proportioned, than any food made from flour.

This is saying much for common soda crackers, and much more for **Uneeda Biscuit**, because they are soda crackers of the best quality. They are baked better—more scientifically. They are packed better—more cleanly. The damp, dust and odor proof package retains all the goodness and nutriment of the wheat, all the freshness of the best baking, all the purity of the cleanest bakeries.

Your Uncle Sam has shown what food he thinks best for his people. His people have shown that they think **Uneeda Biscuit** the best of that food, nearly 400,000,000 packages having already been consumed.

Uneeda Biscuit

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very familiar voice sounded above the crack of ivory balls.

"You may tell him," he replied, "that I have gone to bed and do not wish to be disturbed."

He dropped the letter in the box and with a firm step mounted the broad stairway.—Chicago Record-Herald.

How to Get Rid of Ants.

Mrs. Chas. Zoellers, of Pottawatomie County, asks for a way to get rid of ants or to keep them away. The question was referred to Professor Popoene, entomologist at the Kansas Experiment Station, who answers as follows:

There is no satisfactory way to prevent the annoying presence of ants in the house, pantries, and cupboards, except by seeking for the underground nest and destroying the breeders. If you can locate the nest, the mother ants, with all the rest of the colony, can be killed by the use of plenty of carbon bisulfide poured into the burrows, which should be first laid open to allow for the complete penetration of the liquid to the recesses of the nest. Though great numbers of the working ants, the foragers that are so troublesome in the pantry, may be trapped in a sponge wet with sweetened water, and then scalded, this will be found only a temporary relief, as the fecund mother ants will soon provide other swarms to take the place of those trapped. The other plan goes to the true source of the trouble, and kills the "queens" of the colony, thus stopping the increase. Where the colony is under the foundation of the house and can not be reached, the trapping method will serve as a partial relief, if it be persisted in till the colony is decimated. The use of pyrethrum powder is also to be recommended as a means of driving out the ants, and causing them to seek other quarters.

The Baby's Position.

The teacher wished to impress the idea of the wrong of idleness. He led up to it by asking who were the persons who got all they could and did nothing in return. For some time there was silence, but at last a little girl exclaimed, with a good deal of confidence: "Please, sir, it's the baby!"

The Young Folks

"Luck."

The boy's who's always wishing
That this or that might be,
But never tries his mettle,
Is the boy that's bound to see
His plans all come to failure,
His hopes end in defeat;
For that's what comes, when wishing
And working fail to meet.

The "luck" that I believe in
Is that which comes with work,
And no one ever finds it
Who's content to wish and shirk.
The men the world calls "lucky"
Will tell you, every one,
That success comes not with wishing,
But by hard work, bravely done.
—Gathered.

Fleetfoot; the Autobiography of a Pony.

MARION SEWELL.

CHAPTER XXII.—PANIC STRICKEN.

Quietly and uneventfully the days slipped by, and life at the homestead, excepting for the absence of Big Jake, was the same as at the time of my first appearance. The valiant, old pet was remembered still, and the stall which had been built especially for him was never occupied by any other horse, but remained ready to receive him upon his arrival, an occurrence which the children did not for a moment cease to expect.

Shortly after my return, I learned that a portion of the bed upon which I rested with so much pleasure had been waiting for me those four years, and every harvest time an extra layer of new mown hay was added in order that nothing would be lacking "when Pony came home."

So when one dream materialized there was no reason why the other should not, and preparations were continued for the reunion with Big Jake. I was pleased that his memory was so respected, but this did not prevent a feeling of sorrow from rushing over me when one day I saw Doris carry a pail of water, and placing it in the manger bring oats and corn for his great square box. During the two years which had followed, those loving ministrations were a constant source of regret to me, as I beheld

the spiders diligently weaving a veil, which grew thicker and thicker, across the still, full bucket, and heard the rats scurrying over poor Jake's waiting meal until nothing remained of it but a few gnawed cobs, painful reminders of what might have been.

In the meantime, the children had outgrown the schoolhouse by the road and talked proudly of colleges and seminaries, and I felt in a vague way that soon, though much against their wills, they would desert me, for a time at least, that they might enjoy the privileges of a higher education.

And it happened surely enough one Sunday morning in the late summer season. They all came together to bid me good-bye; Daisy and Archibald Lamb, Lyall, Marcella, and Doris. Little Doris! I thought she, at least, might have staid. A few hours later I heard the loud whistle of the train which was to bear them away and turning aside I began to nibble at the grass that yesterday was soft and green, but to-day was dry and bitter in my mouth.

Such a dark, lonely day it was for me, that towards evening, being unable to longer endure the strain, I found my way to Mr. Dearcot, who lay in the hammock with a newspaper spread over his face. Being wide awake he sat up, and tangling his fingers in my mane asked me what made me look so blue. And would you believe it? I thought for a moment that I had changed color, I felt so turned about and forsaken. Just then one of the farm-hands, who had known me in my middle youth, approached with considerable excitement displayed on his countenance "Mr. Dearcot," he remarked hastily as he came up, "I have just received a message which makes it necessary for me to leave for the city at once. I will return to town on the midnight train from Leadville. I must ask you for the use of a horse that I may be in time for the local which goes out at 6.30."

"Certainly, Lawrence, certainly," said Mr. Dearcot full of interest at once. "I don't see why you could not take Fleetfoot here. I am sure he would be willing to go."

Yes, I was willing to go, pleased with any change that might cause me

to forget the overwhelming loneliness that was upon me.

It was still daylight when we reached the city, which was wrapped in the usual quietness of Sunday afternoon. People reading on their front porches glanced at us carelessly as we passed. At one corner children were throwing a ball, and mischievously aimed very near my head, but luckily I escaped being hit and a little later we came onto a group of large boys scuffling over an orange. They were all smoking cob-pipes, and when one of the strongest and also the most noisy of the crowd got in possession of the orange he sent it whirling through the air, deftly depriving a couple of the smokers of their pipes. At the same moment we turned into a spacious livery stable and were met by a civil man wearing a suit of blue clothes. Reaching out he took my rein and led me across some hollow-sounding boards. "Feed?" he inquired of my driver.

"No, he had his supper," was the reply, "just a good bunk and a drink of water for the present. I'll be back in a few hours."

The stall which was given me was quite near a door, and had seemed to be the only unoccupied one in the building. In a short time the sun lowered out of sight, and everything in this strange, dusky place assumed such queer shapes that I began to grow nervous and afraid. Dim lights began to show themselves both in the barn and close against the windows of the houses across the street. Patiently I waited the return of my driver, but the minutes continued to pass and he did not come. Again we were in total darkness, and as all noises died away into the distance, I fell into a peaceful slumber.

The awakening is something which I dread to look back upon. Horrible shrieks and cries froze my blood while I was still half asleep, the ringing of bells and the rattle of falling timber deafened me, and above all, that horrible, hissing sound raging around me, enveloping me on every side, and then the tortuous contact with angry flames.

I shall never know just how I happened to escape: it may be that the thick rope which held me a prisoner was burned through, or more probable still, some helping hand was stretched out in the darkness and set me free. I felt the cool breezes blowing in from the open door, and, summoning all my strength, made a wild dash for liberty. My next sensation was of rising with skinned knees from the paved street. Once on my feet my only object was flight, and very soon, indeed, I left far behind me the awful sounds and blazing ruins which I had just quitted.

All night long the wild race continued, and I did not know that I was tired; I was only conscious of the suffering caused by the burns which I had received. Once in the half light of approaching day, I swam across a wide river, and while I did not quench my thirst, my exterior agonies were soothed for a little while.

In the early morning hours my strength began to fail and a film grew over my eyes, but the madness of flight was on me now and I could not stop. My course was uncertain and progress slow, as time approached the middle of the day, I saw buildings looming up a long way off and staggering into a green park, I was quite near a number of large, white tents. In a dazed way I heard music coming faintly from over the hills. Dreamily I saw a little girl in short fluffy pink skirts, and because I was unable to see distinctly, I imagined she had a long snake clinging round her neck. A man with a painted face and wearing loose calico clothes kept revolving in the air as he came towards me.

The painted man extended a hand in my direction, but he did not touch me for I had fallen headlong at his feet.

TO BE CONTINUED.

Every man must bear his own burden, and it is a fine thing to see anyone trying to do it manfully, carrying his cross bravely, silently, patiently, and in a way which makes you hope that he has taken for his pattern the greatest of all sufferers.—Hamilton.

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The Little Ones

The Quick Stick.

I used to meet an aged man
A-plodding down the lane;
Sometimes he walked unaided,
And sometimes he had a cane.
"O aged man, O ancient man,"
I asked, "please make it plain
Why 'tis you often go without,
Yet often use a cane."
He smiled a funny, toothless smile,
Then said, "I will explain.
I take my stick when I'm in haste,
For 'tis my hurry-cane."
—F. M. Bicknell.

The Imprisonment of Winifred Mary.

BY HANNAH G. FERNALD.

Winifred Mary is missing!" announced Sylvia, as she cast a practiced eye over her assembled dolls. Sylvia's Uncle Joe put down his newspaper and looked at her with amused interest.

"Hadn't you better call the roll?" he suggested, and Sylvia, in some anxiety, began her arrangements for this nightly ceremony. She arranged the dolls in an orderly line, and then said inquiringly, "Arabella?"

Arabella, a tall flaxen-haired doll, arose, assisted by Sylvia, and responded in a small, high voice, "Present!"

"Belinda?" Belinda was present also; so were Isabel, Susie, and Carlotta. There was painful silence after the calling of Winifred Mary's name; Winifred Mary was clearly absent, and so, as it later appeared, was Florabella.

"Two!" mourned Sylvia, "I don't mind so much about Florabella, but—O, Uncle Joe!" For Uncle Joe had drawn from his pocket a small, dishevelled creature. "Which is this?" he asked. "I found her under the currant bushes."

Sylvia always remembered after things were found just how she had happened to leave them in such singular places. It seemed a pity, as Uncle Joe frequently pointed out, that she never could remember before!

"That's Florabella!" she exclaimed. "I remember now! I was going to make a swing for her under the big currant bush, and then I went to feed my chickens and forgot. But what can have become of Winifred Mary! She's the smallest of all my dolls, and the prettiest, and I've always taken such care of her!"

Uncle Joe tried to smother a laugh, and Grandmother sighed. "Sylvia, child," she said, "I don't believe you know how to take care of anything. I have heard before of children who were careless enough to lose their hats and their overshoes, but I never knew another little girl who habitually lost her own dolls!"

The next day Sylvia and Uncle Joe became a search party and hunted for Winifred Mary. They looked in the orchard, and the barn, and the carriage-house, and the flower-garden, and beside the brook: they found a handkerchief, two hair-ribbons, and Belinda's best dress, but no trace of Winifred Mary was to be seen. A very small doll lost on a very large farm is not an easy thing to find.

Sylvia was an affectionate, if a careless mother; she searched and mourned faithfully for the missing Winifred Mary, and included her name tenderly each night in the roll-call. Uncle Joe soon saw in the window of the village shop a small doll which, he said, looked to him so strikingly like Sylvia's missing child that he brought it home to her. At first he was inclined to insist that this was Winifred Mary, but when Sylvia pointed out that the new doll had brown hair, whereas Winifred Mary's was golden yellow, and that she was so large that not one of Winifred Mary's tiny frocks could possibly be coaxed on to her, he was forced to admit that there was only a strong family resemblance. He wished the new doll to be called Winifred Mary, so that the roll call might be complete, but this Sylvia steadily refused to do. "Suppose Winifred Mary should be found?" she argued.

In September, when Sylvia said good-bye to Grandmother and Uncle Joe and went back to the city, Winifred Mary was still missing. "I'll send her by express, if I find her," promised Uncle Joe, but Sylvia had given up hope.

Poor Winifred Mary was almost forgotten when one cold November morning a package arrived from the farm for Sylvia.

"What can they have sent me in a round hat box?" she wondered, and she wondered still more when the box

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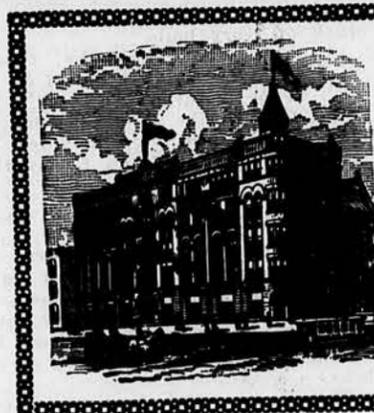
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was opened and disclosed a very large cabbage!

"It must be one of Uncle Joe's jokes," said Sylvia's mother. "Untie it dear." For the cabbage had been cut in quarters, and then tied together with red ribbon.

Sylvia untied the ribbon, the cabbage fell apart, and there almost in its center, lay Winifred Mary!

"Why—why"—began Sylvia, and then, as usual, she remembered. "Mother," she cried, "I put Winifred Mary down in a big cabbage—I thought it would make such a cunning house for her—and then I went back to get the other little dolls, and—and—"

"And you thought of something else to do, and forgot poor Winifred Mary," finished her mother, when she had done laughing, "and the cabbage kept right on growing, and folded its big outer leaves over her and held her snug and warm—and how surprised Grandmother must have been when she cut open that cabbage!"

"It's like the Faithful Tin Soldier in the fish," said Sylvia solemnly, "but, O Mother—suppose they had boiled the cabbage!"—Congregationalist.

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Our Club Roll.

- Women's Literary Club, Osborne, Osborne County (1902).
 - Women's Club, Logan, Phillips County (1902).
 - Domestic Science Club, Osage, Osage County (1888).
 - Ladies' Crescent Club, Truly, Rawlins County, (1902).
 - Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).
 - Challaco Club, Highland Park, Shawnee County (1902).
 - Cultus Club, Phillipsburg, Phillips County (1902).
 - Literateur Club, Ford, Ford County (1902).
 - Sabeau Club, Mission Center, Shawnee County Route 2 (1899).
 - Star Valley Women's Club, Iola, Allen County (1902).
 - West Side Forestry Club, Topeka, Shawnee County, Route 8 (1902).
 - Fortnight Club, Grant Township, Reno County, (1902).
 - Progressive Society, Rosalia, Butler County (1902).
 - Pleasant Hour Club, Wakarusa Township, Douglas County (1899).
 - The Lady Farmer's Institute, Marysville, Marshall County (1902).
 - Women's Country Club, Anthony, Harper County.
 - Taka Embroidery Club, Madison, Greenwood County (1902).
 - Friends Reading Club, Cawker City, Mitchell County (1902).
 - Cosmos Club, Russel, Kans.
 - The Sunflower Club, Perry, Jefferson County (1905).
 - Chaldean Club, Sterling, Rice County (1904).
 - Jewel Reading Club, Osage County.
 - The Mutual Helpers, Madison, Kans. (1906).
 - West Side Study Club, Delphos (1906).
 - Domestic Science Club, Berrinton, Shawnee County (1902).
 - Mutual Improvement Club, Vermillion, Marshall County (1906).
- (All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

Club Entertainments.

Clubs often wish for some way of entertainment. These are some suggestions given by Helen Winslow in the Delineator on this subject, which may be of use to some in planning the year's work:

An old-fashioned spelling-school, or singing-school, makes a good evening entertainment; or the district school may be given by staid men and women, who used to attend one many years ago. In all these the good-natured story or "hit" which refers more or less openly to local matters is what makes the evening a success.

One club near Boston has a "Magazine Night" every year. A committee is appointed who will act as editors. Every member is asked to contribute something—a sketch, a poem, a story, a joke. Here, again, is a chance for local stories and jokes, and for bright suggestions as to how to help one's own town. The history of the club from year to year is easily made permanent in this way. By getting advertising from local dealers, the printing of this magazine can be paid for without drawing on the club treasury, or if this is not feasible and the club is poor, it can be typewritten; in either case it is read at the "Magazine Evening" before it is circulated among the members.

"A Library Evening" furnishes a novel entertainment for a literary club. Score-cards and pencils are to be given everybody, and the game consists in making a library catalogue containing all the titles of books mentioned in the story which the president or some other will read, and in giving the name of the author in each case. The reader should enunciate very distinctly and

read slowly her story (prepared beforehand, of course) and the listeners will put down the name of each book as it is mentioned.

Another pleasant form of entertainment can be furnished by the household economies committee, when "A Model Kitchen"—or, if preferred, a "New England" or a "Southern" kitchen can be represented. Here is a fine opportunity for the "Pure-food Committee" to get in some effective work in the form of play. A room should be secured in some convenient place and fitted up with the most modern and useful kitchen appliances, such as the gas and electric stoves, the kitchen cabinet, the new-style "dresser-table" that is modelled after those of long ago, which served both as table and settle. There should be a modern sink showing the best plumbing, and all the up-to-date appliances for cooking and general housework. These can, in most cases, be borrowed for the occasion from the dealers in such goods, who will be glad to loan them for the advertising the display will give the trades-people and manufacturer. Here, too, can be shown the pure-food exhibit (in which the best grocers will be very willing to help), and a sale of such "goodies" can be held, if desired, or an old-time New England dinner of beans and brown bread, or chicken pie, etc., can be served in the kitchen. Or if it is desired, a "Southern" dinner can be given instead, with gumbo soup and chicken and beaten biscuit and other dishes peculiar to the locality.

A flower-show—with a sale of cut and potted plants—a dog- or a cat-show, even a "baby-show," are other ways by which a working club may give its members a novel recreation. And there is always the little reception to the president, with simple refreshments, a few songs, and plenty of sociability which serves to bring the members into closer relations.

THE INTERNATIONAL SUNDAY-SCHOOL LESSON.

(Copyright, Davis W. Clark.)
 Third Quarter. Lesson III. Luke x, 25-37. July 15, 1906.

The Good Samaritan.

Another pearl in the lovely and priceless strand of our Lord's thirty-three parables, one of unusual size, weight, and luster, claims our attention.

It is hard for us Occidentals to appreciate the license taken by Oriental audiences in the midst of public discourse. They express their approval or dissent not only by facial and manual gesture, but by audible word. Discussions spring up among the auditors, and the speaker often has a running accompaniment of comment. So it was no novel thing that in the midst of Jesus' discourse, the voice of a teacher of the Jewish law rang out, "Rabbi, what shall I do to inherit eternal life?"

It was a mere dialectic gauntlet tossed at Jesus' feet. The schoolman would fain convert that Perea roadway into an arena, where he could display his hardihood and skill with the logical lance. He should at least be given the benefit of a doubt of having any special animosity against Jesus. Sacred things to him had lost their sacredness. Law and prophets were only an armory for wit and subtlety.

The Master takes him upon his own ground. "Thou art versed in the law. Mayhap you have an answer in the text-box of your own phylactery?" The lawyer's response is quick and apposite. As in a flash one sees how superior the religion of the old covenant was to the current religion of Judaism. They had ceased to be identical. The religion of God was love, but the religion of Pharisaism was a narrow and cold system of dialectics.

The lawyer, conscious of his inability to keep the law in its full breadth, would fain enter his Pharisaical refinement upon it in the question, "Who is my neighbor?" Jesus has driven the matter home to his heart, but he will dextrously fend it off with his dialectic. Jesus finds the pledge of eternal life in the subjective state; this religious dodger begs to know the objective status of those toward whom he is to exercise himself. If they are Jews and friends he will love them. More than that the paraphrases, targums, and what-nots of Pharisaism do not require of him.

At this point, the wideness and purity of the love which God instills in the penitent and trustful soul is flashed out in one of the most incomparable parables that ever dropped even from the lips of Him who spake as never man did.

The site of the story was notable, not to say notorious; the persons, a



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wounded traveler, a priest, a Levite, a Samaritan. The priest and Levite show us "how not to do it." They palliate and excuse themselves. The sufferer may not be a Jew; if so, the law, as they interpret it, makes no demand upon them. Even if a Jew, he might die while they were binding up his wounds; and if he did, they would be ceremonially polluted and disqualified from temple service. Ah! how they had failed to learn that, if God could not have both mercy and the ceremony of sacrifice, He would choose mercy always.

The Samaritan does not stop to parley; he just neighbors the unfortunate man, and that is the end of it. He does it heartily and thoroughly. That naked and ensanguined form makes its own plea to him, and makes it not in vain as to the others. He opens both heart and pocketbook. The commercial traveler is transformed into the trained nurse as he sits the night watches through by the sufferer's side. Only, when he reached the boundary of another duty did he leave him. Even then he projected his aid into the future by the deposit he made, and the pledge he left.

Again, and this time beyond appeal, Jesus casts the matter back into the heart of his interlocutor, where it belonged, saying, "Who neighbored the unfortunate man?" To this, of course, there could be but one answer: "He who, rid of all racial prejudice and all selfishness, loved his fellow, and that, too, in none of the sentimentalism which etheralized in sighs and tears and flourish of lavender-scented cambric, but materialized in wine, oil, and pence, a saddle and a couch."

Any Christianity which falls short of this test is unworthy of the name of Him who said, "Do thou likewise."

ANALYSIS AND KEY.

1. A pearl of a parable.
2. Greatest in the strand in some respects.
3. Circumstances under which spoken.
4. Freedom of Oriental audiences.
5. A question interjected.
6. Only a dialectic gauntlet.
7. Jesus' skill. Takes man on his own ground.
8. Has him answer his own question.
9. Decline of practical religion revealed.
10. Love vs. Dialectics.
11. Dialectical refinement upon "neighbor" attempted.
12. Jesus responds with the incomparable parable.
13. Term neighbor not defined.
14. Subjective state which makes a man neighbor to every one illustrated.
15. Terse application.
16. "Do thou likewise!"

Suggestions for the Construction of Small Pumping-Plants for Irrigation.

(Continued from page 722.)
the discharge-pipe should gradually increase from 4 inches at the discharge opening of the pump to 8 inches, 3 feet above the discharge opening, and continue this size until the flume or discharge conduit is reached. The discharge-pipe can be made of riveted galvanized iron, and the suction-pipe can be made either of standard pipe or good well-casing.
5. A centrifugal pump loses its efficiency at once if there is an air leak around the stuffing-box, or at any place in the suction-pipe. Many centrifugal pumps are now provided with a water seal around the stuffing-gland that insures the absence of leaks at this point.

A good centrifugal pump with enclosed runner should show an efficiency of about 60 per cent on a 30-foot lift. Single-stage centrifugal pumps, constructed with bronze runners made in two pieces so that the interior could be machined and smoothed, have shown an efficiency of about 80 per cent.

METHOD OF PRIMING PUMPS.

A large number of pumping-plants are installed with foot valves at the bottom of the suction-pipe. When these are provided, a centrifugal pump is always ready to start after it is once primed. The foot valves usually interfere very materially with the flow of water into the pipe, and it is undoubtedly more economical to omit them and place a flap valve at the upper end of the discharge-pipe which can be lowered when it is desired to start the pump. An ordinary cast-iron house pump connected to the top of the casing of the centrifugal pump can be used to prime the pump with water before starting.

THE FITTINGS.

The suction-pipe installed by those who construct pumping-plants is not only usually too small for the best results, but the elbow and tees used

are ordinarily very poorly adapted to the purpose intended. It is a common practice to use steam-pipe fittings for this purpose. In consequence, the water is required to turn at sharp angles at the tees and elbows, and the best results can not be obtained. In order to avoid this difficulty, "long sweep" fittings should be purchased. These are standard-trade goods and can be obtained from any of the large dealers in pipe-fittings.

SOURCE OF POWER.

A popular source of power for small pumping-plants is the gasoline-engine. Where the price of gasoline is high, it is very easy to make the cost of water prohibitive by the use of such

oline at four to six cents per gallon. In large plants, requiring from fifty to one hundred horse-power, or more, a condensing Corliss engine is sufficiently economical where the cost of coal does not exceed \$3.50 to \$4 per ton.

ECONOMICAL HEIGHT WATER MAY BE LIFTED.

It is very unlikely that it will pay to pump water, under present conditions in the valleys of the Western Plains, to a total height of more than 30 feet, including the suction-lift of the pump. If the pump lower the water in the wells 10 feet; and if the distance to water be 10 feet below the ground, and the discharge-pipe be

operated without the use of a reservoir.

COST OF PUMPING.

The cost of recovering ground water from wells is made up of four principal items: (1) fuel and supplies; (2) labor; (3) depreciation and repairs; (4) interest on the first cost of the plant, or on the capital invested. The first and third of these items are partially under the control of the owner of the plant. If the installation is carefully designed and its parts well proportioned, the cost of fuel can be kept at a minimum; and similarly, the charge for depreciation and repairs will be kept low if good machinery be purchased in the first place, and careful attention be given to its maintenance when in operation and when idle. The charge for depreciation will be as great, if not greater, when the plant is not running as when running. The rate of depreciation when idle will greatly exceed the rate when running, if the machinery is neglected or carelessly exposed. The charge for depreciation and repairs should not be estimated at less than 10 per cent of the first cost of the plant.

APPROXIMATE COST OF FUEL REQUIRED TO PUMP 1000 GALLONS OF WATER PER MINUTE, FOR VARIOUS LIFTS.

Total lift.	Engine horse-power required.	Cost per hr. of fuel, gasoline 16 cts. per gallon.	Cost per hr. of fuel, gasoline 20 cts. per gallon.	Cost per hr. for coal at \$8 per ton in suction gas producer plant.	Cost per hr. for contact pump using steam-engine.	Cost of depreciation and repair on machinery, etc., per year.
10	16	11.2	14	4.2	6	70
20	11	22.4	23	8.4	12	140
30	16	33.6	42	12.6	18	210

Note.—1,000 gallons of water per minute pumped continuously for eleven hours is equivalent to two acre-feet of water.

The accompanying table gives an estimate of approximate cost for fuel and maintenance of a pumping-plant, having a capacity of 1,000 gallons of water, per minute for total lifts of ten, twenty, and thirty feet.

In order to determine approximately the cost of pumping water any distance between twenty and thirty feet, a proportional part of the cost for ten feet can be added to the cost for twenty feet. Thus, to get the cost of pumping water a distance of 25 feet, half of the numbers in the first line of the table can be added to those in the second line. The table should only be used for estimating the cost of pumping water for lifts lying between twenty and thirty feet. The cost for ten feet is given for the purpose of making estimates, but it should not be supposed that the cost for this low lift would be merely half of that for the twenty-foot lift, as friction losses and others would tend to make the cost for the low lift higher than that stated in the table.

FIRST COST OF PUMPING-PLANTS.

At almost any point in the river valleys of the Western Plains, complete pumping-plants, including wells, machinery, and buildings, can be constructed for about \$100 per horse-power required. In some exceptional cases

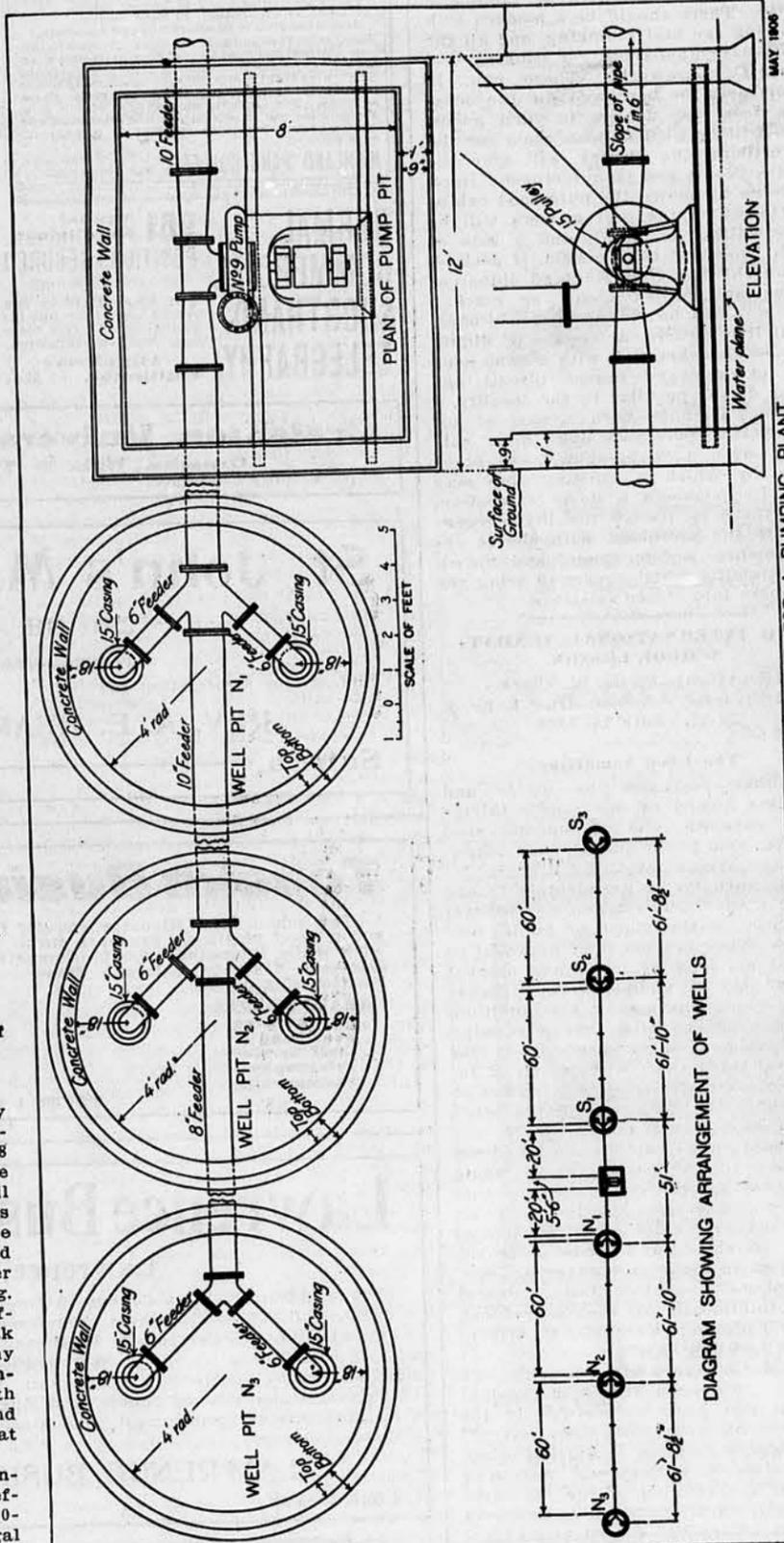


Figure 2.—Suggested arrangement of wells and pump for a pumping-plant designed to recover 2,500 gallons of water per minute. In places where the gravels are deep and unusually coarse, the wells at the end of line of suction-pipe may be omitted. The plant consists of a central concrete pump-house and a group of 12 wells arranged along the suction-pipe leading to the pump. The suction-pipe should be placed underground as near the level of the ground water as practicable.

lower. Whether or not it pays to pump water by gasoline is a matter which depends very largely upon the distance the water must be lifted, but also upon the kind of crop that is to be irrigated. Gasoline, even at a high price, is usually a cheaper fuel than coal in an ordinary steam-engine of small horse-power, such as a common traction-engine. For plants requiring from twenty to thirty horse-power, producer gas-generators can be installed which will keep the cost of pumping down to a minimum. A suction gas-producer, using anthracite pea coal for fuel, should furnish power at the rate of one horse-power per hour for each pound and a half of coal consumed. At \$8.00 per ton, the cost of coal should be equivalent to gas-

brought into a reservoir or flume 5 feet above the surface of the ground, the total lift will be 30 feet, if 5 feet be added to cover loss of head due to friction in suction and discharge-pipe.

STORAGE RESERVOIRS.

In order to irrigate economically from pumping-plants, it is usually desirable to pump the water into a reservoir having a capacity equal to the amount of water the plant can furnish in 6 or 8 hours. Such a reservoir is absolutely necessary for best results with small pumping-plants. If the supply of water exceeds 500 gallons per minute, it is possible to dispense with the reservoir, especially if the supply greatly exceeds this amount. Plants furnishing over 1,000 gallons per minute can usually be best

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the cost may run as low as \$60 per horse-power.

Tests of a number of pumping-plants in the Rio Grande River Valley are reported on in Water Supply and Irrigation Paper No. 141.

The pumping-plant of Mrs. M. Richter, near Garden City, Kans., uses a Menger pump which is run by a 10-horse-power Otto gasoline-engine.

The pumping-plant of Nathan Fulmer, near Lakin, Kans., utilizes a chain and bucket pump. The power is supplied by a Howe gasoline-engine which develops about 7-horse-power at 285 revolutions per minute.

The pumping-outfit of J. H. Logan, near Garden City, Kans., consists of a 6-horse-power horizontal gasoline-engine connected by a belt to a No. 3 centrifugal pump.

The cost of pumping at 12 plants in the Arkansas Valley in Western Kansas ranged from \$.85 to \$3.75 acre-foot.

Listing Ground for Wheat.

EDITOR KANSAS FARMER:—This may be something new to some of the readers of "the old reliable," but in this locality it has been practiced by some for fourteen or fifteen years.

The whys and wherefores I am unable to explain, but I know it pans out all right. It seems that by throwing up the soil in ridges the atmosphere has a good effect, and by getting over the land so quickly, it stops all weed growth and when you finally get ready to sow, the stubble and what trash there is will be mostly on top of the ground, leaving the land solid underneath and a fine seed-bed on top.

I explained my way of preparing wheat land to Professor Georgeson a few years ago, expecting that he would experiment a little at Manhattan, but have never heard from him so take it for granted that he thought it not worth trying.

W. B. EAMES, Ottawa County.

Changing School District Boundaries.

We live in a school district almost one and one-half miles from the schoolhouse. There is a schoolhouse only 110 rods from us, and I requested the county superintendent to change and put the land in the district where the schoolhouse is near us.

Please quote statute and indicate procedure. C. E. CHENEY, Dickinson County.

Section 99 of the schools laws of 1905, the same being Section 6121 of the General Statutes of 1901, provides for an appeal to the board of county commissioners from the county super-

intendent's action, or refusal to act in the matter of the change of school-district boundaries. You will notice in this section that the appeal shall be served on the county superintendent within ten days of the time of posting the notices of the formation or alteration of such district.

I. L. DAYHOFF, State Supt. Public Instruction.

The Grange

"For the good of our Order, our Country and Mankind."

Conducted by George Black, Olathe, Secretary Kansas State Grange, to whom all correspondence for this department should be addressed. News from Kansas Granges is especially solicited.

NATIONAL GRANGE.

Master.....N. J. Bacheider, Concord, N. H. Lecturer.....Geo. W. F. Gaunt, Mullica Hill, N. J. Secretary...C. M. Freeman, Tippecanoe City, Ohio

KANSAS STATE GRANGE.

Master.....E. W. Westgate, Manhattan Overseer.....A. P. Reardon, McLouth Lecturer.....Ole Hibner, Olathe Assistant Lecturer.....R. C. Post, Spring Hill Assistant Secretary.....Frank Wiswell Oehlertre Chaplain.....Mrs. M. J. Ramage, Arkansas City Treasurer.....Wm. Henry, Olathe Secretary.....George Black, Olathe Gatekeeper.....J. H. Smith, Lone Elm Ceres.....Mrs. M. L. Allison, Lyndon Pomona.....Mrs. S. M. Finney, McLouth Flora.....Mrs. E. J. Lovett, Larned L. A. S.....Mrs. Lola Radcliffe, Overbrook

EXECUTIVE COMMITTEE.

O. F. Whitney, Chairman.....Topeka, Station A E. W. Westgate.....Manhattan George Black, Secretary.....Olathe Henry Rhoades.....Gardner J. C. Lovett.....Buoyrus

STATE ORGANIZERS.

W. B. Obryhm.....Overbrook

Grange Field Meetings in Kansas.

As a rule, it is supposed that more work is done for the Grange during the winter season than any other time in the year, but it has been proven that more and better work has been done in the last few years during the summer, in the way of field-meetings or grange picnics, addressed by prominent members of the order and followed immediately by deputies or grange workers with blank applications for membership in their hands.

The executive committee of the Kansas State Grange has arranged for Brother Mortimer Whitehead, of New Jersey, the well-known patron and past lecturer of the National Grange, to deliver a series of lectures or addresses at field-meetings, in Kansas, from July 16 to 27 inclusive. He will be accompanied by A. P. Reardon, the overseer of the Kansas State Grange. The first meeting will be held at Vinland, Douglas County, July 16; Overbrook, Osage County, July 17; Meriden, Shawnee County, July 18; Oak Grange, Shawnee County, July 19; Edgerton Grange, Johnson County, July 20; Cadmus, July 21; Wellsville, July 23; Madison, July 24; Carbondale, July 25; New Lancaster, Miami County, July 26; and Olathe, July 27, the close of the series of lectures. Mortimer Whitehead has been a worker in the Grange for 35 years. He has been in every State in the Union and in Canada. No member has traveled more miles, delivered more addresses, or written more papers in the interest of the order than has Brother Mortimer Whitehead. He is called "The silver-tongued orator of the Grange," and it will be to the interest of every member of the order in Kansas to hear him, and see that his neighbors who are not members hear him also. His lectures are intellectual treats as well as a power for good, and it is hoped that every locality in which he is billed will get out of these lectures all they possibly can.

BY ORDER OF EXECUTIVE COMMITTEE.

Carbondale Grange No. 754, Osage County.

The Grange organization in our locality is proving a great boon to its membership, and I do not know how we could get along without it. We have not attempted anything in the line of cooperation in a business way, except insurance, but in a social way it is of great benefit to us. At our last regular meeting we conferred the third and fourth degrees on four new members. After the ceremony we had a short but very interesting literary program, which seemed to be appreciated and enjoyed. Following the program, one of the famous Grange feasts was spread, and a jolly good social time indulged in.

We have several more applications for membership, and in a very short time we will again confer the fourth degree on a number of new members. We are now making arrangements

for and expect to hold a large and successful grange field-meeting in the near future, at Wakarusa.

A. P. STENGER, Lecturer.

Sunshine Grange No. 1443, Leavenworth County.

We desire to announce to the readers of the Grange department of THE KANSAS FARMER that while Sunshine Grange is a new one and has not been on the Grange rolls very long, we are alive and propose to do our share of Grange work in Kansas, and that we extend the right hand of fellowship and ask to be recognized as workers in the great cause.

On June 27 four new members were initiated in the third and fourth degrees of our order. After the beautiful ceremony was completed, the members present sat down to a feast of ice-cream, cake, and fruit. This was the first affair of a social nature given in our Grange and was heartily enjoyed by all. We are growing, perhaps slowly, but none the less surely. We have received nine new members during the quarter just ended, five of whom have not yet received the third and fourth degrees.

On August 8, 9, and 10 the Old Settlers' Association holds its annual picnic, and the first day has been tendered the Grange for its speakers. We hope to make a good showing from Sunshine Grange, and have invited two other nearby granges to join us.

ESTELLA LEIGHTY, Lecturer.

Hope of the Nation.

One of the hopeful things for the future of the Nation is the great organization, which the farmers of the country are centralizing around, the Grange. Within recent years there has been a marvelous growth that has extended to nearly every State and Territory in the country, so that when it holds its National convention, the attention of the whole country is attracted to its actions. It has taken hold of all the vital questions before the country, and the discussion and action that is brought to bear upon them will exert a mighty influence.—Amesbury (Mass.) News.

A Labor-Saving Implement.

It is growing more difficult each year for the farmer to secure the help necessary to perform the operations of the farm. The temptations of commerce or the professions seem too strong for the farmers' sons in spite of the fact that there is not now and probably will not be in the near future any more remunerative business than farming. The situation which now confronts the farmer, however, compels him to resort to mechanical aids as far as possible, and any new machine or implement that is of real worth should be welcomed by the farmer with satisfaction. This week the Coffeyville Implement and Manufacturing Company is advertising their riding attachment for plows, and it is a real pleasure for us to be able to say, after a thorough investigation, that this is the best thing we have ever seen. It is readily attachable to an iron or a wooden-beam plow of any make. It fits on a right-hand or left-hand plow or a lister or a harrow. The only tool necessary to make the attachment is a monkey wrench. By the aid of this riding attachment, the farmer can do more work and still have strength left in the evening to attend to the other matters demanding his attention. It is a mighty good thing. Write the Implement and Manufacturing Company, Coffeyville, Kans., and they will tell you all about it.

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The "old reliable" KANSAS FARMER, established in 1868, the best genuine agricultural weekly paper in the West. It solves the problems for the busy farmer. It helps and interests every member of the farmer's family. It has 12 regular departments. Its contributors are expert authorities. It contains 24 to 32 pages each week. Sent on trial three months free. Test it. Clip the coupon below.

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I accept your trial offer to new subscribers to send me the KANSAS FARMER three months free. At the end of the three months I will either send \$1.00 for a full year from that date or write you to stop the paper, and you are to make no charge for the three months' trial.

Name.....

P. O.

OPERATION AVOIDED

EXPERIENCE OF MISS MERKLEY

She Was Told That an Operation Was Inevitable. How She Escaped It.

When a physician tells a woman suffering with serious feminine trouble that an operation is necessary, the very thought of the knife and the operating table strikes terror to her heart, and our hospitals are full of women coming for just such operations.



There are cases where an operation is the only resource, but when one considers the great number of cases of menacing female troubles cured by Lydia E. Pinkham's Vegetable Compound after physicians have advised operations, no woman should submit to one without first trying the Vegetable Compound and writing Mrs. Pinkham, Lynn, Mass., for advice, which is free.

Miss Margret Merkley, of 275 Third Street, Milwaukee, Wis., writes:

Dear Mrs. Pinkham: "Loss of strength, extreme nervousness, shooting pains through the pelvic organs, bearing down pains and cramps compelled me to seek medical advice. The doctor, after making an examination, said I had a female trouble and ulceration and advised an operation. To this I strongly objected and decided to try Lydia E. Pinkham's Vegetable Compound. The ulceration quickly healed, all the bad symptoms disappeared and I am once more strong, vigorous and well."

Female troubles are steadily on the increase among women. If the monthly periods are very painful, or too frequent and excessive—if you have pain or swelling low down in the left side, bearing-down pains, don't neglect yourself: try Lydia E. Pinkham's Vegetable Compound.

Your Life Current.

The power that gives you life and motion is the nerve force, or nerve fluid, located in the nerve cells of the brain, and sent out through the nerves to the various organs.

If you are tired, nervous, irritable, cannot sleep; have headache, feel stuffy, dull and melancholy, or have neuralgia, rheumatism, backache, periodical pains, indigestion, dyspepsia, stomach trouble, or the kidneys and liver are inactive, your life-current is weak.

Power-producing fuel is needed; something to increase nerve energy—strengthen the nerves.

Dr. Miles' Restorative Nervine is the fuel you need. It feeds the nerves, produces nerve force, and restores vitality.

"When I began taking Dr. Miles' Restorative Nervine and Anti-Pain Pills I was confined to my bed. I had severe nervous spells, the result of two years illness with malaria. I gradually grew so weak that I was unable to sit up. The spells would commence with cold chills, and I would become weak and almost helpless. My circulation was poor. I had doctored right along but grew weaker and weaker. The Nervine seemed to strengthen me right away and my circulation was better. I have taken in all seven bottles of the Nervine, and I am entirely well."

ROSA E. WEAVER, Stuarts, Ia.

Dr. Miles' Nervine is sold by your druggist, who will guarantee that the first bottle will benefit. If it fails, he will refund your money.

Miles Medical Co., Elkhart, Ind.

Dairy Interests

The Cold Curing of Cheese.

Recent investigations in the manufacture and curing of cheese have determined some interesting questions as to the relative advantages of cool curing, where the rooms are kept above 50° F., and cold curing, with the rooms at temperatures ranging from 30° to 50° F., and the results of these investigations have just been published in a bulletin of the Dairy Division, Bureau of Animal Industry, United States Department of Agriculture. This bulletin gives also an interesting summary of previous experiments carried on at the Wisconsin Agricultural Experiment Station and at the Ontario (Canada) Experiment Station.

In these earlier experiments at the Wisconsin Station, it was shown that the curing of cheese at temperatures above 60° F. was apt to be unsatisfactory, while that cured at the lower temperatures, from 50° to 60° F., remained longer fit for consumption and had the better flavor, according to the standards of that time. With lower temperature for curing, the quality of the cheese appeared to be more uniform and the product brought higher prices. Some bad effects followed storing at temperatures low enough to freeze the cheese, but they were only temporary. The Canadian experiments showed that the temperature of 40° F. for the curing room gave very satisfactory results, and that there was not only a uniform quality secured, but also very little loss of weight. It was made plain, also, that the temperature of 55° or 60° F. would not check many of the undesirable ferments which may occur in the ripening of cheese.

C. F. Doane, dairy expert in the Dairy Division, planned and executed a series of experiments to study, under factory conditions and on a commercial basis, the problems of temperature in curing and storage. The factory with which cooperation was arranged in this case was at Plymouth, Wis., and had a capacity of 15,000 pounds of milk daily. The cheeses investigated were made by the Cheddar process from June 19 to August 24, 1905. In these experiments the usual amount of rennet, 3 ounces to 1,000 pounds of milk, was used for one half of the cheeses, and twice the amount, or 6 ounces of rennet to 1,000 pounds of milk, was used for the other half.

The output used in these experiments amounted to 14 "Daisy" cheeses daily. Two of these were stored immediately in the curing-room having a temperature of 32° F., two were stored in the curing-room having a temperature of 40° F., and two were cured in the factory curing-room at a temperature of about 65° F. The other cheeses remained also in the factory curing-room until, at the end of one week, two were placed in the curing-room having a temperature of 32° F., two in the room at 40° F., and, at the end of two weeks more, two more cheeses were placed in the 32-degree room and two more in the 40-degree room.

The cheese was examined and scored January 6, 1906. The judges were U. S. Baer and C. A. White, of Wisconsin, and I. W. Steinhoff, of Stafford, Canada. The results of the testing show that there was slightly less loss of weight in the cheese put into cold storage at one week of age than in that stored at two weeks.

In the case of the low-rennet cheese, that cured at 32° F. directly from the press scored highest, the average being 95 points out of a possible 100, while that cured at 40° F. directly from the press scored an average of 94.3. The press cured at 32° F. after one week in the factory curing-room scored an average of 93.8, and that cured at 40° F. after one week in the factory scored an average of 90. The cheese cured at 32° F. after two weeks in the factory scored on an average of 93, and that cured at 40° F. after two weeks in the factory scored on an average 90. The low-rennet cheese cured entirely in the factory curing-room scored only 81.4.

The results in the case of the high-rennet cheese show that the cheese cured at 32° F. directly from the press averaged 94.4, and that cured at 40° F. directly from the press averaged 92.3. The cheese cured at 32° F. after one week in the factory scored 93.4, while that cured at 40° F. after one week in the factory scored 90.3. The cheese cured at 32° F. after two weeks

in the factory scored 91.6, and that cured at 40° F. after two weeks in the factory averaged 90.9, while the high-rennet cheese cured entirely in the factory curing-room scored 90.5.

It was also shown in these investigations that taints developed more noticeably in the factory curing-room than in cold storage, and that taints once started in the cheese were checked more by storage at 32° F. than at 40° F. It appears also that cold curing derives its value chiefly from its effect on what might otherwise be poor cheese. Another important conclusion is that curing cheese at 32° F. checks acidity much better than the 40-degree temperature. Mr. Doane concludes that the quicker an acid cheese can be put into cold storage, and the colder the storage, the better the cheese will be.

In popular tests made by placing cheese of these various groups on sale in the markets, it was found that in comparison with the sales of five or ten years ago there is a decided indication that the popular taste is growing toward a preference for mild cheese, either cured, or uncured. It appears that the time is soon coming when all cheese, if ripened at all, must be ripened at low temperatures, and the sooner it is put into cold storage the better.

Notes from the State Dairy Association.

Test your cows and sell the unprofitable ones. Recently Professor Erf, of the Agricultural College, concluded tests for a year of the college cows and found that one cow charged 8½ cents per pound for her butter while another charged 24 cents per pound. The other cows ranged between these figures. He also found that by selling half the herd he could make a handsome profit while if he kept them all he could not make one cent. Thousands of cows are now being milked in this country that are a dead loss to their owners. To correct this condition the farmer should weigh the milk from each cow daily and make a test for butter-fat about once every seven weeks. He should ventilate, lighten, and cleanse his stable, and keep the cows comfortable all the time. He should study the principles of scientific feeding and balance his feeds into the best milk-producing ration, and he should get a good, pure-bred dairy bull and raise and train his heifers into good milk cows.

Questions come to this office as to how best to send cream samples for official test. Great care should be exercised in taking the samples. The cream should be thoroughly mixed by pouring from one can to another at least four times. Then fill the sample bottle entirely full, cork tightly and place in a mailing case and address to Prof. Oscar Erf, State Agricultural College, Manhattan, Kans. The test will be made free of charge and the results reported. Be sure to cork or seal the sample bottle tightly to avoid evaporation, and fill it full to avoid churning of the sample.

During the summer drouths it is important that the cows be kept on full flow of milk. This can be done by feeding new hay with the grain ration or by feeding soiling crops such as green corn, sorghum, Kafir-corn, or alfalfa. The best combination of dry weather feeds is made by mixing a grain-ration of one part corn, one part oats, and one-eighth part oil-meal, and feed with plenty of alfalfa. Another ration may be made by mixing one part corn, one part barley, and one part bran, and feed with alfalfa.

Figures showing the comparative profits of beef-raising and dairy-farming are difficult to obtain, but there seems to be no doubt that dairy-farming is much the more profitable. On cheap land that will grow good grass, beef-production can be made to return a good profit on the capital and labor invested, but on high-priced land the dairy is the thing. Dairying is by far the most profitable branch of agriculture, but, like other professions, it requires special training and special methods.

From year to year the price of dairy butter drops below the profit line at this season, and the butter-makers complain that they see no way out of the difficulty. The remedy lies in separating the cream by hand-separators and shipping the cream to the nearest creamery. Making butter on the farm is practically a thing of the past, and no longer pays when the creamery

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Put *Facts* and *Common Sense* to work on a Tubular Cream Separator and you know it must be easy to operate. Put *Facts* and *Common Sense* up against a back breaking, hard to wash, high can "bucket bowl" machine and you can't make yourself believe it is easy to operate. In the light of truth, the out-of-date, "bucket bowl" separators go to smash.

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stands ready to take good cream at a price that is much more profitable to the farmer than making butter on the farm. The hand-separator not only brings much more money for the same amount of milk, but relieves the women of a tremendous amount of drudgery that doesn't pay. The graded-cream system is now being adopted by all of the dairy States. It is the only proper system and the only one that is fair to both producer and manufacturer. When it is considered that there is no great difficulty in having cream grade No. 1, it will be seen that the graded-cream system works no hardship. With cleanliness, care, and cold as the watchwords of the dairyman there is no reason why all cream should not grade No. 1. Immediately after the milking is done, the cream should be separated and at once cooled to the temperature of cold well or spring water, say 50°. Never mix warm and cold cream together. It is sure to spoil the flavor. If you have no ice set the warm cream in a tank of cold running water and stir until cool. Remember to deliver promptly to the station. Age spoils more cream than sourness.

If other crops fail, you can still raise cow feed. You draw your dividend on the cow every night and morning. The wheat rots in the field and the corn floats away in the flood. The hog dies from cholera and the beef trust squeezes the profit out of the steers, but the old cow quietly plods along—always faithful, always doing a big share to make the farm pay.

SUMMER VACATIONS IN COLORADO.

Low Rates via Rock Island Lines.

Colorado, as a place for recreation, is the choice of many thousands of summer tourists.

Colorado is a land of clear, pure air and golden sunshine. It is a land of sparkling mountain streams and grassy-surfaced lakes. There are more enjoyable things to do, more grand sights to see in Colorado than any other place under the sun.

From June 1 to September 30 Rock Island lines will sell summer tourist tickets at rate of \$17.50 from Topeka to Denver, Colorado Springs, or Pueblo and return. Return limit October 31. July 10 to 15 inclusive, the special round-trip rate of \$15 from Topeka is effective.

This latter rate is authorized on account of the Elks' Annual Meeting at Denver July 16 to 21. Tickets limited for return to August 20.

Very low rates will also be in effect to Glenwood Springs, Colo., Salt Lake City, and Ogden, Utah, Yellowstone National Park, and to the Pacific Coast, with cheap rates for side trips to nearby points of interest en route.

New and improved train service via the Rock Island is an important feature for the Colorado traveler to consider.

Full details of rates, routes, service and any information desired will be gladly furnished by Rock Island ticket agents. A. M. FULLER, J. P. A., Topeka, Kans.

Denver, Colorado Springs, Pueblo and Return, \$17.50. Santa Fe.

Tickets on sale daily, good returning as late as October 31, liberal stop-over privileges allowed. Fast Colorado Flyer from Topeka 10.35 p. m., arrives Colorado early next morning. Rock ballast track and Harvey eating houses. T. L. KING, C. P. & T. A., Topeka, Kans.

Miscellany

Reciprocity and Markets.

DELIVERED BEFORE THE KANSAS CORN-BREEDERS' ASSOCIATION JANUARY 22, 1906, BY HON. EDWIN TAYLOR, OF EDWARDSVILLE.

Ed Smith, of Michigan, used to say, "There is nobody so far from market as the man who has nothing to sell." And something to sell is, doubtless, a prior consideration to somebody to buy. How fortunate has been this country in respect to both buyers and wares! We have had food and clothes, and minerals and fiber, and machines in greater abundance than we could use, and have sent beyond the seas in the last fiscal year nearly \$1,500,000,000 worth. The figures are so large that the mind fails to grasp their significance. The Governor of Nebraska is authority for the statement that that State sold beyond its borders last year \$208,000,000 worth. Kansas is a larger State than Nebraska, of greater productivity. It must have sold even more outside of its own confines. It would be difficult to determine just what share of this went into our foreign trade. But in a large general way it may be said that the principal items in our foreign trade in agricultural products, aside from cotton, are wheat and corn, fresh and dressed meats and lard, and here is where Kansas is strong. As the late, lamented Mr. Harmon used to sing of the Kansas farmer man, "He's got the stuff and that's no bluff." Several things have helped to give him an active demand for this stuff. One of those things is war. Beginning with the Boer War in South Africa up to the treaty of Portsmouth, last fall, there had been eight years of war or preparation for it. One of the first ripples indicating the approaching rupture between Russia and Japan was Russia's order placed with our packing-houses for 10,000,000 pounds of their products—primarily, of course, our products. And all through the struggle between Russia and Japan we furnished them both enormous quantities of bread and meat.

The extraordinary increase in the supply of gold, which has more than doubled since Bryan made his famous campaign for free silver ten years ago, has stimulated the heart action of the business of the whole world and has given Europe and the Orient an ability to buy which they did not have before. Coincident with this world-wide thrift, the farmers of America have had such an enormous surplus to sell that after furnishing our people with food, they have exported, sold to the world, during this time nearly a billion dollars worth a year. There was nothing like it in any age of the world before. America could not have done it much earlier. She may never be able to do it again. We are probably right now at the point where our surplus of food is greater than it ever will be again; for, while the tillable land is all taken up in cultivation, the number of domestic consumers of food will hereafter steadily increase, and our crop-raising, while it may be more intensive, can't be more extensive. Just think of the current of bread and meat and cotton and other products which has set from our shores to those of other countries, a current which has amounted in the last eight and one-half years to seven billion five hundred million dollars worth. Is it any wonder that we are prosperous? And then in view of all these things to hear a "stand-patter" attribute all this good fortune, coming from lots of stuff to sell on our part and lots of money to buy with on the part of our customers, to the interference of high tariff laws, leaves one at a loss whether to laugh or rave.

THE DOCTRINE OF PROTECTION.

Like a very great majority of Americans and Kansans, I am a protectionist. I freely admit the soundness of the doctrine of protection in its use, not its abuse. There may have been a time in the early history of this country when even exclusion of articles of foreign make would have been helpful. That condition no longer remains. Blaine was the apostle of reciprocity before he died, and McKinley had just uttered the words, "The period of exclusiveness is past," when he was shot. Alexander Hamilton and Henry Clay were the founders of the scheme of protective tariff which has been called the American System, but this is the position Clay took, and the caution he gave against carrying his system to excess: "It is expedient to protect our own industries in their beginnings, in

order that they may become established and secure and able to compete successfully in our market with the incoming product of old-country industries. But extremes are ever wrong. Truth and justice and sound policy and wisdom always abide in the middle ground. We must therefore reject the doctrine of both free trade and of a high exorbitant tariff."

In Germany there is a very hostile feeling toward us. We sell them so much more than we buy of them that their statesmen want to either even up our trade or exclude us from their markets. They have a new tariff law framed, which will become effective next March, that will make an entrance to the German trade for our bread stuffs and meats prohibitive. For instance, when that law begins to be effective, other countries which are on the favored-nation basis will pay on wheat per 100 Kilos forty-eight cents less than we; or in round numbers our tariff rate in the Garmen market will be twenty-two cents per hundred-weight in excess of Austria and Russia. Our salted meats will pay from 65 cents to \$1 per cwt. more than the favored nations, flour 88 cents per cwt., live hogs \$2.14 per head, horses \$14.28 to \$57.12 per head in excess of others. The government of Germany is ready to give us the favored-nation rate in return for corresponding concessions to them. This proposition of the German Government is as bitterly opposed by the rich land-holders of Germany as concessions on our side are opposed by our steel, lumber, sugar, leather, and paper interests.

At the very same time that American producers were holding the great reciprocity convention in Chicago, last summer, a still larger convention was being held in Berlin by the butchers and meat-dealers who, in resolutions adopted, demanded that the government should "open the frontiers" to the importation of foods. But however willing the Emperor and his Cabinet to "open the frontiers" and give the German masses cheaper food, they dare not offend the agricultural baronage whose profits grow larger as food grows scarcer. Following the lead of the German land-barons, the American factory-barons have instructed their attorneys in Congress—particularly in the Senate—to resist any tariff revision.

A bill has been introduced into the present Congress, providing that whenever the duties on any imports amount to over 100 per cent of their cost, the duty shall be reduced to 100 per cent. There is no prospect that the bill will ever come out of the first pigeon-hole it went into.

Walter Wellman, in an article in the Record-Herald, of Chicago, gives a list of articles that pay more than 100 per cent. The list is nearly a column long, without claiming to be complete. That kind of tariff could not be called protective by any stretch of the imagination: it was intended to be, and is, exclusive. President Roosevelt's definition of protection is, "such an adjustment of the duties upon any article made in this country as will, when added to the labor cost of the same article made in a foreign country, bring up the entire cost of the foreign article delivered in our markets to a level with the American cost of the same article, where fair wages are paid for the labor." That sort of protection a majority of Americans would favor.

It is one of the curious things in life, the way birds of a feather flock together. When the loan shark was convicted and sentenced in Kansas City a few days ago, all the other financial freebooters came to his aid with money to bail him out and tenders of deep sympathy over the persecution of society in taking his fingers from its throat. Gamblers, jointers, confidence men, bunco steers, and the light fingered are interested in each other and are helpful to each other. Likewise every corporate interest that is conscious of having society at an unfair disadvantage is interested in and makes common cause with every other corporate interest similarly concerned. And so it comes about that reciprocity in Congress and out has to contend with greed and graft in all their manifestations, all their organizations, and consolidations.

EFFORTS MADE TO SECURE RECIPROCITY.

The most arduous labor that the great Blaine performed while Secretary of State was arranging reciprocal treaties with other countries, particularly with the states of South America, with especial reference to making markets for our flour and pork. Those treaties were all repealed by the Wilson Tariff law before they had time to show how they would have worked,

and the Wilson law in its turn was repealed by the Dingley law, which again brought forward the old Blaine idea of reciprocity by providing that the President, by and with the consent of the Senate, could lower the duties 20 per cent to any nation that would give us a corresponding reduction. Presidents McKinley and Roosevelt, together with the lamented Secretary Hay, arranged such treaties with many foreign states (I think twelve). But the Senate would not consent. It turned thirty-nine treaties down.

Between the corn-growers and the reciprocity they desire, the reciprocity that Dingley arranged a way for in the law that bears his name, the reciprocity that the administrations of both McKinley and Roosevelt successfully negotiated with the leading foreign states—between the corn-growers and this reciprocity stands a minority of the United States Senate. Corn-growers will be remiss in their duty to themselves and to their class if they do not make that minority a study both as to their names and the trend of their votes; "lest we forget." This is the age of graft. In the sense of plunder, the word is so recent that the latest edition of the Century doesn't contain the definition. The word is new but the thing itself is old. The Nation is stirring itself to throw off graft. The recent anti-graft crusades in Philadelphia, in Ohio, in insurance circles, in Standard oil, in the thousand ways in which the leaven of the "square deal" is leavening, the whole lump of American society and politics have shown that graft is ubiquitous. If I were to say that the excessive rates in our present tariff laws are bottomed on graft, it might be replied that my bias perverted my judgment. For this reason I quote from Hon. E. N. Foss, of Boston, speaking in Chicago last summer, at the Reciprocity Convention:

"The Dingley tariff contains the element of monopoly, gentlemen, the element of graft.

"Do not misunderstand me. I am a protectionist. I thoroughly believe in the principle upon which our system is founded. It is the abuses of the system which I attack. They must be eradicated, or the whole system will fall. It is not sane and reasonable protection which we must overthrow, but monopoly and graft.

"The evidence of the presence of graft in our tariff is not wanting. If we consult the facts and figures showing the labor cost in many of our leading industries in proportion to total cost of production, we shall learn that it averages from 20 to 25 per cent, and in no important case is over 50 per cent. Yet our pretended 'friends of labor,' but really would-be monopolists, go before Congress and secure a margin of protection ranging from 45 to more than 100 per cent, and then defend this outrage upon the country by saying that they must protect the workingman."

There was a time when the word "infant industries" did not excite laughter and derision, for it happily expressed in the qualifying word "infant" both the feebleness of our manufacturing concerns and the solicitude with which they were regarded. We coddled and nursed them to a growth never equaled in the world for financial strength and executive vigor. They are so big now they think they will hold on to the nursing bottle, whatever their fellow countrymen may say about it. I confess to a prejudice against that "bottle," and so to get an impartial opinion of the policy of supplying public pap to industrial giants, I quote a little of the address of Senator Dean, of Minnesota on the subject, before the Reciprocity Convention:

"Like other gentlemen who have addressed you, I have been a Republican from my youth. I have voted the Republican ticket beginning with President Lincoln down to President Roosevelt. I have been a Republican through and through and a believer in protection, but, Mr. Chairman and Gentlemen of the Convention, when infant industries have attained manhood and when they have become gigantic enough to take the country by the throat, they are no longer infant industries. (Applause.) In my judgment, industries when they have attained such proportions ought to be able to stand alone and confront the whole world."

With respect to the general subject of reciprocity, there has been much said by objectors to a disturbance of the present rates, about the protective duties that farm products enjoy in the present law; coupled with the suggestion that if the tariff should be

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We mean what we say; you can have this great cream separator shipped to your home, you can use it, try it against any other cream separator made and you need not pay one cent, sign any paper, nor put up your money in the hands of any bank or express company until you have had a fair free trial of what the machine will do.

You Pay No Man Any Money In Advance.

Do you want to know why we can do this? Because the Cleveland is the only high class separator in the world that is sold at a reasonable price. It is shipped to you direct from the factory. The Cleveland skimming device is made of aluminum. The cleanest and lightest metal in the world.

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all through and so easy running that you can hardly believe it's working. But try the Cleveland. It won't cost you anything, and there'll be no fuss made if you don't want to keep the machine after the thirty days trial. Write for free catalog now anyway.

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THE KANSAS FARMER CO., Topeka, Kans.

changed the changes should be confined to non-competitive products.

There is a high duty on wheat. What matters it, however, so long as the price of all our wheat is made in Europe? There is in the Dingley law now in force, an important duty on corn and potatoes and packing-house products, and wool and hides and flour and hay and all the rest of it. Once in a while potatoes are scarce enough here so that they have to be imported. Whenever that occurs, in my estimation, they should come in free. The millions who eat them are more important than the comparatively few who raise them to sell. Something is undoubtedly added to the price of hides in America by the duty on them. But even the cattlemen, one would say, could afford a concession on the hides if so doing would make a place for the carcass. Wool is higher because of the tariff. If wool were free, we could trade hog products for wool in the markets of the world to the hogman's great advantage; and there are a dozen hog-raisers to one wool-grower. What is the matter with taking into consideration the greatest good to the greatest number? As for the non-competitive products, they are so few and unimportant as to cut no figure and are drawn into the discussion to obscure the issue merely. Both of these matters were discussed by Osborne Howe, of the Boston Chamber of Commerce, in the Reciprocity Convention. Among other things, he said:

"You are called together chiefly at the present time in consequence of the threatened loss of your trade in Germany. Now, you propose, in order to keep that trade, certain concessions shall be made to German goods in our tariff. The Governor of one of the States, I think Nebraska, says: 'Let us make concessions in non-competitive products.' Who, in Germany, cares for concessions in non-competitive products? Your concessions, gentlemen, have got to be made on competitive products, on those on which the heavy duties now rest. What have you in the West to offer Germany? What single item is there in your possession as an industry, whether theoretically or practically, that you can offer Germany in the way of concession? There is not a thing. Suppose you take the duty off of wheat, corn, barley, and meat products of various kinds, are the Germans going to send their meat products, flour, and wheat to this country? Not at all. The concessions that are to be made have got to be concessions made by the manufacturing industries of the East.

"I admit as representing that district that those are concessions which they should make."

RECIPROCIITY A BUSINESS QUESTION.

The question of reciprocity is not necessarily a party question but it is necessarily a business question. A man's business should be paramount to his party. The manufacturers look out for their interests. They have always looked out; they made the Dingley law, the result of which is an enormous surplus of manufactured goods sold in foreign markets at a much lower price, as a rule, than the same goods are sold for at home. These manufacturers are shielded by the tariff from foreign competition in the home markets, and so are able to combine among themselves to avoid competition with each other and to place upon the home markets just what our people are compelled to consume at the high price these gentlemen, aided by the tariff, are able to maintain. We who are engaged in the effort to change these conditions are going against determined antagonists. There will be no pillow fight. It will be financial war, rather a war for financial emancipation. In all the great lines of manufacture there have grown up consolidations that are using the tariff laws for holding the rest of us up. Those consolidations are called trusts. We are particularly effected by the steel trust, the leather trust, the coal trust, the paper trust, the sugar trust, and the lumber trust. Our first business is to "bust" the trusts. Every American voter has placed in his hands a combined weapon and tool, a sort of universal wrench, with which we can adjust friction to a nicety and brain an enemy if necessary. That tool is the ballot. It isn't necessary to wait till election time to begin on the trusts. A display of weapons has often put wrong-doers to flight. The time for Kansas corn-growers to make a showing is now. Suppose each one of us should begin by sending a letter to our solitary United States Senator and to the Congressman from his district, something like this:

"Honorable Chester I. Long.

"Dear Sir:—The tariff shoe pinches my corns—see? I expect your help. I

expect you to help in every way you can to give our agricultural products free access to foreign markets. Failure therein means hereafter the hostile vote of,

Yours to command,
"A. CORNTOSSELL."

Then send a line to the chairman of your county central committee to this effect:

"Dear Sir:—It will be necessary to put a strong reciprocity plank in the next county and State platform, and have every Legislative and Congressional candidate subscribe to it if it is desired to keep in line.

"Yours to rely on,

"A. CORNTOSSELL."

If one hundred progressive farmers in every county in this State would write similar letters to the people I have mentioned, it would be a shot literally heard around the world. It would be notice to all mankind of an agrarian uprising in Kansas. That uprising would soon spread to other States. The political breezes that blow over Kansas are not different from those that revive the victims of party submergence elsewhere, unless they possibly may have what our homeopathic friends would call a "higher potency;" but the wind that wafts onto Senator Long's desk ten thousand letters such as I have suggested will cause many another Senator to cast a wistful eye to the political horizon, and trim his sails to suit, the indications of coming storm.

This is the revival time of the year, wherein much will be said of the personal feature of religion as contrasted with the institutional church. The same feature applies in politics. It is much easier to follow in the wake of a party than to get out and fight your party when you can not reform it from within. Personal politics means self-assertion for what a man holds to be political right-doing. Too many men seem to forget that it belongs to them to formulate the politics they will advocate, not the committee on platform. The hope of the country lies in the type of party man who has equally available in his political wigwag the tomahawk of service and the blanket of insurrection. The genius of American institutions must be often disheartened by the not infrequent perspective, wherein, if we may be allowed such a paraphrase of the Scriptures, is shown the "jointer" wolf dwelling with the prohibitionist lamb, and the stand-patter lion lying down with the reciprocity kid and a little "boss" leading the outfit!

Governor Hoch is distressed about the socialists in this country, but they are a negligible quantity for harm compared with the party boss and the political corporation. Governor Folk struck a truer note when he said in Boston last Saturday, "The most dangerous enemies of the State are the creatures of the State, that is to say the corporations." The cure for the party boss and the political corporation is to deprive them of the power they exercise through the party machine. The "boss," the machine, and the political corporation will all go topsy turvy when the primary election law comes in. Not the abortive caricature now masquerading in our statute book, but a legislative device that will put all nominations directly into the hands of the voters with the nominating convention, that spawning place of the crooked things in politics, thrown out. If a vote at large could be taken in the United States, reciprocity would win by two to one; it has been defeated for years and is still defeated by a Senate coterie, not one of whom probably could hold his place an hour if the citizens of his State, en masse, could control his seat. The only safeguard against corporate corruption and political commercialism, both in party management and in legislation, is the direct vote; the direct vote for United States Senators; the direct vote for all party nominees; the direct vote on all important laws. "The cure for the evils of Democracy is more Democracy."

Whenever it comes about that the will of the majority can get direct action on public questions, then be assured that reciprocity will at once begin the work of widening the world's markets to the world's greatest cereal, corn.

Homes for Thousands.

The Shoshone Indian Reservation lands will be opened to settlement August 15. Excursion rates less than one fare round trip, daily, July 12 to 29, \$26.70 from Chicago, via the Chicago & North Western Railway, the only all-rail route to the Reservation border. Rates of registration July 16 to 31. Write for pamphlets telling how to secure one of these attractive homesteads. All agents sell tickets via this route. W. B. Kniskern, Passenger Traffic Manager, Chicago.



LAKE BREEZES MANITOU

Can be enjoyed in safe delight on the STEEL STEAMSHIP

FOR COMFORT, REST AND PLEASURE

It offers an unequalled opportunity

First Class Only—Passenger Service Exclusively

Modern comforts, electric lighting; an elegant boat equipped for people who travel right. Three sailings weekly between Chicago, Frankfort, Charlevoix, Petoskey, Harbor Springs and Mackinac Island connecting for Detroit, Buffalo, Duluth and all Eastern and Canadian Ports. Ask about our Week-end Trips for Business Men. For Terms, Booklets and Reservations, address, JOS. BEROLZHEIM, G. P. A. Manitou Steamship Co., Chicago

Destroy the Gophers

In Your Alfalfa Fields by Using

Saunders' Gopher Exterminator

It is a machine which forces a deadly gas through their runways and is warranted to kill gophers within 100 feet of operation. With it a man can clear from five to six acres of gopher-infested land in a day at a cost of twenty cents per acre. The poison we use can be gotten at any drug store. Satisfaction guaranteed or money refunded. Complete outfit for \$5.

Flint Saunders, Lincoln, Kansas

Mention The Kansas Farmer.

WALNUT GROVE FARM

...FOR SALE...

Upon the advice of several specialists I am going to New Mexico for my health. On this account I must dispose of all my Kansas property, including the famous Walnut Grove farm, the most complete and profitable stock farm in Kansas. This includes 130 acres of the best land in Kansas, two miles from Emporia. Over 200 good O. I. C. hogs. All our Barred Plymouth Rocks, 36 Collies, 44 head of cows, 8 head of horses, the best farm house in the State. Also one small farm house, 2 large barns, 2 large cattle-sheds, one 300-foot hen house, one 250-foot broiler house, 20 brooder houses, capacity of plant, 4,000. The best hog house in the West, double-deck cement floors; many small hog houses. This is not an experiment, but a successful stock farm. Price, \$20,000 cash.

H. D. NUTTING, Emporia, Kans.

HOMES FOR THOUSANDS

One and a quarter million acres to be opened to settlement on the

SHOSHONE RESERVATION

Dates of registration July 16th to 31st.

EXCURSION RATES

Less than one fare for the round trip, daily July 12th to 29th via



\$21.50 Round trip from Kansas City, over the only all rail route to Shoshoni, Wyo., the reservation border.

For full particulars apply to A. L. Fisher, Traveling Agent, 823 Main Street, Kansas City, or fill out this coupon:

W. B. KNISKERN, Pass'r Traffic Manager.
Chicago & North-Western Ry. Chicago, Ill.,
Please send to my address pamphlets, maps and information concerning the opening of the Shoshone or Wind River reservation to settlement.

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NW22

PLYMOUTH ROCKS

BARRED PLYMOUTH ROCK EGGS - From free range stock, no other fowls kept on the farm. Price \$1 for 15; \$5 for 100. Mrs. C. F. Brown, Box 61, Manchester, Oklahoma.

BLUE BIRDS - Parred to the skin. Hawkins Ringlet strain. Eggs, \$1 per 15, \$5 per 100. Minnie K. Clark, Lyndon, Kansas.

EGGS FROM MAMMOTH BARRED PLYMOUTH ROCK (HICKENS \$1.50 per 15. A. D. Wyncoop, Bendena, Kans.

B. P. ROCKS AND BUFF ORPINGTONS - Eight grand matings. Send for price list on eggs and Collie pups. W. B. Williams, Stella, Neb.

White Plymouth Rocks EXCLUSIVELY.

Good for Eggs, Good to Eat and Good to look at W. P. Rocks hold the record for egg-laying over every other variety of fowls; eight pullets averaging 235 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96%, and as good as can be found anywhere. Eggs only \$2 per 15; \$5 per 45, and I prepay expressage to any express office in the United States. Yards at residence, adjoining Washburn College. Address THOMAS OWEN, Sta. B, Topeka, Kans.

LEGHORNS

ROSE COMB BROWN LEGHORN EGGS, 15 for \$1, 50 for \$2.50, 100 for \$4. Mrs. John Holzhay, Bendena, Kans.

BUFF LEGHORNS AND BUFF ORPINGTONS. Catalogue free. W. H. Maxwell, 1240 Quincy St., Topeka, Kans.

STANDARD-BRED SINGLE-COMB BUFF LEGHORNS - Headed by first prize pen Chicago show 1903 and took six first prizes and first pen at Newton 1904. Eggs \$3 for 15. S. Perkins, 801 East First street, Newton, Kansas.

SINGLE-COMB WHITE LEGHORN cockerels, \$1 each; two or more, 80 cents each. Fine white, pure, thoroughbred birds. Also a few Barred Plymouth Rocks, barred to the skin - fine, pure and vigorous; hens, cocks and pullets, \$1 each; two or more, 80 cents each. All of our customers are very well pleased. We will make reductions on large lots. Meadow Poultry Farm, Coulterville, Illinois

EGGS FOR SALE - S. C. W. Leghorns, W. Wyandottes, \$1 per 15. W. H. turkeys, \$1.50 per 5. Emden geese, 20c each. W. African guineas, \$1 per 17. All guaranteed pure-bred. A. F. Hutley, Route 2, Maple Hill, Kansas.

FOR SALE - Exhibition S. C. Black Minorca cockerels, \$2. I guarantee them. Address George Kern, 817 Osage street, Leavenworth, Kans.

Pure Single Comb Brown Leghorn Eggs - 30 for \$1; 100 for \$3. F. P. Flower, Wakefield, Kans.

Buff Leghorns S. C. Eggs, 30 for \$1.25, 100 for \$3. John A. Reed, Route 2, Wakefield, Kas.

Johnnie Chase, Glasco, Kas. Breeds Black Minorcas, S. C. Brown Leghorns and Barred Rocks. Second to none in the state. Eggs, \$2 per sitting.

WYANDOTTES

WHITE WYANDOTTE COCKERELS, (Stay White), \$1 to \$5 each. Eggs, \$1.50 per 15. S. W. Arts, Larned, Kansas.

WHITE WYANDOTTES - the lay all winter kind. Bred to high score, large egg record cockerels. Dustin strain. Eggs 5 cents each. \$4 per 100. J. L. Moore Eureka, Kans.

SILVER LACED WYANDOTTES - Thorough bred cockerels, \$2; pullets, \$1.50. Jewett Bros., Dighton, Kansas.

SILVER LACED AND WHITE WYANDOTTES \$1 per sitting of 15. Eggs guaranteed. Circular free. R. C. Macaulay, Route 1, Frederick, Kans.

LANGSHANS

BUFF LANGSHANS \$4.00 per 13 eggs, White \$2, Black \$2, \$1 and \$5 per 100; Buff Leghorns, Orpingtons, Cochins, S. & D. C. B. and White Leghorns, B. and W. Rocks, W. and S. L. Wyandottes, L. Brahmas, \$1.50 to \$2.00 per 15. Toulouse Geese eggs, 20c each. M. B. turkeys, \$1.50 and \$2 per 9.

Imported and native high-scoring blood in our yards. Mention Kansas Farmer when writing. America's Central Poultry Plant, J. A. Lovette Mullinville, Kans.

Buff Orpingtons.

A Bargain in S. C. Buff Orpington Hens In order to make room I will sell 200 hens at \$10, \$12 and \$15 per dozen.

Mrs. J. R. Cottos, Stark, Kansas 225 Main St.,

RHODE ISLAND REDS

NEOSHO POULTRY YARDS - Rose Comb R. I. Reds. We can sell nice smooth, 1-year-old stock at this time of the year cheaper than any other time. Young stock for sale when matured. J. W. Swartz, Americus, Kans.

ONE DOLLAR buys 15 eggs of either Rose Comb R. I. Reds or Barred Rocks from prize-winning stock at the college show. Mrs. A. J. Nicholson, Manhattan, Kans.

MAMMOTH BRONZE TURKEYS

Eggs for Hatching M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2, \$1.50 and \$1.25 per 15. Satisfaction guaranteed. Mrs. A. B. Grant, Emporia, Kansas.

BRAHMAS

LIGHT BRAHMAS More prizes than any breeder in the state; 10 firsts this season. Eggs, \$1.50. Cockerels, \$2 to \$4. T. F. Weaver. Blue Mound, Kansas

Light Brahma Chickens

Chosen pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kan. Route 4

The Poultry Yard

Conducted by Thomas Owen.

Poultry in Butler County.

The value of eggs in one county of the State is shown in the following clipping from the Eldorado Republican of June 30. The aggregate of the counties of the State would be enormous:

"During 1905 the amount of poultry and eggs sold in this county, as returned by the assessors, was \$222,817, a gain of \$36,484 over the year before. This is an average of \$610.44 a day for every day in the year, including Sunday, when thousands of plous hens refuse absolutely to lay an egg. Counting ten hours in a day, and no self-respecting hen works longer, every time your watch ticks the receipts are nearly \$2. This is nearly \$10 per head yearly average for every man, woman, and child in Butler County.

"While this is a good showing, it is nothing like the true amount sold, and we hope to see the time that every sale of poultry and eggs will be kept strict account of and the assessors will be careful in taking their statistics to give this mortgage-lifting, home-supporting branch of the farm its proper rating.

"Only one county in Kansas, Jewell, excelled Butler in the sale of poultry and eggs last year, and Butler may lead this year. It certainly would if the total amount sold was properly reported.

"Of course, this does not include the thousands of spring chickens, old hens, roosters, and eggs consumed on the farm during the year.

"Murlock township ranks first, showing \$11,310; Clifford has \$10,585, Pleasant \$10,227, Prospect \$10,122; several townships show \$8,000 to \$9,000; the smallest amount is \$4,852."

Preserving Eggs.

In these days when eggs are plentiful, it is natural to wish for some means of keeping them fresh till the days when they become scarce. There are a number of methods of keeping eggs which are of commercial value. The large surplus, which, if thrown upon the market during the season of greatest production, would reduce prices so low as to entail loss to both producer and handler, is now well taken care of by cold storage. This process is certainly effectual in keeping the eggs for months in dormant condition, but as this process is not practicable among farmers who only wish to preserve a few dozen eggs, some other process must be used.

The Rhode Island Experiment Station has been experimenting along this line for years, and has come to some very definite conclusions on the subject. Among numerous methods of preserving eggs, the following have been considered worthy of experimental tests: First, water-glass (a silicate of soda); second, dry table salt (chloride of sodium); third, slaked lime and salt brine; fourth, vaseline; fifth, dry wood-ashes; sixth, finely ground gypsum (sulfate of lime); seventh, powdered sulfur; eighth, brimstone fumes and sulfur; ninth, permanganate of potash; tenth, salicylic acid; eleventh, salt brine.

Of the different methods tested in this series of experiments, the old way of using slaked lime and salt brine proved to be very effectual, and has also the advantage of being inexpensive. It is also not difficult to practice. For a period of a few months only, packing in dry table-salt is worthy of recommendation. For a period of a few weeks, smearing the eggs with vaseline may prove an effective method of preservation. In the place of vaseline almost any clean, greasy substance may be used. Of all the substances experimented with the water-glass solution proved most worthy of commendation. The fourth series of experiments showed that the water-glass solution could be reduced to three per cent and still retain its preserving quality. Water-glass can be obtained from druggists at from forty to sixty cents per gallon. It is easily manipulated, and the solution may be repeatedly used. The eggs should be completely immersed in the solution, and if any eggs float, an inner cover, which will sink them below the surface of the liquid, should be used. In several tests where the eggs were placed in stone jars, inverted saucers were used for this purpose. The expense of the water-glass at sixty cents per gallon would amount to about two-thirds of a cent per dozen eggs. This does not include the expense of the jar or other receptacle,

which may be of stoneware, glass, or wood. We give in detail the methods of the two most successful preservatives, viz., water-glass, and lime water and salt brine:

WATER-GLASS (SILICATE OF SODA).

Method: The water-glass, or soluble glass, is obtainable of druggists, and costs from forty to sixty cents per gallon. That used in the tests was of 1.12 specific gravity, which in the first series of tests was diluted with distilled water to a 10-per-cent solution (in practice take one pint of water-glass and add nine pints of boiled water).

On May 13, 1899, twenty eggs of Leghorn fowls, laid during the five days from May 12 to 16, were carefully washed with water and placed in a stone jar. The 10-per-cent solution of water-glass was poured over the eggs until they were completely covered by the liquor. The covered jar was placed on the floor of the cellar closet and left untouched until the end of the test, April 4, 1900. Result: Good, 100 per cent bad, 0 per cent.

On opening the jar, the water-glass was found to have formed a white, gelatinous precipitate, which adhered more or less closely to the eggs. The shells of the eggs were very clean, owing to the alkaline nature of the solution; the air-cells were not enlarged. Examination showed the whites of the eggs to be clear, but not so limpid as those of fresh eggs. The yolks appeared normal in color and condition. The taste of the eggs was slightly flat, or at least not perfectly fresh. The eggs had kept well for a period of ten months and seventeen days, and proved to be suitable for culinary use.

LIME WATER AND SALT BRINE.

Method: One pound of quick lime and one-half pound of table salt were thoroughly mixed with four quarts of boiled water. After slaking and settling, the clear solution was drawn off for use in the test. On May 18, 1899, twenty Leghorn eggs, laid during the five days, May 12 to 16, were washed and placed in a stone jar and the solution of lime and salt poured over them until all the eggs were fully surrounded and covered by the liquid. Result: Good, 100 per cent; bad, 0 per cent.

This jar was opened May 30, 1900. The surface of the liquid was crusted, and considerable silt had settled to the bottom of the jar. The shells of the eggs which were sunken in this silt appeared very fresh. The exteriors of the shells were clean and clear. The air-cells were not increased in size. The whites and yolks were normal in appearance. The whites beat up nicely, but had a slightly saline taste. Several used as dropped eggs appeared to be nice, but had a slightly sharp taste. This old-fashioned method of preserving eggs is thus again proved effective.

Milk for Poultry.

To place a pan of milk in the sun, and allow little chicks to help themselves, is not the best method. For chicks the milk should be used for moistening the ground grain. Adult fowls may be allowed skim-milk, buttermilk, curds, or even whey, but the supply should be fresh every morning. One of the reasons why milk is said to cause bowel disease is that it is sometimes placed in open pans, to remain until all is used, during which period it becomes filthy, and is then an excellent carrier of disease. Milk should not be given to any flock that contains a single sick fowl, unless the sick bird is removed, as milk will more easily serve to distribute disease than water. If given under the supervision of a careful attendant, and changed daily, the flock being free from disease, milk is one of the best and cheapest of foods, but it is not a substitute for water, nor will it take the place of meat.—Farm, Field and Fireside.

Regarding Drainage.

On page 739 of this issue appears the advertisement of the Pella Drain Tile Co., of Pella, Iowa. The drainage of land is a very important question, and one that is demanding the attention of all farmers who have low, marshy, or wet ground on their farms, especially since tillable land is getting scarce and is commanding a high price. We have before us a booklet published by this company, that treats on the following questions and gives proper methods of draining land: Why We Should Drain; Drainage Lengthens the Season; Drainage Prevents Surface Washing; Drained Land Is Light to Work; Drainage Prevents Drouth; Adapts the Soil to Germination; Improves the Quality of Crops. It tells of how the soil lives and breathes and how the water stifles it. It tells of the distance and depth to drain. In fact, it is a book that every farmer should have and can have for the asking. Write the company for a copy. It is free. Kindly mention THE KANSAS FARMER when writing.

GREENE BROWN CHINA GESE, Indian Runner Ducks, also Barred Rock cockerels. Prize winners at State Poultry Show. O. C. Sechrist, Meriden, Kansas.

BEE SUPPLIES

We can furnish you bee and all kinds of bee-keepers' supplies cheaper than you can get elsewhere, and save you freight. Send for our catalogue with discount sheet for early orders. Topeka Supply House 7th and Quincy, Topeka, Kansas

SAVE YOUR CHICKS.

Use the Itumar Mite and Lice Killer, a mite and lice destroyer. Guaranteed to kill mites and lice if properly used. If not satisfied return bottle and label and money will be refunded.

CHAS. E. MOHR, Glendale Park, Hutchinson, Kans.



"OUT THERE IN KANSAS"

All about the chicken industry in Kansas, the bees and pigeons. Full of information illustrated and made plain for the people. Practical, by and for practical people. The paper that reaches the chicken folks. If you are interested in poultry, bees, or pigeons, THE HEN will interest you. Address THE HELPFUL HEN, Topeka, Kansas.

KILL the LICE Why let lice eat up your poultry profits? Kill the lice with the LIGHTNING Lice Killing Machine. Guaranteed to do the work better, quicker, more easily and more thoroughly than any other method. Sold on a positive guarantee—your money back, if you are not perfectly satisfied. Get one at once and double your egg profits. Write today for free booklet. Des Moines Incubator Co., Dept. 823 Des Moines, Iowa.

RENT PAYS FOR LAND

FERTILE SECTIONS OF THE SOUTHWEST, WHERE LAND SELLS FOR \$15 AND RENTS FOR \$5 PER ACRE

One of the remarkable things about Eastern Arkansas and Northern Louisiana is the fact that cleared land rents for \$5 per acre cash, and can be bought for \$7.50 to \$15 per acre. It costs from \$6 to \$10 an acre to clear it. Other improvements necessary are slight and inexpensive.

The soil is rich alluvial, or made. It produces a bale of cotton per acre, worth \$45 to \$60. This accounts for its high rental value. Other crops, such as corn, small grains, grasses, vegetables and fruits thrive as well.

Alfalfa yields 4 to 6 cuttings, a ton to a cutting, and brings \$10 to \$16 per ton.

In other sections of these States, and in Texas as well, the rolling or hill-land is especially adapted to stock-raising and fruit-growing. Land is very cheap, \$5 to \$10 per acre; improved farms \$10, \$15, to \$25 per acre.

The new White River country offers many opportunities for settlers. High, rolling, fine water—it is naturally adapted to stock- and fruit-raising. Can be bought as low as \$3 per acre.

See this great country for yourself and pick out a location. Descriptive literature, with maps, free on request. The Missouri Pacific-Iron Mountain System Lines sell reduced rate round-trip tickets on first and third Tuesdays of each month to points in the West and Southwest, good returning 21 days, with stop-overs. For descriptive literature, maps, time tables, etc., write to H. C. Townsend, G. F. & T. A., St. Louis, Mo.

FREE UNTIL CURED

Blood Poison, Catarrh, Deafness, Asthma, Stricture, Sexual Weakness, and Consumption. No Deposit or C. O. D. scheme, I trust to your honor to pay when cured. M. G. SLOUM, M. D., 200 East Douglas Ave., Wichita, Kansas

PATENTS. J. A. ROSEN, PATENT ATTORNEY 415 Kansas Avenue, Topeka, Kansas

Beats Hand Work at Lice-Killing.

It is always the simple inventions that are the greatest successes. A good illustration of this for the poultryman is the Schild Lightning Lice-Killing Machine. It requires no argument to convince any one that it will do the work. Take a look at the picture in the advertisement. It is a canvas covered cylinder hung on a neat frame and made to revolve by means of a hand-crank. You place your chickens or fowls and the lice-powder within the cylinder and turn the crank. Common sense teaches that the powder must be sifted in and through the feathers to the skin. It does not matter about the size of the fowls. Little or big, they act the same way. Wings will be spread, muscles relaxed, and feathers raised in the effort to keep themselves from falling as the cylinder is slowly revolved. The cylinder is filled with the powder dust. If the person is good it is bound to do the work, for it must be brought home to every louse.

Contrast this with hand work, sifting the powder through a pepper-box, etc. No amount of hand-picking can be as effective as a few turns of the crank with the Schild machine. And you avoid the disagreeable and tedious work of handling by hand. The Schild machine will turn out the huge chickens at the rate of 100 an hour, the small ones, 300 an hour. In other words, just as fast as you can catch them and chuck them into the cylinder.

There is no evil effect upon the fowl from having been for the half minute in the closed cylinder. They come out dizzy, of course, stagger for the moment, and then they go to straightening out the feathers and eating. But the lice are dead.

Booklet giving full particulars of this valuable machine, or the machine itself, may now be had, either from the Chas. Schild Co., Cleveland, Ohio, or from the Des Moines Incubator Co., Department 137, Des Moines, Iowa.

Highland Park College.

On another page in this issue of the paper will be found an advertisement of Highland Park College, Des Moines, Iowa. This college is one of the largest and best-equipped institutions of learning in the United States. The attendance during the past year has been almost two thousand students. The school has been under most efficient management ever since its organization some sixteen years ago. Over \$600,000 has been invested in buildings and equipments.

Besides maintaining the regular college of liberal arts and the normal college to prepare teachers for the public schools, there are specially equipped departments in pharmacy, engineering, business, shorthand, telegraphy, music, and oratory. The accommodations are the best, the faculty is large and has been chosen with very great care, and the expenses have all been reduced to the minimum. We have long been acquainted with this popular school and can recommend it in confidence to our patrons.

Write for catalogue of special information if you are interested in any of the work maintained in the school. Address, O. H. Longwell, President, Highland Park College, Des Moines, Iowa.

A real estate advertisement of more than passing interest is that of Fritzell & Ely Larned, Kans., who have a 4,826-acre ranch in Ford County, Kansas, at a remarkably low figure. Their advertisement will be found on page 741 in this issue. They are old-timers in this county and can be depended on. The country around this ranch is one of the most fertile parts of the State.

Fruit and Produce Markets.

Offerings of home-grown blackberries were large. The demand was moderate. Prices were lower in some cases. Shipped-in berries arrived in poor condition. Offerings were light. They sold slowly at \$1@1.10 a crate. Raspberries are scarce.

Colorado cherries are plentiful. The demand is moderate and prices were unchanged. Offerings of home-grown are light.

Fancy Elberta peaches are plentiful. The movement was slow. Prices were unchanged. Home-grown sell readily. Offerings are large and prices were lower in some cases.

Oranges move slowly and prices are lower. Lemons are plentiful. The inquiry is fair and prices were unchanged. Pineapples are in good demand. Prices were 50c a crate higher.

Home-grown plums are plentiful. The movement is light. Prices were 25c lower in some cases.

Watermelons sell readily. Offerings are large. California cantaloupes are plentiful. The movement is moderate. Texas stock is plentiful.

There is a fair inquiry for old apples. Stocks are diminishing slowly. New home-grown are plentiful. The demand is moderate.

Broilers are scarce. The demand remains good. Dealers are unable to account for the light receipts, but seem to think that there are plenty in the country.

Cabbage is plentiful. Prices were lower. Beans are in good demand. Offerings are moderate. Prices were 10c a bushel higher. Sweet corn is plentiful. Prices are lower.

Where exchange quotations are specific in this column the prices quoted are the net returns to shippers.

Eggs.—Steady. Exchange quotations: Extras, 16c per dozen; firsts, cases included, 14½c per dozen; seconds, 8½c per dozen.

Butter.—Exchange quotations: Creamery, extra, 19c; packing stock, 13½c.

Poultry.—Exchange quotations: Broilers, 1½ to 2 pounds, 17c lb.; hens, 9½c lb.; old roosters, 4½c lb.; old ducks, over 3 pounds, 7c; young ducks, 12c; geese, young, 3c; turkeys, hens, 8c; old toms, 8c; gobblers, 8c; culls, 5c.

Berries.—Raspberries, black, \$2.50@2.75 for 24-quart crate; red, \$3.50@4. Blackberries, home-grown, \$1.25@1.65; shipped-in, \$1@1.10.

Cherries.—Choice, \$2.25@2.50.
Watermelons.—Fancy, \$1@5 per dozen. Cantaloupes, fancy California, \$4 per crate; Burrell Gems, standard crates, \$5; special crate, \$2; Texas, standard crate, \$1.50@2.
Potatoes.—Home-grown, new, 65@75c per bu.; shipped-in, 65@75c.
Fruits.—Oranges, late varieties, California navel, fancy, \$4@4.50 per box; poorer stocks, \$3.50@4. Mexican limes, \$1.25 per 100. Lemons, California, \$5@5.50; Messinas, \$5.50@6.50. Florida pineapples, \$3.50 a crate. Peaches, Elbertas, \$1 per crate; 6-basket crate, clings, \$1@1.25; 4-basket crate, \$50@75c. Home-grown, 25c per peck. Plums, 50@75c crate.
Apples.—Old apples, standard boxes, choice to fancy, \$2.25@3; barrel, \$5@6. New apples, 50c per half bushel; bushel boxes, \$1.
Green Vegetables.—Radishes, 10c per dozen bunches. New cabbage, 25@45c a dozen, \$1 per 100 lbs. Sweet corn, 10c a dozen. Celery, new, 35c per dozen bunches. Beans, 50@75c per bushel. Peas, \$1.25 per bushel. Lettuce, 40@50c per bushel. Tomatoes, home-grown, \$2 per bushel; Texas, 4-basket crate, 60@75c; Tennessee, 4-basket crate, 85c. Onions, 15c per dozen bunches. Cauliflower, 50c@1.50 a crate.
Hides.—Green salt, No. 1 and No. 2, flat, 12½c; side branded, over 40 lbs., 12c; under 40 lbs., 11c; bull hides, 9½c; glue hides, 7c.

Grain in Kansas City.

Receipts of wheat in Kansas City yesterday were 215 cars; Saturday's inspections were 93 cars. Prices were ¼@1c lower. The sales were: No. 2 hard, 1 car 74c, 1 car 73c, 4 cars new 72½c, 27 cars new 72c, 2 cars 71½c; No. 3 hard, 1 car 71½c, 2 cars 71¼c, 6 cars new 71c, 2 cars 71c, 2 cars 70c; No. 4 hard, 1 car 70c, 1 car 68½c, 3 cars 68c, 1 car new 68c, 2 cars 67½c; rejected hard, 1 car 68½c, 1 car 63c; No. 2 red, 1 car new 72½c, 10 cars new 72¼c, 1 car new 72c, 3 cars 72¼c, 14 cars 72c, 8 cars 71¼c; No. 3 red, 2 cars 72c, 5 cars 71¼c; No. 4 red, nominally 69½@70¼c.

Receipts of corn were 33 cars. Saturday's inspections were 12 cars. Prices were ½@1c higher. The sales were: No. 2 white, 3 cars 53c; No. 2 white, nominally 52¼c; No. 2 mixed, 3 cars 51¼c, 8 cars 51c, 1 car 51¼c, 3 cars 50c; No. 2 mixed, 2 cars 50¼c, 3 cars 50¼c, 4 cars 51c; No. 4 mixed, 1 car 50c; No. 2 yellow, 1 car 51¼c.

Receipts of oats were 15 cars; Saturday's inspections were 7 cars. Prices were ½@1c up. The sales were: No. 2 white, 2 cars 40¼c; No. 3 white, 1 car 40c, 1 car 39¼c, 3 cars 39c, 3 cars color 39c; No. 2 mixed, nominally 37@37¼c; No. 3 mixed, 2 cars 37c.

Barley was quoted 46@48c; rye, 54@56c; kafir-corn, \$1.02@1.07 per cwt.; bran, 74@77c per cwt.; shorts, 80@84c per cwt.; corn-chop, 96@98c per cwt.

Kansas City Live-Stock Market.

Kansas City, Mo., July 9, 1906. The heavy fall run of cattle has started today, 17,000 head here. The number of quarantine cattle to-day is about the same as last Monday, 7,000 head, but there are more grass cattle included from Kansas, Oklahoma, and the Panhandle than any day before this season. The market is steady on the best grass cattle and on good to choice fed stuff, but medium and low grades are weak to 10c lower to-day. The market for some time has had this same tendency toward a widening out between selling prices of the scarce and expensively produced dry-lot cattle, and the less desirable grassers. This condition, of course, is common each summer, but it has held off longer, and arrived more sudden this season than usual. Beef steers sold at \$6 last week, all choice steers \$5.50 or more to-day, top yearlings \$5.40, steers \$5@5.60, top yearlings \$5.40, heifers \$5.25, and the market on these high grades 10@15c above a week ago, whereas, medium and common cows and grass steers range 10@25c lower for the week, bulk of cows \$2.50@3.75, grass steers, including quarantines, \$3.25@4.65. Veals are 25c lower to-day, which represents their loss for a week, best ones \$4.50@5.25. Packers made a big cattle buy last Tuesday, 11,000 head for slaughter here, heaviest single day's purchase since last November. Stockers and feeders are dull, about like a week ago, \$3.25@4 for bulk of sales. This trade will improve, as receipts of this class will be heavier, and buyers can figure more intelligently on their needs each week.

Hogs made a new high mark last week, \$6.72½, but did not make as much gain as circumstances seemed to warrant. Packers broke prices 5@10c after the opening Thursday, and managed to hold the situation in hand balance of the week. Prices are stronger to-day on a supply of 6,000 head, top \$6.70, bulk of sales \$6.60@6.70. Light hogs now sell equal to butchers and heavies, few of the latter coming. Run last week was only 40,000 head, and this and every other condition of the trade points to higher prices.

Sheep receipts last week 22,000 head, run 10,000 to-day. The market has had a weak tone for ten days, loss last week 10@25c. Buyers stocked up the previous week, when receipts were heavy, and, further, claim mutton trade is bad in the East. Smaller supplies are expected next few weeks, market is steady to-day, spring lambs \$7@7.60, muttons \$5.50@6.25, ewes \$4.75@5.50, stock sheep and breeding ewes from the range, \$3.75@4.50, no goats last week.

J. A. RICKART.

South St. Joseph Live-Stock Market.

South St. Joseph, Mo., July 9, 1906. Receipts of cattle were very much lighter than on the opening day of the previous week and were nearly half. Southern yarded in quarantine division. It has been some weeks since a Monday has seen as small a showing of fat native steers as were here to-day. The demand was quite good and supplies were readily absorbed at steady to strong prices. Steers were largely of the classes that have re-



**SIMPSON
EDDYSTONE
PRINTS**

Above all things

children's dresses should be made of material that wears well and looks well.

Simpson-Eddystone Prints will stand lots of hard wear and still look fresh and bright.

As for your own clothes—can you get goods that will be too full of quality and style?

Our calicoes have been the standard of the United States for 62 years, and every piece that we send out is fully up to that standard.

Ask your dealer for Simpson-Eddystone Prints.

In Blacks, Black-and-Whites, Light Indigo-Blues and Silver-Greys, Shepherd Plaid Effects and a large variety of new and beautiful designs.

Thousands of first-class dealers sell them.

The Eddystone Mfg Co (Sole Makers) Philadelphia



PACK YOUR TRUNK AND GO NORTH

that is the only way to escape the heat this summer. Among the lakes of Wisconsin, Minnesota, and Michigan are over 500 ideal summer resorts, easily and quickly reached by the

Chicago, Milwaukee & St. Paul Railway

The Southwest Limited leaves Union Station, Kansas City, 5.55 p. m., Grand Avenue, 6.07 p. m. Arrives Union Station, Chicago, 8.20 a. m. Connects with trains to Northern and Eastern resorts.

Descriptive folders free.

G. L. COBB,
Southwestern Passenger Agent **907 Main St.,**
KANSAS CITY, MO.

Great American Desert Seeds

are best for general use, are grown in the very heart of the region once known as the Great American Desert, at an altitude of over two thousand feet above sea level and without irrigation. They are time tried and drought tested and have proved producers of profitable crops of both grain and forage. Write for list of specialties and prices.

M. G. Blackman, Grower and Dealer, Hoxie, Kans.

RATS RATS RATS

Get rid of your rats and order a FERRET.
COPE BROS., Topeka, Kansas

Wheat and Alfalfa Lands IN Meade County, Kansas

Smooth Wheat Lands, \$5 to \$10 per acre.
Alfalfa Lands, \$20 to \$30 per acre.

CHAS. N. PAYNE
McCurdy Bldg., Hutchinson, Kansas

cently been selling at \$5.25@5.30, and this is where they landed to-day. While there was a good demand for cattle of quality and finish to sell at \$5 or better there was nothing but a sluggish, unsatisfactory outlet for green, unfinished light native steers. The buying trade showed Texans the preference over these light natives that have summered on grass. Trade in native butcher stuff was confined to a few scattered lots and not enough of it to create a market. Prices were steady for all kinds. The calf market showed a slightly better tone with sales largely at \$4.50@5.25. The stocker and feeder trade was steady on small supply and there is nothing in the demand to call out liberal receipts for this week. In a general way the outlook for the market for fat native cattle is fairly encouraging but there is not much promise for grassy natives.

Receipts of hogs were light, in fact the number in sight at leading markets was below expectations of the trade. The demand was quite good and the limited supply on offer at the local yards was completely absorbed before eleven o'clock at 2½@5c over last week's closing prices, with the bulk selling at \$6.60@6.67½ and top at \$6.72½. The general situation of the trade is considered strong and looks more than at any time previous like hogs are going to \$7, although conservative traders are advising the country against holding hogs that are ready market waiting for an advance.

Three loads of Wyoming weathers, the first of the season and a few drive in natives constituted the live mutton supply. The wethers were of fair quality and sold at \$5.35, a price that is considered satisfactory. Native lambs sold at \$7.78; WARRICK.

The New State of Oklahoma

Statehood for OKLAHOMA and Indian Territory will give this section a tremendous impetus in growth and development. Even now, the towns and cities are growing up, requiring more and demanding more; pushing wide-awake citizens who see the virtue of encouraging enterprises of every kind, in needfulness of getting more and better facilities; and more hands to develop the country.

Briefly, the condition is this: OKLAHOMA is really in need of nothing save people. More men are wanted. There are vast areas of unimproved land—land not yielding the crops of which it is capable. The same thing, in a different way, is true of the towns. Few lines of business are adequately represented. There are openings of all sorts—for mills and manufacturing plants, for small stores of all kinds, for banks, newspapers, and lumber yards. Mechanics and professional men both are in demand.

Your Opportunity Now

while land is cheap and the country is settling up.

On July 17, August 7 and 21, exceptionally low rates will be made to OKLAHOMA; tickets good thirty days from date of sale and permitting stop-overs at pleasure. This rate, with the stop-over privileges, will enable you to thoroughly investigate every section of the new State.

If you are interested in OKLAHOMA you should read the July issue of my free paper, "The Coming Country." Write for it to-day.

 **W. S. ST. GEORGE,**
General Passenger Agent
M. K. & T. Ry
Wainwright Bldg., St. Louis, Mo.

The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer.

Horse Out of Condition.—I have a white gelding which is perhaps 15 years old, and since I have had him has been a good horse for farmwork.

Answer.—I would advise your feeding the horse one teaspoonful of pulverized buchu leaves, three times daily in ground feed.

Fly-Bitten Horse.—I have a grey horse mule 21 years old, that is fly-bitten from his knees to hoofs.

Worms in Horse.—I have a 5-year-old driving gelding that is troubled with worms.

Lump on Neck.—I have a horse that has a lump on each side of the neck near the top.

horse is used to work. I used gargling-oil but it had no effect.

Answer.—I would advise your using a fly blister on the lumps on your horse's neck.

Answer.—For your cow I would advise your using the following ointment on her bag three times daily.

Answer.—We have sent you under separate cover our Bulletin on poll evil and fistulous withers.

Following is a list of fairs to be held in Kansas in 1906, their dates, locations, and secretaries.

- Allen County Agricultural Society—Frank E. Smith, secretary, Iola; September 25-28. Barton County Fair Association—W. P. Feder, secretary, Great Bend; August 28-31.

KANSAS FARMER.

Established in 1863. Published every Thursday by the Kansas Farmer Co., Topeka, Kansas.

SUBSCRIPTION PRICE: \$1.00 A YEAR

Entered at the Topeka, Kansas, postoffice as second-class matter.

ADVERTISING RATES. Display advertising, 20 cents per line, agate (fourteen lines to the inch). Continuous orders, run 1 the paper, \$1.52 per inch per week.

KANSAS FARMER CO., 116 West Sixth Ave., Topeka, Kans.

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week.

CATTLE.

FOR SALE—Some good young Shorthorn bulls just a year old by the 2900 pound Marshall Abbotts-burn 5rd 185305.

FOR SALE—Registered Holstein-Friesian bull and nine females; also 40 head of choice cows and heifers.

FOR SALE—The pure Cruickshank bull, Violet Prince No. 145647. Has been at the head of our herd as long as we could use him.

FOR SALE—Registered Jersey cattle. Two yearling bulls. Sires—A son of Bessie Lewis, 32 lbs. butter 7 days, and "Financial Count" (imported); granddam held Island butter record 8 years.

REGISTERED GUERNSEY BULLS—Ready for service. Also pure-bred Scotch Collie puppies.

GALLOWAY BULLS—4 head, 16 to 18 months old, suitable for service. All registered.

ABERDEEN-ANGUS CATTLE and Percheron horses. Stock for sale. Garret Hurst, breeder, Peck, Sedgewick County, Kans.

A BUTTER-BRED Holstein bull calf—The best purchase for grade dairy herd. See report Santa Fe Dairy Educational Special.

FOR SALE—30 head of registered Hereford cattle, \$75 per head. Have quit farming. Would trade for Percheron horses or land.

PEDIGREED SHORTHORN BULL 8 years old; sire Magenta, who cost \$1,000 at 8 months. Cheap.

Montgomery County—Coffeyville Fair and Park Association—R. Y. Kennedy, secretary, Coffeyville; August 7-10.

Nemaha County Fair Association—V. B. Fisher, secretary, Seneca; August 29-31.

Neosho County—Chanute Fair and Improvement Association—A. E. Timpane, secretary, Chanute; August 28-31.

Ness County Agricultural Association—R. D. McKinley, secretary, Ness City; September 5-7.

Ness County—Utica Fair and Agricultural Association—R. C. Webster, Jr., secretary, Utica; August 30-September 1.

Norton County Agricultural Association—M. F. Garrity, secretary, Norton; August 28-31.

Osage County Fair Association—M. Carnaveaux, secretary, Burlingame; September 18-21.

Reno County—Central Kansas Fair Association—A. L. Sponsler, secretary, Hutchinson; September 17-23.

Republic County Agricultural Association—W. R. Wells, secretary, Belleville; September 11-14.

Rice County Agricultural and Live-Stock Association—F. L. Goodson, secretary, Sterling; August 1-3.

Riley County Agricultural Society—W. B. Craig, secretary, Riley; August 28-31.

Rooks County Fair Association—E. L. Williams, secretary, Stockton; September 18-21.

Shawnee County—Kansas Exposition Company—R. T. Kreipe, secretary, Topeka; September 10-15.

Smith County Fair Association—M. A. Dimond, secretary, Smith Center; August 21-24.

Stafford County Fair Association—P. O. Gray, secretary, St. John; August 22-24.

Sumner County—Mulyane Agricultural Association—Robt. P. Seyfer, secretary, Mulyane.

Wilson County—Fredonia Agricultural Association—V. L. Polson, secretary, Fredonia; August 21-24.

REAL ESTATE. WE HAVE THE GOODS—80 acres, improved, \$1,250; good 80 nicely improved, \$2,500; 80 all bottom, improved, \$3,500; 160, improved, all good land, \$4,500; 162 acres, \$2,500 in buildings, 2,500 fruit trees, 5 acres of grapes, adjoins town, \$7,500. Garrison & Studebaker, Minneapolis, Florence or Salina, Kans.

FOR SALE Farms—Bargains; 500 farms, Missouri. Before you buy, sell or exchange, write for my free lists. F. H. Humphrey, Fort Scott, Ks.

FOR SALE 200 acre stock farm, Woods County, Okla.; 1 1/2 m. to postoffice, frame house, good well; land adjoining sells for \$15 to \$20 per acre; will sell for \$12.50 per acre; one-third cash. Will J. Graves, Fairview, Ok.

HORSES AND MULES. FOR SALE—At reasonable prices, Black Imported Percheron stallions. E. N. Woodbury, Cawker City, Kans.

FOR SALE—One black team, 6 and 7 years old, weight 2,600 pounds. Mr. & Mrs. Henry Schrader, Wauneta, Kans.

LOST OR STRAYED—Brown mare, weight 1,100 pounds, white spot in forehead, barb wire cut on side, somewhat swaybacked. Suitable reward for return. J. W. Gillard, 836 Highland Ave., Topeka, Kans.

AGENTS WANTED. Wanted—Gentleman or lady with good reference, to travel by rail or with a rig, for a firm of \$250,000 capital. Salary \$1,072 per year and expenses; salary paid weekly and expenses advanced. Address with stamp, Jos. A. Alexander, Topeka, Kans.

HELP WANTED. FARM and ranch hands furnished free. Western Employ Agency, 704 Kansas Ave., Topeka, Kans.

SEEDS AND PLANTS. ONE DOLLAR will buy enough of McCauley's white seed corn to plant seven acres if you send to A. J. Nicholson, Manhattan, Kans.

SWINE. FOR SALE—20 good strong spring and yearling Berkshire boars that are just what the farmers want. Prices right. Address E. W. Melville, Eudora, Kansas.

MISCELLANEOUS. HONEY—New crop. Write A. S. Parson, 403 S. 7th St., Rocky Ford, Colo.

WANTED—Non-union molders. Call or write Topeka Foundry, 318 Jackson, Topeka, Kans.

DOGS AND BIRDS—For sale dogs, hogs, pigeons ferrets, Belgium-hares, all kinds; 8c 40-page illustrated catalogue. C. G. Lloyd, Sayre, Pa.

WANTED—A good second-hand grain separator. Dr. Barker, Chanute, Kansas.

WANTED—At once sound young men for firemen and brakemen on railroads; high wages; promotion; experience unnecessary; instructions by mail at your home; hundreds of good positions now open. Write National Railway Training Association, 620 Faxon Block, Omaha, Neb.

EARN FROM \$87.50 to as high as \$155.50 per month. Wanted—400 young men and sound men of good habits to become brakemen and firemen. Big demand in Wyoming, Nebraska, Kansas, Colorado, and Missouri. Instructions sent by mail; stamp for reply. Northern Railway Correspondence School, Room 202 Skyes Block, Minneapolis, Minn.

SCOTCH COLLIE PUPS. COLLIE PUPS—Richly bred from trained stock. Ready to ship. From \$5 to \$8. Abner Chasey, Route 5, North Topeka, Kans.

SCOTCH COLLIE PUPS. Finest pedigreed stock in this country. Price, males, \$20; females, \$15. JOHN C. HARMON, Topeka, Kansas

State Grain-Inspection Department Under the provision of an act to establish grades by the Grain Inspection Commission appointed by the Governor of Kansas, passed and approved by the session of the Legislature of 1903, the commission will meet at the office of the Governor of Kansas at the State Capitol on the 6th day of July, 1906 at 10 o'clock A. M. for the purpose of fixing and establishing the grades and character of grain in the state of Kansas for the year subsequent to the first day of August, 1906, and for doing or performing any other acts that may be incumbent on said Board of Grain Inspection Commission. All persons interested in the buying, selling or handling of grain in the State of Kansas are invited to be present and make suggestions or objections to matters pending then before said Grain Inspection Commission. G. W. GLICK, JOHN T. WHITE, M. C. OUREY, Grain Inspection Commission. June 14, 1906.

Stray List Week Ending July 5. Wabunsee County—Simeon C. Smith, Clerk. STEERS—Taken up by H. J. J. Wege, in Rock Creek tp., (P. O. Alta Vista), May 28, 1906, 1 red steer, 2 or 3 years old; under half crop in left ear; valued at \$20; also 1 black steer, 2 years old, under half crop in left ear and upper half crop in right ear; valued at \$20; also 1 red-white faced steer, 2 or 3 years old, J. K. on left side; valued at \$22; also 1 blueish white steer, 2 years old, under half crop in left ear and upper half crop in right ear, valued at \$15.

Week Ending July 12. Anderson County—M. J. Keeton, Clerk. HEIFERS—Taken up by Frank Wuckowitsch in Union tp., one dark red heifer 1-year-old, with tip of left ear cropped; also one light red heifer; valued at \$8 each.