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BROWN COUNTY FARMERS' INSTITUTE.

Papers Read Before the Three Days' Sessions of the Twenty-Second Annual Meeting, held at Hiawatha, January 16, 17, 18, 1902.

Annual Address of the President, Mr. J. C. Lacroix.

In coming together to hold our Twentieth Annual Institute, it should be our aim to make it more interesting and profitable than any previously held. "Strive to improve" should be the motto of this institute. It should be the motto of every Brown County farmer. We should strive to improve the soil, by studying carefully the effect produced by the different plants we cultivate and making a practical application of the lesson learned.

SYSTEMATIC FARMING.

While the majority of Brown County farmers are pursuing suitable methods to retain or increase the fertility of the soil quite a number by their system, or lack of system in farming are surely and in some cases rapidly exhausting the land.

Although this is a comparatively new country, we already have too many rented farms and too many renters who are compelled to push the land in order to make their rent and a living for the family. But there is another trouble. Some of our farmers, because they succeed in extracting wealth from the land by a rotation of grain crops, believe they have solved the problem of soil economy. But if they continue to rely upon the fertility that has accumulated through the slow process of time, they or their children, will surely recognize the folly of that system. These men are appropriating to their use the fertility which was intended for generations. They are robbing posterity. The management of the soil is the most important question of the farm and we should start in this institute, a campaign against all methods having a tendency to lower the producing power of the land. The most of us would shrink from the thought of leaving to our children, when we depart from this life, the homestead encumbered with a heavy debt. Shall we leave them, as a heritage, this same homestead robbed of its fertility?

PLANT AND STOCK IMPROVEMENT.

We should strive to improve the different plants we cultivate on the farm and bring them, year by year, a little nearer to perfection. We should also be very prompt to cultivate the plants which are handed us by our experiment stations, after they have passed through a satisfactory test. The Department of Agriculture is doing much to assist the farmer by searching through all parts of the world for valuable plants that can be adapted to our different conditions of soil and climate. Let us show our appreciation of these efforts by giving some of these plants a fair trial on our fields.

We should strive to improve all kinds of stock kept upon the farm in order to produce the best results at the lowest cost. When land was cheap and plenty, ordinary stock could possibly be raised and fattened at a profit, but with land selling at \$60 to \$80 an acre, nothing but the very best can give us any returns. There is another reason why Brown County farmers should produce the very best of everything in their line. We occupy the most favored section of the best agricultural State in the Union. This great privilege imposes upon us certain obligations. To the farmers of our county, more than of any other, is assigned the task of upholding the good name of our State.

BEAUTIFICATION OF THE HOME.

We should strive to improve and beautify the home, as far as our circumstances will permit. If it is within our power to do

so, we should make it to every member of the family, the most attractive and best loved spot on earth, a place that the children will leave only with regret and that will ever bring back to their minds tender recollections. In the arrangement of the home, the farmer should endeavor to comply with the wishes of the one he has chosen for his companion. The monotony of farm life falls more heavily upon her than on other members of the family. Tiring day after day at her endless task, shut up within those walls almost constantly, how bitter must be her life if that home is not suitably arranged and if she is even denied those conveniences that would make her work less of a drudgery.

BROTHERLY RELATIONS.

We should strive to improve our relations with brother farmers. As we are all engaged in the same occupation, we should be very prompt to recognize the fact that we need each others' assistance. We would be better equipped for our daily work when strengthened by our neighbors' counsel or assisted by his experience. In order that we may better assist one another, every lesson learned, every point of information acquired by the individual farmer in the pursuit of his calling should freely be imparted to all who are engaged in the same occupation. If each of us offers his little grain of knowledge and experience, the general fund will be immense. The pioneers of this association understood this fact when they organized the Brown County Farmers' Institute. Another thought upon the subject; farmers should learn to have more confidence in one another and to work harmoniously together. We should be a unit upon all questions pertaining to the farm and its various interests. We should be agreed as to the best means of preventing the great commercial and industrial corporations from encroaching on our rights.

AS TO SCHOOLS.

We should strive to improve the district school. In a county as wealthy and populous as ours, the district school, with a little effort could take the place of the higher school. The many advantages of a good home school in farming communities must be apparent to all. If the children could be kept in touch with farm life, they could learn some of the lessons of the farm, without neglecting their other studies. But unfortunately, I believe, many of our most intelligent farmers, being dissatisfied with their home school, instead of trying to improve it, leave the farm and take the children to town. Whether or not this is a mistake, so far as the parents are concerned, may depend largely upon individual character, but surely the children will pay very dear for their education. I pity the boy who, after spending from five to ten years in town, is sent back upon the farm, without the least practical knowledge of the work he is about to undertake.

IMPROVE SOCIAL CONDITIONS.

We should strive to improve social conditions on the farm. The pioneers of a new country are so busy procuring material comforts, that they have little time to devote to the advancement of social conditions. Although Brown County has long since passed the pioneer stage and should now offer great social advantages to those who make their home on the farm, the fact that so many are flocking to the town in search of better social conditions, is evidence that we have neglected one of our most essential duties. If we fail to make farm life sufficiently attractive for ourselves, how can we expect our children to be contented in the country? If we have

succeeded only in making the farm a vast workshop, that we are anxious to leave as soon as we can do so, although we have accumulated wealth, our life has been in one respect, a failure.

Our aim should be to build up the country and make farm life pleasant and attractive. To do this let us draw to ourselves some of the advantages of the town instead of taking ourselves to these. We should do this especially for our children. Something must be offered our young people to offset the allurements of the city. Something must be done to remove those features of farm life that are driving our boys away from the home. These boys who leave the farm for the uncertainties of city life, may be divided into two classes, those who fail and those who succeed. For very different reasons they should be encouraged to remain in the country, the first to save them from a life of poverty and wretchedness.

In the interest of progressive agriculture we should endeavor to retain a good number of those who possess the qualities that lead to success. They can find on the farm the best field to use their energy and employ their activity, the best chance to improve and develop their talent and ability. When we read of the achievements of the farm-bred boys, in the different occupations of life, we are led to wonder what these same boys would have accomplished had they remained on the farm. Can we conceive what agriculture would be to-day, if their talent and energy had been employed in the study of the soil and its requirements, in the development of plants, in the discovery of better methods and in the inventions of farm tools and machinery.

THE FARMER, AND CAPITAL AND LABOR.

There is another reason why farm life should be made sufficiently attractive to interest a large number of the able and active young men. In the struggle between the individual worker and aggregated capital engaged in the various industries, the individual has been crowded to the wall and forced to labor for a daily salary to save himself from starvation. The farmer is practically the only toiler who has been able to preserve his independence. There may come a time when capital will endeavor to conquer the farmer and make of him a mere toiling machine like the factory hand of the present day. Should that day ever come, the brightest and best sons of the soil will be needed to successfully resist the attempt.

We should strive to improve ourselves. The farmer who desires to succeed can not afford to neglect any of the means calculated to fit him for his work. By looking around him he must surely see that the successful farmer is a close observer, a man who studies everything pertaining to his calling, from the management of the soil to the marketing of the crop. Formerly, if a man possessed the strength of an ox and the endurance of a mule, he was looked upon as a perfect type for the farm. It is different now. While strength and endurance may have their utility on some occasions, they are no longer essential qualities. Intelligence, developed by education, and skill are the qualities in demand in modern farming. They are the qualities that lead to success. These are the qualities that have pushed the West to the very front and made Kansas, so recently a wilderness, the principal granary of the world. It is these qualities and the invigorating atmosphere that surrounds a free people, that have placed the American farmer far above his competitors in all parts of the world.

What Should the Farmer Read to Qualify Him for His Work?

SAMUEL DETWILER.

The farming communities of Kansas are especially in need of good libraries. Nearly every town of any size has one of some sort; but the rural communities are usually short of good literature, especially literature pertaining to their interests, in growing grains, grasses, live stock, poultry,

fruits, and vegetables and in the management of the dairy. In fact in farming such as is practical to the average farmer of our country, the man to be successful needs to avail himself of all helps presented, both practical and scientific.

Books and papers of a healthy and instructive sort are too often considered luxuries, very nice but too expensive, instead of necessities. They should be in every home. The struggling young farmer trying to get a start, having but few dollars to spend, is apt to neglect the development of the intellectual side of life. And the veteran usually keeps what money he has in order to get more. It is not always so but too frequently.

In these days of new things, agriculture has its share. As a science it is the youngest. More brain power is passing into its channels each year and the result is an increased out-put of new methods based on the solid foundation of science. Scientific farming has come to stay and he who adopts its methods with intelligent practice will win. To keep posted on these new developments should be the aim of every farmer and he may do so by reading agricultural literature now at hand and being continually turned out.

In order to aid the farming communities of Kansas in the struggle for knowledge pertaining to their calling, we propose to add as a section to the Morrill Free Public Library the publications of the Department of Agriculture, Washington, D. C., the publications of the State Board of Agriculture, and the publications of the experiment stations of some of the Western States. Besides we need such standard works on the various interests pertaining to farming, stock-raising, fruit-growing, bee-keeping, etc.

In periodical literature I would enumerate such sterling papers devoted to the interests of the Western farmers and live stock men as the Kansas Farmer, Topeka; Breeders' Gazette, Chicago; Live Stock Indicator, Kansas City; Wallace's Farmer, Des Moines, Iowa; and numerous others of equal value.

By availing ourselves of the offer of room in the public library the expenses of a librarian is obviated and all that is necessary is an amount sufficient to purchase a few books each year, which would in a short time become a library in which all patrons could take a just pride and which if properly studied would to a great extent deprive farming of much seeming drudgery.

In all other professions of life men have to become proficient before they can successfully practice their craft. The lawyer has to secure his library and diligently study his books before he can practice successfully. The doctor has his medical library and avails himself of the experience of the most learned in his profession.

The preacher has his theological library and by constant study prepares his sermons so as to edify and enlighten his people.

The farmer has a more complex problem to solve than any of the above mentioned and on its proper solution hinges the welfare of mankind because it devolves on him to produce the raw material to both feed and clothe the world. To do this intelligently he needs all the helps that the best minds engaged in this work have to offer, and the most practical and cheapest method is by establishing the library above referred to in which may be found all the latest investigations and discoveries.

What Shall the Farmer Read to Qualify Him for His Work?

C. A. BABBIT.

If the farmer does his own work he should take only two weekly farm papers and ought to change the poorest one each year in hopes of getting a better one. He will have the time from 12.30 to 1 o'clock during the season that the team needs the noon rest, and all the year around, from 7.30 or 8 o'clock till bedtime, to divide between reading, playing with the children, or visiting the neighbors, in company with his family. About one-half of this time might well be used in reading farm papers; ex-

periment station bulletins; State or Government reports; books on feeding animals, how crops grow, injurious insects, horticulture, etc.

If the farmer keeps hired help and farms more extensively, he must have more time to think, read, and study; and should take it from the working hours.

He can afford a daily if it comes to the farm without giving him any excuse to go after it. The daily's market reports are usually more complete than those in the weeklies. The experiment station records show that a farmer who is a first-class feeder will put twice as large gains on stock as a farmer who is in the house reading when his stock needs water or who is otherwise neglecting them. The same rule holds good in growing crops.

Experimenting is slow. It takes from one to two years to harvest crops and five or six years to raise stock. Experiments must be duplicated and result alike to be valuable; and since we can each only expect to farm about forty years, we had better read how others have farmed. We should keep in mind, however, that no two men can get like results from what seem to be like methods in farming, since there is often an unseen difference in weather, seed, stock, or something else that change the results completely. Wide reading and study will frequently help the farmer to discern this difference and profit thereby.

There is no reason for a farmer not reading during all the leisure time that he wants to. Senators and Congressmen will send Government reports upon request; the State Board of Agriculture will send its reports likewise, and the experiment station bulletins are received by all who send postals asking for them each year. The Morrill Public Library is free and open afternoons and evenings, and it contains stacks of farm reading. The books may be taken home by paying 25 cents for a three months' privilege. Quite a number of excellent farm weeklies are published in this State and all over the West, costing from 50 cents to \$2 per annum.

But one of the most valuable things for a farmer to read is his own writing. He should write each day a diary account of what has taken place on the farm. Then, by reading, he will know who owes him work or money and vice versa; he will know how much he has bought and sold at any time; when to watch the cows and mares; when and how he planted any crop and if it paid; time to expect certain things one year, from the record of past years; amount of cold there was outside, in former years, before the potatoes in the cellar froze; and many other things that are worth noting. The older and more complete the record the more valuable it will be. Most of us guess that things pay or do not pay, but with a daily record to read, the farmer can come nearer telling whether or not he is making a success.

To give a starter to the discussion I will say that, to the average farmer, a daily paper is not worth going eighty rods after. There are twice-a-week papers that fill the bill very well at about one-eighth the cost. A farmer should take more than one farm paper so as to get wider views than those that he receives from one editor and set of contributors alone. He should not believe all he reads, but nearly all. The more he reads and studies while he rests the better his farm diary will be.

I Will Cure You of Rheumatism.

No pay until you know it.

After 2,000 experiments, I have learned how to cure Rheumatism. Not to turn bony joints into flesh again; that is impossible. But I can cure the disease always, at any stage, and forever.

I ask for no money. Simply write me a postal and I will send you an order on your nearest druggist for six bottles of Dr. Shoop's Rheumatic Cure, for every druggist keeps it. Use it for a month, and if it does what I claim pay your druggist \$5.50 for it. If it doesn't I will pay him myself.

I have no samples. Any medicine that can affect Rheumatism with but a few doses must be drugged to the verge of danger. I use no such drugs. It is folly to take them. You must get the disease out of the blood.

My remedy does that, even in the most difficult, obstinate cases. No matter how impossible this seems to you, I know it and I take the risk. I have cured tens of thousands of cases in this way, and my records show that 39 out of 40 who get those six bottles pay, and pay gladly. I have learned that people in general are honest with a physician who cures them. That is all I ask. If I fail I don't expect a penny from you.

Simply write me a postal card or letter. Let me send you an order for the medicine. Take it for a month, for it won't harm you anyway. If it cures, pay \$5.50. I leave that entirely to you. I will mail you a book that tells how I do it. Address D. Shoop, Box 529, Racine, Wis.

Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

This whole subject might be broadened to a point not yet touched. It is surely the farmer's work to fit himself to be the balance wheel of the Government. His reading should encourage himself and his family to speed patriotism and good citizenship, and thus to offset the wickedness in some of our large cities.

If I read the signs aright the farmers who work and own their farms are going to be depended upon, more and more, to sustain the momentum of our Nation.

How Can We Improve Social Conditions on the Farm?

S. E. BROWN.

To illustrate how I feel in starting out to tell you how to improve social conditions on the farm, will you bear with me while I tell you a little story?

Two Irishmen came to America; they landed at St. Joseph, and struck out across the bridge west, in search of employment. They had not proceeded far, however, when they came to one of those magnificent wheat-fields, so common in Kansas, waving in the breeze and glistening in the sunlight. They had never seen such a sight before, and were undecided what it was, but as an Irishman always has a solution ready for every question that may arise, at length they concluded it was a large body of water, and as it was very warm they thought they would have a swim. So they divested themselves of their wearing apparel and climbed up on the fence. Mike took the initiative; he dove off, and when his head struck the ground, he came very nearly driving his neck back into his body. He rolled over on his back, and looking up at his companion he said, "Pat, Pat, a little to the left. I have struck a sand bar."

THE HOME FIRST.

Now that is the way I feel. When I try to tell you something of this subject, I too feel as if I had struck a sand-bar. There are so many different ways of being social. Webster says that the word "social" is derived from the word "socius," meaning companion or companionable. Now if we can improve the social conditions on the farm, and the social conditions in the farming community, so as to make rural life so pleasant that our brightest boys and girls, instead of hiking out for the city, as soon as they are old enough, will rather seek the farm life, the farmer's life and his surroundings will be benefited much. The first great lesson is to improve social conditions at home. Make companions of our wives and children; get the very best reading matter of various kinds that we can, or our means will allow; have a few games in the house, and join with the family in playing them; remember that "All play and no work makes Jack a mere toy, and all work and no play makes Jack a dull boy."

YOUR NEIGHBOR NEXT.

Be social with your neighbor. It is said that as a farming community gets older the good people get more selfish and less social. I think this is true to some extent. Right across the street from where I live, they have the prettiest, fattest, nicest, smartest baby (in the estimation of the fond parents) in all the world, who is over 3 months old, and yet I have never seen that wonderful baby. Will Carleton says in his poem about the old log-house in the good old times:

"Then our first born baby—a regular little joy,
Though I fretted a little, because it wasn't a boy.
Wasn't she a little flirt, though, with all her pouts and smiles?
Why! settlers came to see that show, a half a dozen miles."

It often does us farmers good in many ways to be social. It often teaches us that we are not the whole thing ourselves. I once heard of a little dirty yellow worm that was living all by himself under a light green straw. The sun shone through that light green straw upon that little worm, until he looked very pretty (to himself), and in time he began to think he was about the most wonderful worm in the whole world. Toward fall this little worm left his home and crawled out into the world, and as he went out among other worms, he found that he was nothing but a poor, nasty, yellow, little worm, after all. And that is the way it might be with some of us. If we only get out and see what others are doing, we would begin to think we were not much of a worm after all.

THE GOOD RESULTS.

But if we would make our farm life pleasant, we must do all we can to improve our social conditions. That is one of the great things that make our farmers' institutes so interesting. When we come here and do what little we can to make our institute a success, we go away feeling a little taller, and broader, and we are better men and women, and better citizens than we were before. Why? Because we have rubbed together in a social way and rubbed off the rough corners of life. And we feel that if it is a grand thing to be one of the farmers of Brown County. And I believe we will see the time in the future, that we will get together better in a social way. We now have the benefit of the rural mail delivery, and we have the telephone—and one who has never had the use of one in the farm home, can not imagine what a benefit they are socially. To be in touch with all the rest of the world. To go to your phone in the evening and talk over the news and your affairs and your farm work,

with your neighbors, makes one feel like they were not living all alone in the world. And we believe the time will come when we will be able to go dry shod to town or to see our friends after a heavy rain, as well as any other time. We may not be able to make our roads with crushed rock with a steam roller, as they do in the East; I do not know whether we will get a cheap cement for our road-bed or whether the wheels of our vehicles will roll over an iron track, but in some way, at some time, we will get good roads, and that will help to improve our social condition.

SOCIAL GATHERINGS.

Out in Fairfield, we have got into the habit of asking a lot of the neighbors to come together at one farm-house in the winter time, and spend the whole day socially. The farmer's good wife gets up a dinner fit for a king, and whether it be at Drake's, Hardy's, Trent's, or Lacroix's, we go home at night, feeling that life is worth living, and that we have friends and neighbors who care for us, and we care for them.

KEEP THE GOOD FARMER IN THE COUNTRY.

In closing we would allude to another phase of this question. It is contended that our Nation must in times of trial rely largely on its rural element for necessary ballast to uphold the Ship of State. Will bad social conditions the successful farmer tires of isolation of the country, and moves to the city. A community may better lose a half dozen poor farmers than one good one; the poor one may make a good salesman, or artisan. In town the competent farmer usually does nothing but rust out. With good social conditions, such as we have named, the country residence would practically be a suburban residence, by many deemed the most attractive of all, and the successful farmer would then stay in the country where his accumulated knowledge and experience would be of much service to his fellow men.

In our day and in our country, men are called upon to do what men never did before. Everywhere is met a spirit of investigation, inquiry, and experiment. In politics there are new tasks; in commerce, shifting currents; in science, colossal developments; in education, new methods; even in religion new attitudes are being assumed, and if we, as farmers, do not keep pace with the advancing progress of the age, in the great struggle, we may be left. A party that was right in our grandfather's time will not meet the changed conditions of our times. The small vessels which breasted the unknown waves, four hundred years ago, and planted here in the fertile soil of the Western Continent the seeds from which has sprung the most powerful Republic upon which the sun ever shown, would not meet the demands of modern commerce. The telegraph, the telephone and the lightning express have taken the place of the post-rider and old mail-coach, of a score years ago. The old log schoolhouse with its primitive methods and its antiquated teacher has long since given way to modern structures and modern methods to meet modern demands. Christianity that worshiped under the canopy of Heaven and soundly denounced jewelry and fine apparel as devices of the devil, now worships in splendid cathedrals and bedecks itself with diamonds and jewels, clothes itself in silks and satins, and the world says, "Amen."

How Can We Improve Social Conditions on the Farm?

C. H. ISLEY.

Begin by being kind, helpful, and cheerfully social to all in the home. The home is the source of human society and sociability. From the home flows the influence that effects the neighborhood and community for right or wrong.

In order to be effective, of some service in offering some expressions, casting some light on the subject up for consideration, permit me to be specific—personal, if you please. Permit me to use the pronoun you, that I may hit something, or somebody, by what I may be able to present. In using the pronoun you, I, of course, include myself, with those present, and with others not here.

BEGIN AT HOME.

When all of us are really interested, filled with a true desire to advance and improve social conditions on the farm, the shortest, most effective way to bring such results about is to first set our own house in order. Of such economic humane affairs have not yet been attended to, let there be no delay. Now, if you are the man of the house, practice social excellencies in the home, by being courteous and gentle toward each member in your home. In your orders for work to be done on the farm, or in the home, let them be given in a quiet manner. By so doing you can be more sure that your wishes and plans will be satisfactorily carried out. Harsh orders frequently result in breakages and imperable damages. Kind words are apt to make the task higher and more successfully performed.

If you are a married man, not a lone-some bachelor, will you please remember that your wife is just as worthy and deserving now of your cleverness as when she was your charming, dearly-loved sweetheart. If in some way you have not been as attentive and pleasant to her as formerly, will you not change your



J. R. Watkins.

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tactics, and make her queen of your home for a change? Then see how her eyes will sparkle and her cheeks of youth bloom again. By cherishing none other but loving thoughts of her, you will become a better and kinder husband.

TREATMENT OF CHILDREN.

In the treatment of your children, be affectionate, instructive, patient, tender—let them know you love them with thoughtful care. Do not grieve them by being obstinate, unyielding; rather win them; leading them into ways of right living in all things. It seems to me that a widower commits a serious blunder when he thinks of a second marriage without first consulting the older children. Perhaps they were chiefly reared by a pains-taking, Christian mother, who loved them.

Let it be your delight to send your children regularly to our public schools, that they may grow up true American citizens. Later, if possible, send them to a true Christian academy and college. It is a mistake, generally, to say: "I can not afford it." Your child some day may thank you. When a child has a hard task or a difficult problem, help it if in your power.

Now with such daily examples in our homes don't you think a community will be benefited, collectively and socially?

FARM ANIMALS.

Further, while considering one another's good will, let us not forget the claims that dumb farm animals have upon us, and be kind and attentive to our horses, cattle, sheep, swine, dogs, cats, fowls, etc., yea, and to the forest birds in our yards and orchards. Our horses and milch cows deserve careful and gentle treatment continually. This ennobles man and elevates the animals; even hogs are made civil by gentleness. Professor Nutting, some years ago, in a paper before a Padonia township Sunday school convention, said: "Please notice the difference shown to men on their home-coming. One is met by the children's greetings of happy welcome, and the good wife's smiles, and the domestic animals all appear glad; in another place, when father comes, cross and crusty, none of the children show themselves, and the very dog runs, hiding away."

YOUR FELLOW MAN.

The next step, when your social qualities in your home are well developed, accept opportunities which offer themselves, and be on hand with deeds of mercy and acts of sympathy, all of which need to be readily and cheerfully performed. One good way to bring about a higher, more cultured degree of friendly sociability is to never speak disparagingly of your relatives and neighbors. When a neighbor or some one else has wronged you, go to him first of all and talk to him in a becoming manner. Where such a course is pursued among sensible men, almost invariably adjustment follows. Make it also a rule of your life never to take advantage of your neighbors or any one else in your financial dealings.

When your neighbor has an article that you would like to buy of him, agree together upon a basis of just value. The Golden Rule should be the cherished guide and prompter in all your dealings. By taking advantage of a human being, you may have gained a few dollars, but you have sacrificed the esteem the wronged person had for you, causing a gap in your social circle which you can ill afford.

In your home surroundings let neatness and tidiness be in evidence everywhere. To see fences down, doors and gates hung on one hinge, with the implements scattered over the fields in winter, is a pretty sure sign of slovenliness, and your influ-

TO CURE A COLD IN ONE DAY

Take Laxative Bromo-Quinine Tablets. All druggists refund the money if it fails to cure. E. W. Grove's signature is on each box. 25c.

ence for social intermingling is below par. Roads adjacent to your farm should be kept in first-class condition, with the lanes clean and hedges closely trimmed. If possible, let thrift and industry stand as a proof that you understand your business of careful housekeeping.

In your expenses, moderation is the path of prudence and safety, but never think of getting stingy, nor close-fisted. Give gladly and readily for objects of charity, and for the extension and needed enlargement of our divine Redeemer's kingdom.

AMUSEMENTS.

Do not fancy in your mind that in order to qualify yourself socially you must run after amusements and diversion; they are not satisfying. But rather stock your mind and fill your soul with restful, intelligent information, and be ready to impart some to those who will be thankful and helped thereby.

Have plenty of choice reading matter always on hand; never patronize trashy literature. For your children and the young people, subscribe for the bright, infimitable, instructive, and patriotic Youth's Companion. Be always a cheerful, ready helper in all public affairs and improvements.

Take an interested part in your township Sunday school conventions and temperance meetings, and give the young people a chance on the program.

Take off a week each year to attend a Chautauqua assembly. I think here, for the West, none can excel the well established, splendidly equipped, mid-summer Wathena Chautauqua, near at hand. Attend regularly and support liberally the church of the living, loving God. In your neighborhood, practice the example of the good Samaritan, helping the needy and afflicted.

Care of Brood-Mares on the Farm.

WILLIAM HIXON.

The object in keeping brood-mares on the farm in preference to geldings or mules, is to reproduce their kind, and, in this way, aside from doing the necessary farm work, add to the income. It is not wise to trust all the work of the farm to the brood-mare, however, for often there is work to do that is too difficult safely to impose upon the mare with foal. One of the most successful farmers the writer ever knew—one who raised as many as a dozen colts a year—kept a span of big mules to do the hardest work. If there was sand or corn or wheat to haul the mules had to do the work. Were he hauling hay from a field and came to a soft place, where the mares would have to flounder through, he would take the time necessary to get his mules to pull the load to the barn. In this he showed commendable good sense. The fact that he never injured or strained one of his mares and the good luck which they always had in foaling were rewards ample for his loss of time. But it is not necessary, perhaps, to keep mules for such purpose if some of the mares are bred to foal late in the fall and others in the spring. At the present price of horses, it will pay a man to keep a number of brood-mares, and the income from their offspring will more than compensate for all loss of time caused by shielding them from straining work.

Nowadays, it is easy to have mares get with foal. By the use of artificial impregnation a mare may be made to come in at almost any time. For the man who keeps several mares for breeding purposes, it is best to have the mares foal at about the same time; the colts will be more easily fed and cared for, and will come more nearly matching one another at working age. Where but three mares are kept on the farm and must be worked, it is well to breed them so that two may be working while the third one rests. Breed so that the foal will not come too early or too late in the fall. The last of April or the first of May is the best time for the mare to foal; the last of August or the first of September is the time for the fall colt.

The care given a mare will materially influence her foal. She can not be expected to do well as a breeder if she is forced to subsist all winter on the straw-stack, sheltered by a barbed wire fence; on the other hand, mares that are kept idle and fed heavily on corn and other heating foods will have about as unfavorable a chance as the starved animal. As in most other things, the happy medium is the royal road to success. The writer is a firm believer in the efficacy of moderate work as a panacea for most of the ills to which brood-mares are addicted. Exercise a mare must have in plenty, and it is better that she should have it in harness than running in a yard. Of course, it is much better to run out in freedom than to have her stand in a stall, but the mare that is properly fed all winter and worked moderately every day will have more chances to come out of her foaling alright and produce a good, healthy, strong colt, than the mare that runs in a yard or loose in a stall.

The feeding of all kinds of animals has been discussed before this institute and little need be said about feeding the brood-mare. Suppose the mare has come through the winter in good fix, and is due to foal about the last of April. Let her work right along, feed her liberally on good, sound, bright oats and hay. It is well to give her ground or crushed oats with a little

bran. At this time corn is not good for her. If enough oats is not raised to feed all the year, corn should be fed during the cold weather. As to quality of food, great care must be taken; about the only rule that can be given is: Give enough to keep the mare from running down materially in flesh. No horseman will neglect to groom his mares regularly and well, and do everything in his power to keep them as comfortable as possible all the time.

Hard driving and hard pulling should be avoided at all times, since there is danger of the mare slipping her foal, caused by over-exertion or strain. The mare should never be put to the limit of her strength or endurance.

Timely warning of the mare's approaching parturition is usually given by the accumulation of the characteristic wax upon the ends of her dugs. When this appears, the foal may be expected very soon. The mare may be worked after this sign appears; in fact, she may be in the harness right up to the time of foaling without injury, but, as a rule, it is well to let the mare have a few days rest previous to parturition. Every sensible man will keep track of the day on which each mare's eleventh month is up. If she shows loosening of the bones, even if she is not waxed, that she is very close to her time for foaling, give her a comfortable box to herself, feed less but on the same soft food she had before being retired—a little grass will do her good. She should have some exercise every day. If the mare is turned out, care should be exercised to see that conditions are favorable. The lot should not be wet or slippery, there should be nothing to plague or torment her, there should be no blood on the ground or dead animal about, there should be nothing exciting around.

When the hour of foaling arrives, it is well to be round, but not with the mare. Nature should have an opportunity to do its work before assistance is offered. After she is through, a little water, with the chill taken out, may be given her. After an hour or so she may be given some soft and nourishing food. With mares bred for the first time it is well to accustom them to having their udders touched. Young mares often suffer agony from the nosing of the colt after his milk supply. Eight or ten days rest should be allowed the mare after foaling. The first work she does should be made light and there should be no hurry.

It is safer to breed to a thoroughbred horse, as the foal is generally smaller, but invariably grows to be a better individual. Breed to a good horse, feed your mares carefully, take the best of care of them in working them, take a pride in your horses, and you will have but few regrets.

Royal Road to Wealth.

PROF. L. E. TUPPER.

Although I feel honored in being called to address you, I must confess that it is with some diffidence that I appear before you to-night. This diffidence arises from the fact that the subject assigned to me is rather ambiguous. What is meant by "The Royal Road to Wealth?" If you mean a sure and rapid attainment of material riches, the discussion is soon ended. A little story will explain the situation. Some years ago an advertisement appeared in the papers of northern New England, worded something like this:

"The Opportunity of a Lifetime.—A sure and speedy method of getting rich. A successful man of business will reveal the secret of great wealth to any one sending him \$1. Address, A. B., etc."

A young man, with more ambition than industry, not myself, I assure you, invested a dollar in the great secret, and received this reply: "Work like the devil, and save all you get." There it is in a nut shell.

WHAT IS WEALTH?

But if, as I prefer to suppose, you wish my idea of wealth and its successful attainment, there is something more to say, and I am here to say it. But let us first define the terms we are to employ in the discussion, for more differences of opinion arise more from misunderstanding the terms used than from actual disagreement. What is wealth? Like many another word as well as man, it has suffered from being in bad company. Because people have considered material wealth or riches as the main thing in life, this word has come to mean that and nothing more, so that the veriest scrooge, grasping and grinding and saving, amassing sordid gain in most sordid ways, is called a wealthy man. But that is far from the original meaning of the word. It is derived from the same root as "well," and is really the same as "weal," meaning welfare. It is in this sense that it is used in that passage where Paul says, "Let no man seek his own, but every man another's wealth," and it is in this sense that I wish to use it. It is only in this way that I can explain my own comparative indifference to money-getting. And then, "The Royal Road to Wealth," what is that but the noblest and best way of attaining to real wealth? Such a way as becomes American citizens—the spiritual descendants of those who left material prosperity and came to a wilderness to form "a church without a bishop and a state without a king." Such, then, I take it, is the question you have asked me to answer. How can we, in the truest, noblest, and best manner, attain to that true

wealth that makes men happy and Nations great?

MAN A TRINITY.

Man, the child of God, is also a trinity. When he comes nearest to his true inheritance, body, mind, and spirit should be his; and he is but a fractional man who does not possess all these in balanced proportions. Time was when the poet spoke of "the pale scholar bending o'er his task," and it was considered almost a profanation if a clergyman was a robust patron of all the really good things of life. Thank God that time has passed, and we have now returned to that highest ideal of heathenism; in reality, the truest following of Him who came eating and drinking as well as preaching the Gospel of the Kingdom, "mens sanis in corpore sano," a sound mind in a sound body; only adding that spiritual quality which enables us to lay hold on eternal life.

A truly wealthy man—one who enjoys the highest "weal" of which man is capable—should have a sound body, well developed; and should have all his senses keenly alert to enable him to enter to the full into his inheritance of beauty and enjoyment of life. He should have all the healthy appetites of man, but must have them under the fullest control if he travel the "royal road to wealth."

But he must have something more than this, and indeed if he is to lack anything of the fullest equipment, he can lack strength of body with the least actual deprivation. Many a man weak and deficient in body has had a mind and spirit that has made him envied of all who came in contact with him; whereas, lacking these two, man is but an animal, or at the best, a soulless faun, such as the ancient Greeks pictured to themselves—a connecting link between humanity and the strong, graceful, care-free creatures of the forests. To be a man, man must have mind. He must be able to learn from the experiences and garnered wisdom of the past, or he will never become better than his fathers, and they no better than the beasts that perish.

The mindless man, how poor a thing he is, even though all that riches can give be heaped upon him. And next to him who is without mind, is he whose mind is stunted, starved, or warped by ignorance. What if he can command money? What can he do with it if he is the slave of superstition, prejudice, and ignorance? Wealth to such an one is like "a jewel of gold in a swine's snout." It only calls attention to that which, without it, might remain in merciful oblivion.

But body and mind are not all. There is a possibility of man so living as to be in harmony, not only with a material and mental, but a divine environment as well. The highest weal to anyone is to have this in full measure. Pope says that the untutored mind of the savage "sees God in clouds and hears him in the wind." And this is often true of him in his natural state. It is left to so-called civilization to blind the eyes of men until they can see nothing save the dollar's glint. To me the expression, "having treasure in Heaven," means having such a preception of the imminent God, such a vision of the divine in the human and the animal and the material as is possible only to those who have risen to true spiritual life, to a life that is in harmony with all things good and beautiful and true.

A RICH MAN.

A true man then must be one who is "en Rapport," in harmony, that is, with the material, the intellectual, and the spiritual. Such a man, standing erect, clear eyed before the world and his Maker, strong, vigorous, pure, with a mind trained to its highest activity, acquainted with the secrets of nature so that he is above little prejudices and ignorant superstitions, knowing God as revealed in art, literature, and nature, such a man, naked as he was born, is rich. If he cares for gold, and such an one can do much with the "reputation of unrighteousness," he has but to wave his hand and it will come pouring to his feet. The reason why such a man is seldom a millionaire is because he does not think it worth his time and attention in such an age to devote his magnificent possibilities to mere money-getting. Think of the elder Aggasiz. Offered \$100,000 for a hundred lectures, he replied, "I have no time to make money." He had all he could do in teaching his students to see how God made the world, so he turned from a fortune as other men turn from small pleasures that interfere with their life work. He reminds us of the Hebrew prince, who was rebuilding Jerusalem. "I am doing a great work, and can not come down," said he. Such a man has travelled the royal road to wealth. More, he has reached the highest weal. What could mere money do for him?

And there are others like him. Thank God there are many of them, men and women who seek wealth in the common weal. Money has come to some of them, but they hold it as a trust and not as a possession in fee simple. But these are comparatively few. Money seems to contaminate as it increases, and the generous youth of small fortune often becomes the sordid man of millions. Have you noticed the offer made by a woman in Chicago of \$1,000 to any recipient of an income of \$10,000 a year if he can show that he has not lied, deliberately lied, for thirty days?

No one has won the prize. The one who came nearest to winning it weakened when asked to show his tax receipt.

WEALTH OTHER THAN MONEY.

Now, I do not forget that I am talking to farmers and not to millionaires. I have used the millionaire as an example simply because he shows in large, what is true in all classes of society. The same law holds good everywhere, and on the farm as elsewhere he who hasts to get rich succeeds often at the expense of the higher successes of body, mind, and spirit. Instead of man on the farm, he sinks his identity and becomes but a part of his farm furnishings, like a cart, a horse, or a plow. He gives no ideal worth to his work, but is ridden by the routine of his craft, and his soul is subject to dollars. Think of a human being with all the possibilities of humanity, following the plow and turning up the rich soil without a thought of that God who, through countless years, accumulated that soil for him. Think of a man turning under the sod without a thought of the beauty of the flowers or the glory of the day. From such an occupation the poet-farmer, Burns, drew the inspiration for his "Lines to a Daisy." Perhaps he did not raise as much corn as the modern money-seeking farmer, but that poem has been more to the hearts of men than a wilderness of corn. And think of a man reaping the golden grain with the sole thought of how much it will add to his bank account, and never dreaming that he is repeating the miracle of the loaves and feeding the hungry multitude. I pity such a man; don't you?

WEALTH ON THE FARM.

The farm, rightly occupied, is the best place in the world for the accumulation of real wealth. Alas, that it has become so generally only a means to money-getting, and is thrown upon the market so soon as a competence is gained from it. Where else are there such admirable conditions for developing a noble type of humanity? If the human product of the farm is too often ignoble, the fault is not in the conditions, but in their misuse.

Let me picture to you an ideal farmer and his family, a farmer who, in my estimation, is travelling the royal road to wealth. We will suppose a young man starting in life with a quarter section of Brown County land at his disposal—no uncommon thing in these days. We will suppose that he is a graduate of academy, or high school, at least, and that he has learned to think. He knows that there are such things as books, pictures, and music, and he has learned to love them in some degree. He wants to be a farmer and so spend his life that he may close it with the conviction that he has done his best with it, and that he will be welcomed with the "Well done" of his Master.

A HELPMATE.

The first great interest of such a man should be to secure himself a wife. I do not mean by this that he should start out to find one as he would to find a driving-horse, but that he should realize that it is not good for man to be alone, and should be alert to find the one above all others whom, perchance, God has created to be his helpmate. He should remember that he is not only selecting a companion for himself, and a helper to make life rich and sweet for himself and his household, but that he is selecting a mother for his children yet to be. There certainly should be as much attention, in such a case, to spirit, mind, physique, blood, as he would give to the strains of breeding of his horses and cows. You may ask who he is that he should ask so much of a wife, but, whoever he is, he had better travail "all the days of his vanity" alone and solitary, than beget offspring inferior to himself, or with diseased bodies, imbecile minds, or course and vulgar tastes.

We will suppose he has found the right one, healthy, vigorous, with a little more of culture than himself, so that she will hold him to the highest he has within him, and with a power of spiritualizing the experiences of life so that the cares of her position may sweeten rather than sour her. The aim of the dual life should be thoroughly discussed and understood by both, that it is not to get rich, but to live—live the truest, richest life possible, in the love of God and man—and, if they are given children, to raise them so that they shall attain to the truest manhood and womanhood.

A HOME.

The next care should be to provide a house that shall be a home indeed, beautiful, convenient, with such labor-saving appliances as have been tested and found profitable, so that human strength shall not be wasted in the coarser kinds of toil. Naturally, there will be a house on the farm to start with, but the house wife should have a say in the building of that which is to be her peculiar care. Therefore, the first savings should go to make a better and more perfect home. This should be beautified with pictures, few but good, and to be added to as tastes improve and means permit. Books should be bought as an investment—books of sanitary and domestic science, as well as agricultural, books of reference, books of travel, books of poetry, fiction, and essays,

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the collection enlarging as time passes and new fields open to the readers. Papers should be subscribed for and read, such periodicals as keep both farmer and housewife informed as to the affairs of the world at large as well as to their own business. At the very first, time should be set apart for reading, both together and alone, and this appointment with literature should be sacredly kept. Arrangements should be made for attending upon divine service that connection may be kept with the spiritual as well as the material and mental worlds.

We will suppose that these preliminaries are settled and the work of life really begun. Then the farm is to be tilled in the very best manner so as to secure the highest return for labor and capital invested, to preserve the fertility of the land, to heighten the beauty of the estate and make it a part of the family life, that children and children's children shall learn to love it as the Romans loved the central temple of Vesta, where the sacred flame burned throughout the generations.

Out of the proceeds of the soil, a generous portion should be devoted to the home and the table, to clothing and to the appliances of an advancing civilization. A portion should be set aside for a little travel every few years, that dead monotony may not crush life; some should go to charity, that hearts may not become selfish; some should be devoted to the public weal, and what is left—what is left, mark you—should be carefully set aside against the time when sickness shall come, children shall need to be educated, or a start be necessary for these children grown to manhood and womanhood. If riches come, well and good; let them be enjoyed so that the world may be made better by them, but let them not be hoarded for no man knows what. It would be well for all to remember the ancient Italian epitaph: "What I spent, I had; what I gave, I have now; what I left, I have lost."

THE FAMILY.

When the children come, they should be cared for at least as well as a promising colt or a prize calf. They should be carefully trained at home, and, for this purpose, the mother should be set free from everything but this and the oversight that the housewife must have over her household. They should be carefully kept from association with what will degrade, and taught that "Life is more than meat, and the body than raiment."

The local schools to which they are sent should be models of their kind, or they should not be sent to them. Models for the teaching of manhood and womanhood, rather than the jargon of text-books. The children are the most valuable products of the farm, and all else should be sacrificed for them if necessary. You will note that I say, "for them" not "to them." They should be taught the nobility of the farmer's profession, and should early learn from precept and example that the farmer's life is not necessarily a contracted one.

They should be educated rather than instructed, that their natural bent may disclose itself, and then this should be carefully cultivated, if possible. If they turn to the farm, well; they can do no better. But if not, the world is wide and demands workers such as the kind of life described produces. Such lives are wanted everywhere. Confidence between parents and children should be cultivated, and the life of the parents should be such as the children can and will respect. The farm will be loved and the farmer's life respected, and instead of the question, "What will keep our boys on the farm?" we shall be agitated by the question, "How to supply farms for our boys?"

Now I have made my application to the farmer's life because you are farmers and because I think the farm is the best place for this application to be made, but the same principles will apply anywhere. The fact is that the true aim of existence is to increase the quality of life, and not to increase the number and amount of our possessions. He who is doing this for himself and the world has increased wealth, and wealth is not always riches.

Permit me to present an illustration by contrast. So far this year, four pupils have left the academy—how many have left the county, I can not say—because their parents have sold out to go to find new land. Their parents have sold good farms, entirely paid for, and well equipped, and have taken families of children to a new country, for what? That they may enable these children to secure cheap land and grow rich on the rise in value thereof.

But what of the other side? They will take their children among a heterogeneous population with divers standards of life—generally selfish—taking them away from one of the most cultivated communities in the Middle West. As a result, these same children, in thirty years, will be just where their parents now are in culture and education. They may be rich? Yes, but they will then, if they can, sell out and move again, repeating the process, and thus retard the evolution of their race? Is this a small thing? Indeed it is not. Let me digress in closing, to prove my point.

THE PROGRESS OF THE RACE.

We hear much in these days of the progress of the human race. Now, there are two ways for the race to progress. One is from the outward side; the other is from within. The progress for the last four hundred years—the length of time in which

there has been much of any progress at all—has been solely from the outside. Since the invention of printing, and the multiplication of books, the knowledge of the past has been laid open to every inquiring mind. Starting with the knowledge and invention of the generation before, each generation has set itself to improve its own material condition. It has done so, most rapidly indeed within the last forty years. The knowledge of improvement has spread and is fast becoming the common property of the world. When this becomes so completely, when the civilization, the material civilization, that is, has become general, what then? The capacity of man has not materially increased for two thousand years. If a Grecian youth of the time of Pericles could be put into our schools, it is to be doubted if he would not make as rapid or even more rapid progress than our children.

What does that mean? Simply that, while we have advanced greatly in means of enjoyment, we have made very little progress in life itself.

Why? Simply because we have worked upon the outside of humanity and life, instead of the inside. We have improved the attendant circumstances of life, but have neglected life itself.

I have been among you as one who has tried to improve life. Whether I have traveled the royal road to wealth, I must leave to the eternities to answer.

Will Corn Remain King in the States of the Middle West?

LOUIS MELLEBRUCH.

I believe corn will remain king for the reason that it is well adapted to said locality, and a very valuable crop to raise, on account of its being put to so many different uses, which creates a large demand for it. There is no known plant today that can take its place, because of its great production of grain and forage. The former being especially very important, as it is used at home and shipped abroad in its original state, in large quantities, and is converted into other products, of which there are many, principally beef and pork. It is not only easily and economically fed to horses, cattle, swine, sheep, and fowls, but is also made into human food.

The stalks make a good forage for horses, mules, cattle, and sheep. The cobs serve for fuel. Those that have used them for awhile prefer them to any other.

Then it is evident that in order to displace corn as king, it would require some plant that would yield more of as good a grain and forage, which could be used for as many different purposes, admit of as easy cultivation, have as great a certainty of a crop, and that could be harvested at leisure without much loss. Other grains of the present time must be garnered as soon as ripe, or there may be great or total loss. Not so with corn. Encased in its little tent above the damp ground, it hangs awaiting the coming of the husbandman, whether it be a few days, weeks, or months, with scarcely any loss of grain.

With most other cereals there is danger of their substance flying away on wings after they are in the bin, by being eaten by certain bugs and weavels. But when once in the crib there are "no flies on" king corn. It is destined on account of its keeping qualities, to be the great boon to mankind in equalizing over-production, by it being easily stored for future use, thereby mitigating famines in times of scarcity. We may not see the day but the time will come, when all the corn will be needed for human food. The six or seven hundred millions of bushels of wheat will not be sufficient for the people of the United States alone to subsist on. When the population reaches one hundred million, two hundred million, three hundred million, and the wheat crop partly fails, which it sometimes does, it is then that king corn will come to the rescue of the famishing times, two billion bushels strong in company with the cow that gives milk and butter, and the hen. It will be the only means of nourishing the millions of people.

Land in the States of the Middle West that will produce a good crop of corn will be very valuable, selling for \$100 or more per acre. But unless there is a change of the present method of farming, long before that time many farms will not be able to produce paying crops of any kind, because king corn, like other kings, lays high tribute on the soil in two ways. First, by being a gross feeder, it requires and absorbs the fertility from the soil, thereby impoverishing it; unless it is cropped judiciously and part of the fertility returned to it. Second, it requires much cultivation, which loosens the soil and exposes it to the washing rains. In that case both fertility and the soil are lost. As that is a great loss it should be guarded against as much as possible, not by making long, straight rows, regardless of the lay of the land, but by furrowing the different fields the way of the least abrupt decline, and thus leading the water away with moderate descent. This often necessitates curved and short rows, which takes a little more time to cultivate and gather, but it will be the means or way to save tons upon tons of the best soil of our farms.

In mentioning the advantages of the corn crop, I did not wish to convey the idea that we should plant more corn, for we already plant more than we should, and raise less than we ought to. The remedy lies in planting only one-half of our land in corn each year, and the other

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half in small grain and clover. Clover especially should be sown for a helpmate to the corn. Thus mated, we will have both the king and the queen, and then king corn will stay with us, and we will be able to stay with the farm.

Be cheerful and have unwavering confidence in the coming season, for we are going to raise all the way from forty to eighty bushels of corn per acre. Although we may not receive as much per bushel as to day—60 odd cents—but we can convert it into pork and realize 70 or 80 cents per bushel for all the corn so used. That is why corn is king in the States of the Middle West. And the reason it will so remain.

Two Kinds of Women.

W. E. HIXON.

Of the medley of women in existence, I am to tell about two kinds. There are the good and the bad, the kind and the unkind, the lovable and the despicable, the social and the exclusive, the industrious and the lazy, the ambitious and the indifferent, the helper and the hindered, the saving and the wasteful, the happy and the unhappy, the intelligent and the ignorant, the strong and the weak, not to mention many that might be designated by other descriptive words. No worthless woman possesses wholly bad qualities, and as to the ideal woman, even Solomon said, "that such a one could not be found," and he, certainly, had a good chance to know. Since there are no ideal women, or women entirely bad, let us speak about the kind of a woman suited to be the wife of a farmer, and those who are not suited for such a life.

A WOMAN'S DUTIES.

The duties of farmer's wives, while not so numerous as in former days, are yet too numerous. She cooks for a large family and during busy seasons, for extra farm hands; she has a large house to sweep, dust, and keep in order; she has large washings to do weekly; she has to mend and sew; care for the chickens, garden, and often lawn and the yard; and last but not least, bring into the world a number of children. The woman, that is a help on the farm, never neglects her children, and is intelligent enough to show them the beauties of nature about them. She does not care for a kindergarten, which takes her child away from home and enables her to shirk the greatest responsibility of a mother—that of directing the life of her child when it is most susceptible to impressions. This kind of woman needs no kindergarten for she can direct the mind of her child and conduct a mother-garden intelligently. She entangles her life with that of her child by ministering to its physical and mental wants. Her girl is taught to perform every household duty of the farm, to care for the house from garret to kitchen, to cellar. The girl needs this training, not so much that she will ever have to perform these tasks, but in order to give her that strength and confidence which comes from the consciousness of power to do. When the burdens of a good wife become too great, her husband may be depended upon to work some measures of relief. Man has always risen to woman's level, and is naturally a lover of fair play. The right sort of a woman is always found in her place and makes reasonable demands upon her husband. She is industrious, kind, and considerate of all her acquaintances; her ambitions are those of her husband—their lives are merged into one, and mutual love and confidence exists in the most substantial sense. They both toll long hours, but that brings happiness.

ONE KIND OF WOMAN.

The woman that should be on the farm knows how to do her work well and takes pride in her home. She keeps her house neat and clean, not to show her visitors what a good housekeeper she is, but that her husband, her children, and she herself, may have that peace and comfort and satisfaction which comes from a well ordered household. There are no rooms shut all week from the children, the best room is more for the children than for occasional visitor. Her children are indulged in innocent amusements at home; scolding is not a part of her make up; the boy's rooms are made neat and attractive by a hundred little, inexpensive artifices, known only to women; she treats and talks to her boys and girls of 13 to 18 as men and women, and makes them feel that she expects great things of them—that they can do something worth while in this world. Her daughters knew how to cook and sew,

and care for a house before they are ready for college or marriage. She would feel disgraced, did her daughter not know these things before her eighteenth year. Ignorance is abhorred; her children must be able to do and must know.

A woman, animated with such motives for the welfare of her family, will have good common sense, be intelligent, reasonable, economical, and industrious. Such a woman is queen wherever she is, and the question of "Who is boss?" has no terrors, for she runs her household affairs and her husband runs the farm.

ANOTHER KIND.

The kind of a woman that should not be on a farm, is the one who feels that she is good enough to be waited upon, that she is wasting her life and beauty as a farmer's wife, that she wants a horse and buggy to take her to town to call upon some of her dear friends, the kind that gets sulky because her husband needs the extra horse to help run the binder. She has ambitions of her own and had rather that her husband's interests suffer than that her ambitions should be thwarted. Such a woman likely wants to move to the city and tries to persuade her husband to go into business. She loves him, but country life is irksome to her—there is no rest for him. There are, perhaps, no children to strengthen their bond of union, or if there are, we usually find them precocious or neglected. Their mother does not understand them, their early training is not directed, and they grow up as weeds; they are not taught that labor is the best civilization, that the world estimates one's worth by what he can do, not by what he appears to be. The children are scolded because they get into the parlor, or have soiled shoes. The nice things in her home are for the enjoyment of visitors. Games are a disturbance, unless played out of doors, or at the neighbors'. She calls her son of 14, "her baby;" and she treats him as if he were a baby. When she finds him growing indifferent to her, seeking companionship somewhere else and indulging in games and habits that fill her with terror, she prays very fervently for her wayward boy, but never once thinks of praying for her own sins and follies that are driving her boy to destruction. The thought never entered her head that the lack of sympathy and poor cooking, ruins both husband and sons, and, only too often, makes cowards and drunkards of them. The woman who loves fine dress, loves so-called society, who is not willing to sacrifice her petty ambitions for the sake of a happy family, who is a spendthrift, who has not formed the habit of labor, who is not educated to do with heart, and hand, and mind, has no place on a farm.

She may be a perfect lady, but is out of place and is rather to be pitied than despised. Indeed she is not at fault, but her husband for marrying her, and most of all, the sin is with her father and mother who taught her erroneous notions of life.

With more mothers on the farm that should be there, than in any previous generation; with manual training, animal and plant life, and the relation of man to man, taught in our schools; with labor saving inventions, better churches, better means of communication, we can not help but believe that there will be more women in the next generation who shall know how to run properly, a home.

Respective Duties of Husband and Wife in Home Management.

MRS. E. T. CHAMBERLAIN.

Webster defines home as the place in which we live. Home should signify much more than an abiding place. The truest homes are often in houses not especially well kept, where the comforts and happiness of the inmates are the first considerations. The object of home is to be the center point of tenderest interests, and the first duty is to make it so attractive that none of its inmates shall care to linger long outside its limits. All legitimate means should be employed to this end and no effort spared that can contribute to the purpose. The very name of home is synonymous with personal freedom and relaxation from outside care. Cheerfulness is more needful to the home than all the spotlessness that ever can be shown. Home is not a name nor a form nor a routine. It is a spiritual presence, a principle. Material and method will not and can not make it. It must get its light and sweetness from flowers and sunshine, and from the loving and sympathetic natures of its inhabitants.

The respective duties depend on each individual family. If God had given to all the talent, ability, and health equal, then the duties would be equal. Being otherwise it would be like handing out a cake recipe. Perfection would depend on the skill of the cook. The building up of a home is an art, a study if you will, and a never-ending duty of love and labor.

DUTIES OF HUSBAND AND WIFE.

Taking the average home the husband is conceded to be the provider of finances. Observation teaches us that the wife contributes no small amount to that fund by her own personal efforts. The wife is the housekeeper, and shall we say home-maker? For truly it is no home without a mother. In the first years of home-building the duties of both are comparatively light. Both are striving for an accumulation of this world's wealth, looking forward to ease and luxury bye and bye. Five, perhaps ten years roll by. What is the home and its duties now, and who is performing them? Has the wife developed into a model cook, house-keeper, washer-woman, seamstress, milkmaid, dairymaid, garden-maker, poultry woman, a genuine helpmate in general?

If any man is permitting all these things he is certainly not doing his duty. Being the head of the family it is his first duty to see that his wife is not a general scrub. He took her as his equal, perhaps from a love of luxury, where love and kindness ruled supreme, to a home where the common necessities of life are all that can be afforded. She leaves father, mother, brothers, and sisters for him alone, to be his wife, companion, and confidante, to share and share alike, to be his counter-part, supplying that which man lacks to make a home complete.

LOVE IN THE HOME.

Perfect congeniality is the secret of a true home. What is the secret of congeniality? Love. Therein is the ideal reached. Mutually shared are their thoughts, their aims, their hopes, their standards, plans, purposes, tendencies, and tastes. Whatever is of interest to the woman is of equal interest to the man. The wife does not share her husband's interests after working hours only; his work is as much apart of her sphere as is his pleasures. The wife is not congenial and cooperative up to a certain point, but is throughout all points, as man who may have within him all the necessary elements of success needs just that compliment which the wife supplies before his talents can be utilized to the greatest scope. For none of us is within ourselves a perfect whole. For every virtue within us is an accompanying vice, and it is to balance the extremes, to round out the unevenness of our natures that the possibility of a human complement is held forth in the husband or wife.

DUTIES AS PARENTS.

When that complement is found, the home is complete. The management and duties are as one with the combined thought and force of two for execution. When the home contains two persons not quite congenial or not at all congenial, what is the result? A divided house, a place not fit to be called home, where the duties and responsibilities are a burden and a never ending point for disagreement. Such a place is not only an injury to the husband and wife, but to the future generations, as first impressions on the child's mind are made in the home before it comes in contact with outside influences. Are you teaching your children the truth, between right and wrong, in acts as well as words, to be brave, strong, and gentle? Have you placed before them a living example of what constitutes an honest, honorable, upright man or woman, never shirking where duty calls?

It takes the practical, every-day life to instill into those under our watchful care and teachings the character and ability to resist temptation, to discriminate between good and evil. Every son and daughter should feel from infancy to maturity that no nearer, kinder, or more sympathetic friend can be found than father or mother, that every thought on any subject can be uttered before either. Yet how few children have that confidence.

It is the duty of every man and woman to know the tastes and inclinations of their children, to encourage that which is good, to weed out the bad and guide their growth wisely and patiently. It ought not to be a difficult undertaking to understand your children if a close sympathy exists as it should. If you are not the good comrade and confidante of your children some one else will be outside the home. And the influence of time are not of the best. Hundreds of boys and girls are allowed to form their own acquaintances unmolested by their parents, who take it for granted that their children will associate only with desirable people.

It is not unusual to find father so tired at night with his efforts to accumulate wealth that all he asks is a quiet house, and where his sons and daughters are in a few words what should constitute a dutiful husband and father in the proper management of the home, we should say that he is one that never forgets his obligations at home, one who allows no person to be a more sympathetic friend to his wife and children than himself, ready to give information and advice and help of all kinds, one who inspires love and respect instead of fear, and one who uses every effort

to make home the most attractive, restful, and inspiring place that can be found, where love, sympathy, and patience have their abiding place.

The theory that mere parentage is ennobling and that children should love, honor, and respect a father and mother, however ignoble they may be, is not to be accepted. It is time that a higher ideal be set for the parents and that they realize more fully the duties and responsibilities devolving on them as parents.

"WOMAN'S WORK IS NEVER DONE."

The mother of a family is the real maid of all work. The more faithful and intelligent she is the more she usually tries to deserve the name. In the home it is she who gives life to a dozen interests more or less. Her husband's business, the children's education, the baby's teething, and housework are all processes which she urges on and which fret her and rasp daily and hourly on her brain—a very dull, unskilled brain too often—and she is quite willing to wear herself out for those she loves.

The great aggregate of wives and mothers in this country are domestic women, who ask nothing better of fate than that whatever strength they have of body and mind shall be drained for their husband and children. The spirit of martyrdom is a very good thing when necessary, but it is not often that it is necessary. The rapid decay of our women may be owing some to climatic influences, but it is much more due to an over taxation of the mental and physical force in the management of the home. A man's work may be heavier, but it is single. It wears on him on one side only. He has his evenings for reading or recreation, and during the winter season a greater part of his time is spent in comparative ease. His wife seldom has time for reading and she never has one minute that her mind and hands are not employed. Planning how to make 50 cents do the duty of \$1; how she can give one child a little more music; how she can keep the boys at home evenings, giving a little help here and there to the children in their to-morrow's lessons, at the same time keeping her hands busy with sewing, mending, darning, preparing meals, etc.

There is not a power of mind, a skill of body which her daily life does not draw out. She has the kitchen and dining room day after day, year in and year out. Is it any wonder that women become aged, morbid, and frequently ill-tempered, and their physical condition weak? Likewise, the mind, and just as surely proper management in the home deteriorates. Therefore, provide competent help in the home as well as in the field. To the husbands belong this duty. They never make their wives work, they only provide a good sized house to be taken care of, hired help in the field, extras whenever needed, and expect on pair of hands in the house to get through somehow, and at sometime before morning. Few men can properly manage the minor details of the house (although some of them think they can). They can look after the flocks and herds, provide the substance of the home, but leave them with the children to rear and educate, and where are they? They may say that is not in their line of business. It should be to a certain extent.

EDUCATION.

Perhaps men have not been educated and trained for that purpose. Then do not be the founder of a home unless you intend to share your part of the management and training of those you are responsible for, fitting them for life's work, and a future home, and do not expect more of them than you do of yourself. You can not grow wheat from a kernel of corn. You can only perfect the growth of corn by thorough cultivation. That means a liberal education, not necessarily a college education, but a thorough education so fitting each child to be self supporting. It may not be necessary at the present time, but you can not tell how soon reverses of fortune will make it necessary. A person is educated who is so trained in his perceptive faculties, so trained in all his abilities of one kind and another, that, put him down in the midst of difficult surroundings, he will be able to see where they are, able to understand what the occasion calls for, able to master the conditions instead of being overwhelmed by them.

A person who can master himself and his surroundings wherever he may be is thoroughly educated, and the one who is the victim of his conditions and surroundings with no practical ability or power, may know ever so much, yet he is not educated, unless knowledge is not education. Practical line and comprehensive command of one's abilities and the full development of one's native resources constitutes a true education. We take the position that every person owes to himself and to the world to make the most of the faculties with which he is endowed. A thousand or two invested in an education is a greater gift to your child than the same amount as a marriage gift without the education. The broader and deeper the education the more capable is the wife to properly manage the home spiritually, morally, mentally, physically, socially, and financially. If you want proper management in the home, thoroughly educate the girls as well as the boys, for much belongs to woman to make or mar the proper management of the home.



DEERING TO THE RESCUE!

WHEN SOMETHING GOES SNAP

on that binder for which so much was promised, and there is an enforced halt in the midst of the busy harvest, the farmer instinctively turns to the Deering for succor. No crop is beyond harvesting when there is a DEERING IDEAL BINDER on the ground. It will cut, elevate and bind any condition of grain. It is built to meet every requirement and meet it satisfactorily. It is the all-around, ever-dependable machine. Get a Deering Binder and you will be always ready for harvest.

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CHICAGO, U. S. A.
World's Greatest Manufacturers of Binders, Headers, Mowers, Reapers, Corn Binders, Corn Shockers, Huskers and Shredders, Rakes, Twine, and Oil.

AS TO MONEY.

Another point is the matter of finances. Every wife should have the same privileges of the bank account as the husband and not be compelled to ask for every cent and have it doled out, as is too often the case, as though you were drawing life's blood instead of a few paltry dollars, which the wife has just as faithfully earned as has her husband, and she is justly entitled to the pleasure of feeling that it is her right as his helpmate to be his help-spend and not a dependent. The average woman knows the full value of a dollar, and is quite capable of making, saving, or spending it judiciously. The wife should be thoroughly conversant with the financial affairs at all times. To successfully and economically manage the needs of a home it is necessary for the wife to know the limit that can be afforded. The value of money is the comfort and pleasure derived from its use, be it much or little. The farm and herds may be the mine, but the brightest and best treasures in this world will be found in the home and that home is what you help to make it.

Respective Duties of Husband and Wife in Home Management.

MRS. JENNIE McMILLAN.

Now, if I were an old maid or an old bachelor, I would feel no hesitation in taking part in this discussion, but holding the position of wife and mother in a home causes the subject to assume gigantic proportions. Being a woman, it is not at all hard to see what a man's duties are, but when it comes to discussing respective duties, my assurance fails me.

THE HEAD OF THE HOUSE.

The head of the house first claims attention. We have seen a few "heads" whose titles were total misnomers. As anchors in the storms of life they were not successes. They were like ships without rudders. Such men, that is men who are failures in life, rarely know of their inabilities, but like Micauber, believe they are victims of the most untoward circumstances, and are always waiting for something to "turn up," instead of having a steady hand on the helm and bringing their ship safely into port. Such men may have far-seeing wives, women with executive ability, but these men never believe a woman understands the "affairs of men."

We have seen many a man make a failure of life, who, had he listened to his "better half," would have succeeded much better. The home of which such a man is the "head" is not an ideal home. The children know the affairs of the home are not managed properly, and growing up under such circumstances cripples a child very often for life. He misses the systematic executive ability the father should show. A man is a total failure unless he is a good example for his children. In fact, we believe that a man's chief mission in the home aside from his part of conducting the financial affairs, should be to be an example for his children to follow.

We do not believe men were ever intended as primary teachers. That vocation in life belongs to women. The mother should do the training of the children and at all times be sustained by the authority and example of the father.

One noted lecturer has said that the "biggest baby a woman has is often her husband." This is often true, and we pity the mother and children in the home where this is the case. The mother should train the children to be sturdy and the father should set a sturdy example. If this were more often the rule there would be fewer "baby men" who are unable to grapple with the problems of life.

A woman's place in the home requires just as much strength of character as the man should possess. No woman who has not, by training and education, fitted her-

self for the duties of wife and mother, should take such a position in any home. We have seen good, strong men utterly undone because of their wives inability or lack of a sense of what was required of them.

MARRIAGE.

The husband and wife should be equal partners. People hold up their hands in horror when we say marriages should be a business transaction. I do not mean to say that any couple should marry without love. That should be the foundation of every marriage, but too many people, when they fall in love, lose their common sense. If ever common sense is needed—plain, practical, every-day wit—it is after marriage.

Too many women are inclined to believe that the man they love is infallible, almost approaching divinity in power. We have heard girls express the most unbounded faith in the ability of the man they mean to marry, to "take care" of them, the "taking care" meaning to them no trials, no hard work, just a sort of picnic from day to day. When such a girl finally does get a husband, he is not divine at all. He is just a human being with the ordinary human ability, but she married him with her head up in the clouds, and as soon as some of the ordinary every day problems stare them in the face, she wonders why he does not "take care" of her, and right then, if he had any exalted notions about marrying a helpmate, he loses them.

THE WIFE'S RIGHTS.

The head of the house is looked upon as the wage earner, and he must make the living. Yet the wife does her share if she cares for the children and keeps the home. The husband and wife should be equal partners in the financial matters in the home. The husband, as a rule, brings in the money, but the wife should have a vote in settling the question as to how it should be expended. The husband is sometimes inclined to think he owns the pocketbook, and as possession is nine points in the law, he carries the pocketbook with him to make sure of his ownership. We knew a woman whose husband owned the pocket-book and made a scene every time she asked him for money, who waited until her spouse went to sleep and then stealthily extracted a few coins from his pocket. She made a practice of this and thus kept herself in the necessary small change. Such a practice is abominable. We have seen women who had free access to the pocketbook and greatly abused their privilege. We heard a woman whose husband earned the living by day's work, say that John was making so much money she hardly knew how to spend it, and that she believed she would buy an organ, when they did not own a home, and were in debt for the clothes they were wearing.

Much depends upon the wife in the proper management of the money affairs of the home. If the girls of the home were trained to know the value of money and were brought up with the idea of making their own living, even if the necessity should never present itself, failures as partners in the home would not occur so often.

HARMONY IN THE HOME.

A home is not a home unless the members of the home are in harmony with each other. Each must study the others welfare. Children can best be taught unselfishness by having the parents set an example of unselfishness. If the parents consult each others wishes and respect each other, the children can not help but fall into the same habit. Each parent has a tremendous duty in the management of the home. It should be such that the children in leaving that home may carry with them strength acquired from the training and example of the parents, memories that will cause them to desire to build up such a home for themselves. The welfare of a

nation depends upon its homes. Has the husband or the wife a right to shirk any duty in the home? Let them as equal partners make of their home a stepping stone to Heaven.

The Training and Education of Our Farmer Boys and Girls.
MRS. SUSIE SEWELL.

The Mothers' Congress, a few years ago, debarred any one from discussing before their assembly the subject of training children, except parents who had reared at least half a dozen children, which probably accounts for the committee giving me this honor.

THE COUNTRY CHILD.

Rules for the training of the young must be adopted to the individual child, as we find no two of our little ones exactly alike. Difference in tastes and temperament require different management, but all require patience and gentleness. It is conceded by many people that the child who is country-bred and born has in many respects the advantage in birth. It was natural that Holmes, poet, novelist, essayist, physician, and a strong believer in heredity, should be quick to observe: "Any thing is better than this white blooded degeneration to which the Anglo-Saxon race now tends." We must admit the country boy has made for himself a strong record. We see him in the State House, the scientist, the astronomer, in the army, and the navy; in fact, the world is moved by his sturdy mind and body; but we must be watchful in this day of rush and hurry not to deface our record. We need more careful, thoughtful parents. Why need the world wait a century or two before realizing that nothing great or small is so neglected in educating our women as intelligent motherhood; which is of such vital importance to home and Nation. Trained parents, fathers as well as mothers, are what we most need to pave the way to larger fields of usefulness.

Mothers must realize the sacredness and responsibility of motherhood, and equally so of fathers, if the children secure their rightful heritage, for mold and shape them as you will, unless they are well-born the sins of the fathers are unto the third and fourth generations.

ITS ADVANTAGES.

Is it not a physiological fact that upon a perfect physique united with perfect health the intellectual and moral growth of the child depends? Prof. G. Stanley Hall says that before his investigations the general opinion was that city children were superior in intelligence and best adapted to bread-winning, but he found—out of 86 per cent of questions asked—the country-bred child surpassed the one reared with town advantages. In Boston, 80 out of every 100 did not know what a beehive was; 78 could give no clear idea of dew; 93 did not know the wheat plant, although they did know flour; 79 had never seen strawberries, blackberries, raspberries, beans, or oats growing; or did not know if they had; 80 could not locate their hearts or lungs; 40 could not tell what a pond or lake was; 64 did not know what a plow or spade was; 93 could not tell the origin of leather, or of cotton, and did not know that butter came from milk.

This investigation must be understood as proving only the country child is brought into a healthy understanding with nature; and their capacity for learning the world about them is sharpened.

An able educator from similar facts argues: "If I could control the education of all the young folk in America, I would send the city-born child a part of the time to the country school, and the country-born for a part of their education to city schools. But in like manner I would send those whose homes are on the prairie to study among the hills and those in the East to spend a few years in the West." Washington said that the young must not be allowed to grow with local views and sentiments.

We must nationalize education. The old unguarded district school is often given credit for success of the country child, but to me it seems the country boy's success in the world has been attained, not because of the ungraded country school, but in spite of it. The real cause lies in the home life on the farm and not in the district school. Necessities, difficulties, efforts, struggles are essential factors in maintaining vigorous stock.

Through farm life the boy must become fearless, plucky, self-reliant, active, patient, and brave many hardships. He becomes conscious of the dignity and necessity of labor, aggressive in the pursuit of his purposes; he gains skill to contrive various ways to meet difficulties, and a ready use of his physical powers. The end of education is not intellectual power only, but a nerve and muscle power behind the will to sustain it in the struggle for bread and righteousness.

LESSONS FROM TOIL.

The farmer's child must rise early enough to get the work done before going to school in the morning and get back in time to do it in the evening. There are dishes to wash and homes to tidy, cows to milk, stock to feed, stables to clean, etc., and it all must be accomplished in the stated time. Our farms have furnished just that familiarity betwixt "mind and things" which Bacon so aptly stated to be the object of education; but while our country homes furnish these vigorous elements the district schools do not afford the advantages they should. The child is

taught little or nothing about the land and the life on the land; little of birds and their uses; little of insects and how to control them; or of plants and how to comprehend, enjoy, or make use of them.

Really the knowledge they most need to attach them to the country and make the best use of is never imparted. In other words, the elements for making manhood and womanhood have gone to waste because the child is not taught to recognize these things in nature.

BETTER SCHOOL FACILITIES.

We see no reason why Brown County should not be the one to act in trying to consolidate our school districts and have the graded work; erect better buildings with better equipments, located where the child is surrounded with the beauties of nature not in the corner of some barren field where there is nothing but dry cornstalks eight months in the year. Is it any wonder farmers' children have so little esthetic taste? With the graded school system would come opportunities for teachers to do better work, and there would not be the necessity of sending the child from home just at the crucial age, to the town or city among new associations, to have proper school advantages. While a very important part of the education is not to allow local views or sentiment we think best not to send them from home too early. With the graded work should come the lecture course and public educators. In every possible way make the environments and atmosphere of the child such that the character formed will produce the highest type of manhood and womanhood; teach the child to love truth, justice, industry, economy, and thrift; educate and watch for the unfolding of those qualities which are slowly developing and be ready to encourage and help whether the vocation be that of farming or a profession.

Do not try to make a farmer of your boy when he is really a lawyer, for everybody knows what a poor farmer a good lawyer would make, and think of our best farmers trying to plead a case, diagnose a fever or preach a sermon. Let us teach them they are a part of the body politic, that they are living in constant relation to their fellow creatures. They must not only make the most of themselves, but must do the most for their fellow man by being able to communicate their ideas so others will understand them and arrange their work that all may enjoy its fruits, and must become citizens who are directed by political intelligence instead of political ignorance.

We want our young people to reach the perfection of noble manhood and womanhood, highly educated, alive to their boundless opportunities; broaded, purer, nobler citizens of our grand Republic, and all our law-makers men—sun-crowned men.

Tuberculosis in the Home and Herd.

DR. L. W. SHANNON.

There is probably no question relative to the health of the individual and the public that has been given more attention and received wider comment than that of tuberculosis, or what is more generally known as consumption. Especially is this true since there has arisen the possibility and probability of the transmission of the disease from domestic animals to man, and vice versa. The importance of the subject is quite evident when we know that 12 per cent of all the deaths that occur are from pulmonary tuberculosis, and this is only one form of the disease and that each year in the United States, 152,000 people die from this disease alone. During the late war there were killed in all directions and in every way only one twenty-fourth the number that each year sacrifice their lives to this dreaded disease.

That tuberculosis is a preventable disease there is no doubt, and that much can be accomplished by rigid rules of hygiene in exterminating it has been thoroughly demonstrated, but that much remains to be done is quite evident.

PREVENTION.

What may be accomplished in the way of preventing the prevalence and spread of any disease may be illustrated by our efficiency in controlling smallpox during the past century. In 1796 the death rate of smallpox reached its maximum in England: there being 18.5 per cent of all the deaths due to this one disease. This shows that there were as many deaths from smallpox in 1796 among 1,000 people as there were among two million people in 1896, or, in other words, there was but one death in 1896 from smallpox where there were two thousand deaths a century before from the same cause! While it may be claimed that our successful control of smallpox is due solely to our specific for its prevention; viz, vaccine—which specific we do not yet possess for tuberculosis, let it be remembered that this advantage in the control of smallpox can be offset in the control of tuberculosis by the difference in the virulence of the two diseases. That is, one thousand people in good health and hygienic surroundings may be exposed to the smallpox daily without necessarily contracting the disease, while if the same one thousand people were exposed to the smallpox under equally favorable conditions to guard against the disease, that were not vaccinated, a very large per cent of them would contract the malady.

Hence, it is because it is a preventable disease and that so much can be done to

arrest its wide spread and prevalence that I invite your attention to it on this occasion, and more especially, too, because its existence among cattle and swine has long since been established, and because the fact that this may be one source of distribution among people has recently been brought into question.

AS TO FARM ANIMALS.

I invite your consideration of the latter subject, not because I think this the most important of all actions that would be necessary in controlling the disease, but because it is the part of the work depending entirely upon the cattle-breeders. In other words, it is only a part of a great work that may be necessary for any of it to be effective, but a part that must be done by the farmer and the farmer alone. Measure it by any standard you may choose, philanthropic or financial, and I assume that you will find your efforts fully rewarded.

I shall first endeavor to show to what extent tuberculosis does exist among domestic herds and then that it is a source of danger through the foods prepared from such animals. And then only suggest to you the necessary steps to be taken to arrest and guard against the same; for I believe that when once convinced that such a condition prevails you will be more apt to seek a remedy than you would be to convince yourselves, by reading and research, that a remedy is necessary; and the former may be well established before the latter will be carried out.

Evidence of tuberculosis among cattle and swine may be conclusively demonstrated by a review of the statistics showing the number of cattle tested, the number and percentage of tuberculous animals found. Since this research originated abroad we find that the best records in foreign countries. Slaughter-house statistics in the following named countries show the following percentage of cattle and swine to be tuberculous:

Persia, cattle 14.6 per cent; swine 2.14 per cent; Saxony, cattle, 29.13 per cent; swine, 3.19 per cent; Leipzig, cattle, 34.4 per cent, swine 2.17 per cent.

AS TESTED BY TUBERCULIN.

And since in many, if not all these places, the examinations are microscopical, or depending upon the eye alone, it is not only possible, but highly probable that many others escaped notice because they were only slightly afflicted and escaped detection. In Belgium in 1896 20,850 cattle were tested by the tuberculin test, which is the most accurate and scientific that can be made, and of the 20,850, 48.88 per cent, or about half of them were found tuberculous. Of 25,439 head tested in Denmark from 1893 to 1895 49.3 per cent of them reacted, and of 47,263 tested from 1896 to 1898 32.8 were found diseased. A review of the tests made in the United States for tuberculosis of cattle show the following data:

States.	No. tested.	No. tub.	Pct tub.
Vermont	60,000	2,390	3.9
Massachusetts	28,778	13,523	48.7
Connecticut	5,300	896	14.2
New York (1894)	947	66	6.9
New York (97-'98)	1,200	163	18.4
Pennsylvania	34,000	4,800	14.1
New Jersey	2,500	535	21.4
Illinois (97-'98)	923	112	12
Illinois (99)	3,655	560	15.52
Michigan			13
Minnesota	3,430		11.1
Iowa	873	122	13.8
Wisconsin suspected herds	911	306	33.5
Wisconsin non-suspected	935	84	9
Fattened cattle	3,421	76	2.2
Total	147,479	23,633	16.2

This shows a very high percentage of cattle diseased and the rate in foreign countries nearly three times what it is in our land, but then this should be remembered, that in many instances it has been only suspected herds that were tested. Dr. Pearson, the State veterinarian of Pennsylvania, thinks that not over two per cent of all the cattle of that State are tuberculous.

The grade of cattle which is mostly subject to the disease is not, as might be suspected, the poor, neglected, under-fed scrub cattle, for the greater number have been found among the higher grades. The class of cattle mostly affected are breeding cattle and dairy stock. The beef cattle found in our markets are as yet comparatively free from tuberculosis. Of 4,841,166 cattle slaughtered in the year 1900 under federal inspection, but 5,279 or .11 of one per cent were sufficiently affected to cause the condemnation of any parts of the carcass. The prevalence of the disease among the better grades of cattle and in herds where it might be least suspected because of the quality of the cattle and the excellent care they have may be shown by a review of the examination of the following herds:

	No. in Herds.	No. Tub.	Per cent.
Soldiers' Home, Washington, D. C.	63	53	84
Mass. Agr. College	32	25	78
New Jersey Agr. Exp. Station	42	25	60
Vermont Agr. Exp. Station	33	21	64
Ohio Agr. Exp. Station	30	14	46
Texas Exp. Station	21	10	48
Wisconsin Agr. Exp. Station	30	26	86
Kansas Agr. College	56	16	27
Gov't. Hospital for Insane Washington, D. C.	102	79	77

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THE DISEASE IN HUMAN BEINGS.

The test has been applied to people as well, with positive results. More than that, it has been demonstrated that germs can be, and are, thrown as far as fifteen to eighteen feet into the atmosphere by a very violent cough. But what is the significance of all this? Are these germs virulent and if so how long will they remain so? That they are virulent when first thrown off by their host there can be no doubt. Tuberculosis has been induced, times too numerous to mention, by inoculating guinea pigs and other lower animals with fresh sputum from tuberculous subjects, and more than that, the virulence of these germs has been established for a period of at least six weeks after being thrown off. That is the dust taken from a room which tuberculous patient had occupied, but which room had not been occupied by any one for six weeks after the tuberculous patient had left it; was found by experiment to contain virulent germs of tuberculosis, which, in all probability, were even older than six weeks, as it is not likely they were exhaled or expectorated the day the patient left the room.

Accidental inoculation may occur. That is, a person or an animal may sustain a wound, and germs finding lodgment become implanted and tuberculosis develops, which may be local at first and later develop into a generalized form. Such instances occur during the post mortem examinations of either man or beast, or even while butchering tuberculous animals.

MANAGEMENT.

With these facts in mind we shall now consider the management of tuberculosis in endeavoring to control it. The care and management of tuberculosis in the home, I can not endeavor to consider at this time, therefore I will only mention it that you may, from the suggestions already given as to the various ways it is disseminated, formulate your own methods of prevention; but the prevention, detection, care and management of the disease in the herd I wish to consider at some length, as that was largely the purpose and import of this paper, and furthermore, I believe that by so doing I shall suggest to you the way and means of preventing the disease in many human beings. The first and all important question is "How may its introduction into a herd be prevented?"

We have already learned that the disease is communicated from animal to animal, so of course the important step is not to allow any importation of stock of any kind or quality from any source until there is an assurance that the same are free from the disease. This would

require a certificate of inspections for all animals imported, and the assurance that animals bought and sold in neighborhoods and localities have been tested and are free from the disease.

But the disease may be already present in a herd, and how are we to detect it in that instance? This may be done in two ways: first, by the signs and symptoms, manifested by the animals afflicted; and second, by the tuberculin test, which is the most reliable and satisfactory.

When you rely upon signs and symptoms to detect tuberculosis in an animal, and if such are found in positive evidence, the disease is then in such an advanced stage that the animal is not only past relief, but may also be condemned for market, besides having been a nuisance and source of danger to all others of the herd. So as stated, the most reliable and satisfactory method of detection is by the tuberculin test. Tuberculin is a product of the bacilli of tuberculosis, and is present in the bodies of all tuberculous patients. It can be prepared artificially from a culture of the bacilli on a nutrient medium. When tuberculin is injected into the circulation of an animal, if the same animal is a victim of tuberculosis of any form, it has been found by experiment that after a few hours it will be subject to a rise of temperature. This reaction, as it is called, has been found to be reliable in at least 98 per cent of the cases tested. And there is also the satisfaction that cases of incipient or beginning tuberculosis react better to this test than do cases where the disease is evident by signs and symptoms, and are thus easily diagnosed. Thus you see in tuberculin, we have the advantage of an exceptionally early diagnosis and this enables us to eliminate from the herd any that might, sooner or later, progress to such a stage of the disease as to condemn them for the market, and besides be a source of contamination to others of the herd.

TECHNIQUE OF APPLYING THE TUBERCULIN TEST.

- 1. House or stable the cattle until all excitement or fear has been allayed.
2. Take the temperature, beginning at 6 a. m. and record it every two hours until 10 p. m. of the same day. After the temperature is taken, at 10 p. m., inject the tuberculin. The amount varies, usually two cubic centimeters for an adult animal. The location for injection is best in the neck, but any place underneath the skin will do.
3. At 6 a. m. the next morning, the temperature should again be recorded and repeated every hour for twenty-four hours, or until a definite result is obtained.
4. The temperature record of the first day should be compared with that of the second, and if there is an increase of two degrees F. or over, for a period of six hours or more in the record of the second day over that of the first day, the animal may be considered tuberculous, unless other reasons can be assigned for the abnormal temperature.
Some animals may have a relatively high temperature to begin with which may be due to temporary causes—such animals should be reserved for the test later.

TUBERCULOSIS IN THE HERD.

The next and all important question is, what is to be done when we have detected tuberculosis in a herd? and under this topic we must consider: first, disposition of tuberculous cattle; and second, care and after treatment of others of the same herd. The disposition of tuberculous animals is one that has caused no little comment, investigation and discussion, but this has, I think, reached a fairly rational conclusion. We must necessarily consider the disposition of cattle far advanced in the disease, and those in the earlier stages. By cattle far advanced, we may understand those that are in a condition that their trouble is quite evident and that will not recuperate and take on flesh under the best of care. Such cattle are always condemned and should never be marketed. They should be killed and cremated without moving. Cattle only lightly afflicted, it has been shown, can be marketed with little or no danger, especially is this so when the meat is well inspected and thoroughly cooked before being consumed. However, cases of incipient tuberculosis are also condemned if they are of the generalized type or what is more generally known as "quick consumption." Meat from a tuberculous animal in which the infection is local or in the initial stage is not dangerous if the animal appears in good health, and the meat has been properly selected and handled. In well advanced tuberculosis or generalized tuberculosis, the meat is beyond doubt pathogenic unless it has been most thoroughly cooked.

DISINFECTION.

The care and after treatment of the remaining healthy animals of an infected herd should be promptly carried out in detail. The barns, sheds and stables in which the diseased cattle were kept will be in-

fectured, and are not only a source of danger to other cattle of the same or any other herd, but also to the attendants of these animals. These places may be comparatively safe, and I will say, exceptionally safe for future use, by disinfection if the work is thoroughly done. But unless thoroughly done, it may as well not have been attempted. The direct object of this disinfection is to destroy the germs of tuberculosis which find lodgement in all the cracks and crevices, dust, dirt, and loose material about the barn, as well as upon the walls, posts, and pillars of the barn itself. This same statement may be made of the quarters occupied by a tuberculous patient. All these places must be saturated with the disinfecting fluid, and there is nothing in the prevention of tuberculosis that is of more importance.

Sunlight is one of nature's best disinfectants, but we can not control it as we can fluid and hence can not reach every available space about a barn in which the germs find lodgement. But the more sunlight and fresh air that enter such a building, the longer will it remain free from diseased germs. The tuberculin test should be repeated every year for several years in a once infected herd, and every reacting animal disposed of.

The disinfecting fluid that is probably most effective is a solution of bi-chloride of mercury, or corrosive sublimate, in a strength of two parts of the sublimate to one thousand parts of water. Or approximately one pound of corrosive sublimate dissolved in sixty gallons of water. It is best to first dissolve the chemical in a small amount of hot water, and then add it to a sufficient amount of cold water. The solution is highly poisonous, and must be kept out of reach of animals; it must also be kept in wooden or earthen vessels as it corrodes metal.

The solution may be well applied by a good spray-pump. All loose boards and material should first be removed before they are sprayed, and not the smallest area should be left unwashed. The mangers and feed boxes should be washed again with hot water about one hour after being sprayed to guard against poisoning the animals through their food.

When additions to a herd are made by purchases a bill of health should be obtained for every newly acquired animal. The tuberculin test, and this only, will give the necessary information.

Thus you see the subject of tuberculosis is not a small one. It is not a subject to be considered lightly and dismissed in a single evening. Nor do I have any knowledge, now, of any other condition or disease that may afflict a herd, and result in greater loss ultimately to the owner, and yet be so surely and easily detected, and too, which is so responsive to hygienic influences, as is tuberculosis.

How Can We Improve the District Schools?

S. E. FRIEND.

We boast of our public school system; we talk of our universities and colleges; we praise our graded schools and our high schools; but alas, what can we say in praise of the "little district schoolhouse on the hill?" It is true that many a good boy received his start from one of these; it is true that tender recollections entwine themselves around our heart strings as we recall it in memory; but it is also true, too true, that the old ungraded system of our forefathers is still the ungraded system of to-day. Legislators are striving to make laws, and do make laws, to favor higher institutions of learning; philanthropists endow schools of the highest order; our educational magazines and periodicals write nine-tenths of their matter to favor high schools and graded schools. What then is done for the little district schoolhouse on the hill? Practically nothing. It is the same ungraded system, or lack of system, that it was when our grandfathers went; the only part of our educational system we have ignored, overlooked, and too often, ridiculed for its lack of foundation. The real wonder is that it can do the good it does do.

The country is the best place on earth to raise our boys and girls. The country boy and girl (and also those of our country towns) must strive so hard and must surmount so many obstacles to get an education that others would turn back in discouragement and despair. Why can not these boys and girls have equal advantages with the city boy and girl? Are we doing our duty by staying in the same old rut our fathers made? Is it just to our boys and girls to have a system that fits so few for higher education? I believe we need a first-class educational revival in the country districts. The city takes care of its own; the legislators help the city. Who is there to care for the country districts, if we do not do it? Let us then bestir ourselves to investigate the district school system, and let us begin to build a foundation where there should have been one years ago. Let us consolidate our schools making grades possible. Let us give the boys and girls on the farm a chance equal with their city cousins. We give them too often inferior teachers and short terms. Does not the country girl and boy deserve as good a teacher, as long a term, as good a building, and as good a system as the city child? The country school should be and can be as good. I believe the time is near at hand, when it will be as good. I am convinced the little schoolhouse on the hill must go.

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SMALL SCHOOLS, DISCOURAGED TEACHERS.

In some schools the superintendent finds seven or eight pupils; in others fifty or sixty. In the small school the teacher is discouraged and wishes for more pupils; in the other she has some thirty-five classes—a continuous hum-drum from 9 a. m. to 4 p. m., with about ten minutes each for recitation period. Most of her time is spent in promenading back and forth.

The saddest thing connected with the whole affair is the time lost, the harm that is oftentimes done by having but a few minutes devoted to recitation on a given subject. It needs no argument to convince anyone, that not even a fair beginning can be made in the recitation under such conditions, and this leads to hasty, and superficial study, and thought.

In consolidation no such extremes could exist. Teacher and pupils would work under the most favorable conditions possible. The law requires the superintendent to make one visit to every school per year. With 100 or 120 teachers to visit, who are scattered over hill and dale at from two to three miles apart, would you expect him to supervise as closely as if he had as many teachers in, say, twenty buildings? As the matter now is, full one-third of the superintendent's time is spent on the road between schoolhouses, and he considers himself lucky if he can visit three schools a day. During the balance of the year the teachers must be self-supervising. Under the consolidation plan larger schools would exist, at the heads of which would be principals, whose experience and ability would be much greater than the average teacher's. These would serve as practical assistants to the county superintendent, and thus, daily supervision would become possible.

DISINTEREST OF PARENTS.

Another point which causes the county superintendent many an hour of despondency is the lack of interest in local school matters on the part of parents. It seems of no great concern to some of them whether we have good schools or poor ones for their children, or whether "school keeps or out." I am convinced that consolidation will break up this indifference on the part of the patrons. Local enthusiasm will be aroused by joining our weak districts into fewer strong ones. By means of consolidation, it is possible to bring a twelve-year course within the reach of every home. That means at least four years in addition to what we now have, which is equal to many of our high schools in cities of the second class. These pupils, sent out after four years more of work in their home schools, are better fitted to leave the parental roof, and no doubt, know what they are going to school for, even if away from home. Again, if parents could save the money spent upon boys and girls, by keeping them at home in a school just as good, and use the money later to send them to higher institutions of learning, they can easily find a way to give their children four years more higher education. Our academies and colleges would raise their standard; the preparatory departments could be discontinued; advance work would take their places. Instead of having fewer, we would have more students in our academies and universities. Quite a number of Brown County boys and girls are in higher institutions of learning. Ninety per cent of them are from the city, proving that the grades do more effective work in preparing for the high school than do the country schools.

A QUESTION OF HEALTH.

Health in the district school is a subject that ought to have serious consideration. Too many of our country schoolhouses are not built with a thought of sanitation, and too many of our country teachers are too careless as to the bodily comfort of the child. Too often the ventilation and temperature are wrong in the little schoolhouse. Too often the child with wet feet and damp clothing must sit in an uncomfortable room all day, with smoking stove and bad air to hinder his ten-minute recitations. Hundreds of children in Kansas suffer from exposure and many of them die of their ailments. Some of them must walk, all the way from one to three miles, under the present system. Consolidation will remove the exposure, for warm wagons, enclosed house-like, will haul the children to and from school. This will prevent all unnecessary exposure, and children will be taken to the schoolhouse door with dry feet and warm bodies. These wagons being on time will prevent many tardy marks and absences, and thereby improve the old system, and this system will prevent all quarrelling on the way going or coming to school. The man who hauls the children will be put under

bond to get them there on time, and this would be another improvement over the old system.

ADVANCEMENT.

The age in which we live is one of advanced ideas and improved methods. In a survey of the work's industry we find the housewife no longer sewing by hand, but using the latest design of the reliable machine. Farmers no longer scatter the seed by hand, or cut the grain with a hand-sickle, or thresh it with a flail; but sow the seed with a four-horse seeder or drill, harvest the crop with a wonderful self-binder, and thresh the grain with a self-feeding, steam-operating threshing-machine. The world's correspondence is done no longer with a slow-moving, loud-scratching pen, but it rushes like a mountain torrent from the keys of a typewriter. In any industry we observe that those who fail to economize time and energy, and to produce results demanded by the age, soon fall behind in the race, eventually wander away from the path altogether, and are lost.

While there has been a steady onward movement in higher institutions of learning, yet the sincere educational industry, the industry whereby the intellect and character of our Nation are moulded and developed, should head the list of industries in advanced ideas, logical methods, and up-to-date results. That such is not the case in the rural part of the educational fields, the county superintendent is forced to admit. By reference to facts cited in the earlier parts of this paper, it appears that far better conditions could be established for our districts in regard to study, teaching, supervision, health, and morals. In short, the district plan is on a level with the hand-sickle age in farming.

CONSOLIDATION THE REMEDY.

May we not have an educational revival and awaken to a realization of the situation? Can we not so arouse ourselves as to do something speedily? In fact, I feel that we will do something to advance the country school to where it should be; if the good Lord will forgive us for our neglect, I believe, gentlemen, in the near future we can begin this system; the time is ripe. We know not of what possibilities we are robbing our boys and girls. Let us not hold the almighty dollar so close to our eyes that it will shut out from our gaze the good things beyond. Let us investigate; let us experiment; let us begin now. The time is here; we have already waited with folded arms too long. Consolidation permits grading, and gives more time to recitation, greater opportunities for thoroughness. It gives us longer terms of school. It will make possible better and fewer teachers; it will give the superintendent a chance to visit oftener; it will give a stimulating influence to large classes with peaceable, generous rivalry, calling forth the best talent possessed by each and every one.

Consolidation will lead to better attendance, fewer tardy marks, and less exposure. It will bring us better buildings; better equipments; more books, charts, maps, and apparatus; better ventilation; better morality; and better health. It will arouse the indifferent; quicken public interest; bring pride in the quality of work done; secure better feeling; and in fact, it will help us to see the necessity of an education more than has been done before. It will be a godsend to our rural districts.

Now, while we are talking of grains, fruits, stocks, vegetables, discussing finance and politics, let us not forget the country boy and his future chance to vie with the city boy. You say the country boy excels the city boy in all avocations of life, which is true; but of the full number of your boys, you will find, that only about 10 or 15 per cent raise themselves above the many obstacles hindering them. Too many of them never pass the eighth grade.

What we want is the bright-eyed, rosy-checked, healthy country boy, with manly effort and the sinew from being country-bred, unpolluted by vice and bad habits. What we want to do with this boy is to help him by giving him the advantages of the best school system we have. He is the fellow upon whom will rest our future government. He is the one that is destined to control the successes or failures of the Nation. He is the fellow to whom is entrusted the future school system.

I believe, gentlemen, that if we adopt consolidation our children will praise us; the future school systems will be the better for it. Many yet unborn will honor us for it, and I would appeal to you as one interested in the cause of education to investigate this question. Talk about it to your neighbors. Discuss it around the hearthstone. Review its good and its bad points. Look at it from all sides, and let us as speedily as possible

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decide if it is not the best thing to improve our country schools. Let us lose sight of hogs and cattle and horses and grains for as compared to the boy and his future, they sink into utter insignificance. Then let us honestly, earnestly, and prayerfully keep the boy-raising question predominant, let it precede all other questions in importance.

How Can We Improve the District Schools?

JOHN WILLIAMS.

Oliver Schreiner remarked in a noted article on the African Boer, that "every noted judge or politician, every successful university student, male or female, is the descendant of men and women who, for some generations, lived far from the fretful stir of great cities, where petty ambitions and activities and useless complexities in small concerns tend to wear out and debilitate the intellect and body. Vast cities, as up to the present time they have existed, are the hot-houses wherein the human creature overstimulated tends, unless under very exceptional conditions to emaculate and decay." We have but to study the biographies of eminent men to convince us this is true. We acknowledge also, that the private citizens, having possessed the advantages of a good, rural education, and situated in early years far away from conditions spoken of, are among the most worthy, the most deserving, the most virtuous members of society. Encouragement then, for the district schools! Having the evidence in their favor, the indisputable evidence, their maintenance and improvement should elicit our deepest concern. Whether we have the best system or arrangement possible for the highest good, is not the question for this paper, but how can we improve the district school—the school as it now is?

The greatest good to the greatest number of pupils should be our object. When a proposition is to be studied as to its feasibility and utility, we first view it with reference to right or wrong. Then, should we adopt it, we arrange the details.

TAXATION.

We have adopted the system of district schools—the details we are meeting continually. Given a comfortable house and furniture, situated in a good neighborhood, maintaining the standard is easy, but under adverse circumstances the task is wrought with serious effort. The principle that all property should share the burden of taxation for the education of the youths of America, is the foundation upon which this Republic stands. And upon this foundation the greatest vessel the world has ever known has been built. "The Ship of State"—our Republic.

Now, as this great vessel depends chiefly upon taxation to keep it seaworthy, these taxes collected should be distributed for the common benefit. The taxes collected from railroads and corporations in our State should be paid to the State Treasurer, then distributed among the schools of the State, as the interest of the State school fund is distributed. The equity of this will at once be admitted. Examine your tax receipts, and note that one district may pay the highest wages, may have maximum length of term, in fact, may be extravagant in its expenditures; while an adjoining district with its highest exertion, is able to have only the minimum length of term with the lowest wages for teachers and expenses curtailed, and this, to the disadvantage of the youth in this particular neighborhood. Now, as the blessings of education should fall upon the youths of the State alike, I can see nothing but selfishness sustaining the present plan.

TEXT-BOOKS.

Another benefit for the district school, in my judgment, is district ownership of text-books. This proposition may be one which has details so clumsy as to appear unmanageable. However, better acquaintance with the subject, in short, a trial, will be the best argument, pro or con. The writer talked with school-boards and patrons in five districts (after having studied and calculated the cost of such ownership), preceding our last school-election. Four districts of the five adopted the system on school-election day. Beginning with the theory that each pupil deserves all the necessities required for the day's work, and that these indispensables should be on hand the first day of the term, I argue that such a condition has in its favor the following good reasons: First—It insures an even or time start with advantages the same to each pupil. Second—The cost is less when procured in quantity. This is true, especially as to crayon, tablets, writing paper, pens, pencils, etc. Third—The teacher enjoys this condition. How different when a week or ten days have passed to know that a part of the pupils are not supplied! How embarrassing, too! A short experience along these lines has been collected from teachers, school-boards, and patrons in these four districts having adopted it. The cost, the first year, is about \$2 per student, including crayon, tablets, pencils, writing papers, etc., for a term of eight months. A district with taxable property amounting to \$40,000 may supply forty students, buying new books and supplies for \$80, or a 2-mill levy the first year. One mill in future years will supply the school abundantly. The taxes of the person who pays taxes on \$1,000 to \$1,500 valuation, with district ownership, would amount to \$1 or \$1.50 per annum. Nonresident land and all

taxable property help to bear the burden. The proposition is so reasonable, so equitable, so beneficial to the rising generation that it invites the attention of the public to a thorough consideration of the subject.

VISITATION OF SCHOOLS.

The school law provides for visitation of the school by the board. Too often it occurs that this duty is neglected. A penalty should go with this law, disqualifying any board or any member who fails to comply, on the ground of gross neglect of duty.

THE SCHOOL BELL.

The school bell, some may say, is a useless expenditure, and unnecessary. A trial will silence their objections. Its music, its cheer awakens an interest through the neighborhood. When your children are at school the bell gives you cheer; when absent, it reminds you every day at 8 o'clock of your duty. We have a historical bell, called "Liberty Bell," belonging to our Nation, valued more highly than any vessel in our Navy. The school bell is another "Liberty Bell," which we believe is worth more, except on certain occasions, than our whole Navy.

The sheep-bell and the cow-bell of my boyhood days, the bell on the first train I ever saw, the little bell in the school ma'm's hands are not remembered with deeper pleasure than our children will remember the musical tone of the liberty bell upon the pretty little district school-houses in the State of Kansas.

HOT-AIR FURNACE.

The schoolroom should be heated with hot-air furnace. The furnace need not be expensive. Mr. Joss, of Fairview, has recently put a furnace in his cellar which heats two large rooms—the one a hardware, the other a furniture room—at a cost of \$275. He thinks to heat an ordinary schoolroom, the furnace need not be more than one-half so expensive. Wood or coal can be used for fuel. Knotty or rough wood is good as any. A furnace is not dyspeptic, but consumptive. Points in its favor are: First, the even temperature, and healthy circulation in the room; second, cheapness of fuel as compared with stoves; third, convenience in keeping the fire going; fourth, more room in the house, room clean, danger from fire reduced to a minimum; fifth, comfort for teacher and pupils, with less danger of fevers, colds, dizziness, and affected sight.

Given good rooms, equal tax distribution, district ownership of text-books, good school-boards, good neighborhoods, and good teachers, we have the district schools improved. Mark these goods. We, in the country, seldom get such a number of them, but let me insist upon procuring that good teacher. We may have all the other necessities, and as good children as created; but without that good teacher, our district schools are highly expensive, our object for which we are striving—the education of our children—cruelly thwarted, and our purpose broken. Let us make no mistake here. We should speedily make reparation. Higher qualifications for the teacher with better wages, and better support will divert her from a change of employment, or from seeking a position in the city schools. The pay will make the one position lucrative as the other.

Paul said: "And now abideth faith, hope, and charity, these three; but the greatest of these is charity." So we of experience agree, though we have every other factor needed, that the teacher is the greatest. Mantled with glory is the Kansas teacher. She has placed her name high on the pinnacle of fame and intellectual greatness. She is the brightest zone upon the world's map. The citizen-maker of Kansas. Improve her condition alone, and the district schools are improved. "Ad astra per aspera" is our motto. To the stars through difficulties our choice.

The Hog from Pig to Market.

G. H. NORTON.

It will be seen by the market reports that pigs as well as hogs are quoted. This means that everything in the hog line that will sell at all is being sacrificed. The venerable brood-sow, the shoat that is blossoming into glorious hog-hood, the prize hog, and the runt, everything that will make sausage, is being sold, because feed is high. It is the opinion of the writer that the inevitable consequence of the now-existing conditions is that there will be an unprecedented shortage of hogs next fall. And as sure as cause and effect are related to each other, the price of hogs will be as remarkable as the price of corn is now.

If you have to sell most of your hogs, keep the old sows, for, remember, it is the two-legged hog that makes the mortgage and the four-legged hog that pays it. In selecting brood-sows, the writer, with his experience, would select large-boned, long-bodied, lean or slab-sided sows. They have more abdominal capacity, will farrow a much larger litter of pigs, and are less liable to over-lay them, than the broad-backed, heavy-quartered sow. Witness that the prize-winning Tamworth hog of England to-day is very much on this order. I would select a male with large bone, long body, broad back, and heavy quarters.

It is supposed that the average farmer has suitable conveniences, such as lots and houses, for raising pigs, but for those that have not, a very warm and cheap hog-house can be built by baling old straw

for the walls, and common boards for the roof.

The time for farrowing depends largely on your conveniences. Give the sows the run of a lot, large enough to give them all the exercise they need. When you put them up to farrow, by all means, put a ring in their noses; it will keep them from rooting their nests about and covering the pigs up, and then lying down on them. After the pigs are old enough to follow the sow, let them out in the lot every good day, for sunshine and pure air are as necessary to their growth as their food. If you have clover or alfalfa pasture convenient that you can turn them on, so much the better. After the pigs are weaned comes the tug of war. If you have no pasture, fence off some. That is the time they need it most. Soaking corn does not add to its feeding value, but it does to its palatability; consequently, more corn will be consumed by a pig if soaked than if fed dry; therefore, to increase the amount consumed and the more rapid growth of the pig, it pays to soak the corn.

After the pigs are old enough to put in the pen to fatten, they should have supplementary succulent feed. Nothing supplies this in more appreciative form than roots. Hogs can not live on ashes, salt, and lime; but these are things that every man can, and should, furnish his hogs. It saves feed, aids digestion, tones the system, increases the amount of gain per amount of feed consumed, and will guard against disease. These items are inexpensive, or practically so. All the rubbish of the farm, the cuttings and trimmings from hedge row and orchard, cobs, and other rubbish can be utilized.

The Hog from Pig to Market.

J. B. DAVIS.

This is rather a unique subject for an essay before such a gathering as this; and methinks more so, from the fact that all you farmers and stockmen know everything about a hog, whether he be black, white, or red, and whether he buttons his coat around him when he goes out upon the street, or whether his coat needs buttoning.

THE CROWNING GLORY.

I remember, when I was a school-boy, of reading an eulogy on the American, and especially upon the United States. It brought out the thought that education was the crowning glory of the United States. The author concluded with some such statement as this: "When oblivion shall sweep over this land, and the United States shall be no more, then the historian will dip his pen into a gorgeous bottle of blue-black ink and write: 'Education was the crowning glory of the United States.'" I must admit that I felt the force of that argument at that time, but now I am convinced that had that writer lived in this day and in the great corn-belt of this great United States, he would have written that "Raising hogs is the crowning glory of the United States." Not long ago we read of a farmer selling a large herd of hogs. What for? To get more money, to buy more land, to raise more corn, to feed more hogs. Thus he moves around the circle, selling more hogs, to buy more land, to raise more corn, to feed more hogs, until the raising of hogs is his crowning glory. May be the reason you have given me this subject for discussion to-day is that I usually have plenty of hogs, and they are always rustlers.

AS TO SURROUNDINGS.

My methods are as simple as I can make them, and if I could make the hogs feed and care for themselves I would do it. We seldom think that the surroundings of a hog have anything to do with his condition, but did you ever think how far behind the times this item brings us? Did not the first great stockman we know of take advantage of this one thing to gain for himself all of the best animals of his father-in-law's herd? I refer to the contract between Jacob of old and his father-in-law, Laban. Perhaps it is to this incident that the two great beef breeds of cattle are indebted for their white markings. If you wish to become acquainted with this story, read the last half of the thirtieth chapter of Genesis.

Make the surroundings as comfortable and thrifty as possible, for a hog will not grow fat from looking into empty corn-bins, nor pigs grow plump and healthy from a scanty trough three times a day. Well, the topic says from pig to market, so we will start with a pig. Perhaps we will be called to order before we find a hog. And now we are in a dilemma, for how can we get our pig unless we have its mother, and then we will have a hog on our hands.

THE PIG.

Well, then, here we are with a fine nest of pigs, and they are all red or black. As we want to raise them well and grow them rapidly, we must feed them the best we have, so we will feed them best we have and all they will eat three times a day. But we are disappointed. We expect to have them plump and fine for such good care, but the little fellow's coats are too large and wrinkled on them, and the mother refuses to eat what we put before her. What is up? We must use as much judgment in feeding our sow, especially for the first two weeks, as we would in feeding a threshing machine. Do not cram. You may be able to raise your pigs after you have them in this condition, but they seldom make thrifty, profitable porkers.

DISEASED KIDNEYS

Cause more deaths than bullets. Their symptoms are not alarming, hence they are neglected and quickly become dangerous.

Prickly Ash Bitters

Is a kidney medicine of great value; it strengthens the kidneys, allays inflammation, eases backache and arrests the progress of the disease. It is an honest remedy that can be depended on.

AT ALL DRUGGISTS,
PRICE, \$1.00.

"Eternal vigilance is the price of liberty." Until your pigs are two weeks or more old you must not overfeed or starve the machine that supplies their nourishment. Some advise tempting the little fellows to eat as soon as possible, but we find that when they need more than the dam can supply, they will look around and try to find it. Then put some sweet milk or a little wheat where they can find it easily, and they soon learn to look in the same place at the same hour for it. If you feed regularly the pigs will be on hand at that time.

Now, if you have kept them thrifty up to this time, they are about a month old. We always keep them growing as rapidly as they can until we have them weighing 200 pounds or better. Then, if the price is good, we sell them, for it is time to market them; and our plan is to put our pig down into the pocket of our jeans, or take him to buy more land to raise more pigs.

How to Increase the Profits in Wheat-raising.

WILLIAM HEIMLICH.

This is a hard question for me to answer, as my experience in wheat-culture is very limited, not having raised wheat for a good many years until three or four years ago; but I have learned that the only way that I can raise wheat is to have a good seedbed. How to get this is sometimes a very serious matter with me, as some of our falls are so dry that to do a good job of plowing is almost impossible.

I find that early plowing is the best, although I have seen better wheat grown on late plowing than on early, but think that was an exception. Still I do not think that plowing has as much to do with a good crop of wheat as the condition of the seedbed at sowing time. This I find out on my own field, this year. Some was plowed as early as we could plow, and then the ground got so hard we quit, and did not plow until later on. We got the ground in good shape, and to-day the wheat looks as good on the late plowing as on the early. I have followed the plow with the harrow, harrowing every half day what we plowed; and I have also harrowed the ground two to three weeks after it was plowed, and never saw that it made any difference in the crop. The main object, with me, is to get the seedbed as fine as a garden. I think that the harrow ought to go ahead of the drill; by this, I do not mean to have the harrow just ahead of the drill, but there ought to be no rain on the newly harrowed seed-bed before the drill is used. I get a better stand, and it seems to me it grows better, when put in newly harrowed ground.

This fall my neighbor plowed a piece of wheat-stubble early. It broke up very cloddy. He let it lay until nearly seed time; then he harrowed it twice, but it was still very cloddy. He sowed about the same time as I did, but to-day you can hardly see his wheat. I lay it all to not getting the seed-bed in proper shape. I would rather have one harrowing when the ground is in proper shape to harrow,

and with me that is after a rain, just as it is beginning to dry, than two or three harrowings when the harrow has to jump over clods. I believe ground can be packed enough for wheat when the ground is in shape to harrow, and I am done trying to prepare a seed-bed in dry clods. I sow one and one-half bushels of wheat to the acre, about September 15 to 20. I have sowed the last two years with a disk drill, and am well pleased with the work it does; but this does not answer the question how to increase the profits in raising wheat.

The only way to increase the yield that I know of is to be more careful in putting in the wheat, and also in handling it after we have grown it, trying to save all and let none go to waste. One of my neighbors and one of the largest wheat-growers, plows his ground early, then lets it lie until about time to sow. A few days before he sows he harrows the ground until he has a fine seed-bed, and he grows as much per acre as any wheat-grower in the county. I asked him if it would not be better to harrow early and oftener. He said, "I have trouble in my ground getting packed so hard by constant harrowing, a hard dashing rain comes on, or a long spell of wet weather; and then I have to disk my ground. While if I leave it in the rough state as the plow leaves it, I can harrow it down fine if I take it in the right time." I have never seen this farmer fail to raise a good crop of wheat.

One other neighbor, a man that sows sixty to eighty acres, takes just the opposite course. He plows early and keeps the harrow going until seed-time; and he raises as much wheat, in proportion to the fertility of his farm, as any farmer.

Can the Brown County Farmers Raise Cattle and Horses Profitably in Competition with the Western Ranges?

JOHN A. DAVIDSON.

With judicious breeding and feeding and a short cut to market we answer yes. In answering thus, I am well aware of the fact that some will say our lands in Brown County are too high in value, that if we count the interest on the valuation of our land, we would fall behind in the competition. I would answer this by asking a question. What is it that makes Brown County land so valuable? Because the people have found it out that Brown County land will successfully compete in production with any county in the State. And we believe that Kansas can produce with any State in the Union.

There was a time, since I first came to Kansas, that Brown County seemed to be lost sight of. The settler seemed to jump clear over Brown County and go farther west. You understand that Kansas is about 400 miles long and the immigrant coming into Kansas was going to Kansas. He had not the time to stop and look for a home way over in the northeast corner of the State, in a little county called Brown. What was the result? Not long afterwards they came swarming back, willing to give most any price for a piece of Brown County land. Why? Because they had heard of the Garden of Eden, the Egypt of Kansas. And this is one reason why Brown County land is so valuable to-day.

DIFFERING CONDITIONS.

The time was once when a man could take a small herd of cows, go out on the frontier and with a lariat, a branding iron (and a flexible conscience thrown in), and in a few years gather together a large herd of cattle. But let me say to you today, that day is a thing of the past; that day has past into history. The home-seeker, the small settler, has gone out there, hence the breaking up of the large herds. The same might be said of horses; so that the packer, the horse-buyer, in a very few years, will be compelled to look to the farmer, the small ranchman for his horses and his beef cattle.

Let us look for a moment into the workings of a ranch, its ups and downs in producing cattle and horses for the market. Ranchers depend, almost entirely, on the grass. They sometimes put up a little hay to carry their stock through a snow-storm; sometimes they have plenty if the winter is not very severe, and when the winter is past, if they have not lost over 5 per cent of the herd they count this extremely lucky. But on the other hand, if the winter is very severe and there is a great deal of snow, the cattle, in a great many instances, have to stand up against a barbed-wire fence for protection from the cold, bleak winter winds; and what little they get to eat they must root in the snow for. Then in the spring you hear from the ranchman; he has lost from 10, 20, 30, and sometimes as high as 50 per cent of his herd. So you see if he has only lost 2, 3, or 5 per cent of the herd he puts that down as profit; if he loses 50 per cent he puts that down to loss. He therefore expects to lose some of his stock in the winter. Hence in computing his income, he takes cognizance of his losses as well as his gains. His cattle come through the winter poor and emaciated in flesh. It takes half the season to put them back in good growing condition, and as a general thing, the most he expects to do is to get his cattle in shape to ship in transit to some farmer in good old producing Brown County or some other one, to fit them up for the market.

They are at this time from 2 to 3 years old; have never seen an ear of corn in their lives; generally poor stock; razor-backed, flat-ribbed, narrow, contracted,

mullet-headed. Now if we can make money feeding such cattle, can we not make a much better profit feeding our own good stock, that are gentle and ready to pile on fat? Let reason and experience answer.

RANCH HORSES.

In regard to ranch horses we have had some experience the past two years with them. Thousands of them were shipped into the State and sold to the unsuspecting farmers. In the first sales, the ranchman did exceedingly well in deceiving the farmer and selling a lot of little, gnarly, knotty horses (if it is proper to call them horses), that had no more intelligence about them than a Texas steer. And I am sorry to say that the honest, unsuspecting farmer was willing to listen to wily rancher, and be duped by him, paying good prices for his stock. The result was that the rancher unloaded thousands of his ponies on him, and he has them on hand to-day willing to dispose of them at most any price he can get.

The rancher did so well at first, he thought he would try it again. He brought more of them last fall but by that time the farmer had learned a thing or two, and from \$2.50 to \$5 was about all the rancher could get offered for them. If I had an abundance of pasture I would be loath to pay \$36 per dozen for them. I would feel that I had a dear bargain at that. For my use, I would not give one good, intelligent colt, raised on a Brown County farm, for one dozen of such stock as have been brought in here from the ranches for sale.

BREEDING AND FEEDING.

Now, as I said in the start, by judicious breeding and feeding, with a short cut to market, the Brown County farmer can successfully compete with the Western ranchman in producing beef-cattle for the market. There are hundreds of tons of straw and roughness of different kinds that goes to waste on the farms of Brown County every season, that if properly cared for would winter hundreds of cows more than we have.

Let us draw a picture. Suppose each farmer owning 160 acres of land would manage to keep say from twenty to thirty cows which I think can easily be done; get as high-grade cows or heifers as you can get. Then go to some of our fine stock breeders and buy a leader, not being content with any but a full-blooded, registered animal. I prefer the Shorthorn, with the white face as a good second. Others may think differently, but whatever kind you get let him be of pure blood.

Don't be content with a grade unless you can not help yourself. Always move forward, not backward. And if you find an animal that suits you in every particular, do not stand on a few dollars. Remember you will more than make up the difference in your herd.

RAISING THE CALVES.

When your calves are ready to wean, grind some corn, and just before you wean your calf teach him to eat. This is a very easy, simple matter. If you feed his mother a few times, the calf will very soon learn to eat with her. He is now ready to take from the cow. Continue to feed him until he goes into market. If your calf is a well-bred animal you can make him weigh 900 pounds and over at a year old. By the time he is 18 months old he is ready for market, weighing from 1,200 to 1,400 pounds. You can in this way make more money off of a calf, considering the amount of care and feed given, than you can make in any other way or any other time of life of the calf. I have tried to point out the way that if the farmer of Brown County will follow he can successfully compete with the Western ranchman in producing beef-cattle for the market. Such as we have pictured bring the highest price; sometimes from one-half to one cent per pound higher than the range cattle will command, and if the range cattle are not fed in transit they will bring two cents more, unless the farmer gets crazy, as he did not very long ago, and pays more for feeders than he could get for them fat.

In conclusion, I would say, Let us go about our business in an intelligent business manner. Let us not let a calf lose a pound from the time he is weaned until he goes into market, and remember that while the range calf in winter is losing a pound our calf is gaining a pound. We are thus ahead two pounds in the competition.

You will find by judicious breeding and feeding that you can successfully compete with the Western ranchman in producing cattle and horses for the market, every day in the week, every week in the month, and very month in the year.

Do Farmers or Town People Derive Any Benefit from County Fairs?

GRANT W. HARRINGTON.

I once had a room-mate at the State University who was continually asking the question, "Does it pay?" He discouraged the proposition to run a college paper because it did not pay. He knocked on the literary societies because they did not pay. He opposed the athletic organization because it did not pay. He quit the university because it did not pay. Eventually he decided it did not pay to keep up the struggle with the world and died in an insane asylum.

My college friend was a typical knocker. He was narrow, selfish, and small souled.

The almighty dollar was his god. There was nothing broad, liberal, or public-spirited about him. As long as his selfish wants and desires were satisfied, he cared nothing about his surroundings. He valued the student organizations only so far as they contributed to his material welfare. He cared nothing for them as factors which shaped and molded the characters of his fellow students.

My college friend was of a type too often seen; he is to be found in every community. Where his influence predominates, the community stagnates. Where he is sent to the rear, there is bustle and activity. Go into the community where the knocker is below par and you will find people vying with each other to see who can produce the best cattle, the fastest horses, and the best grade of swine. You will find well-tilled farms and handsome improvements. You will find the towns tearing out the wooden buildings and replacing them with brick. You will find water-works and electric lights. You will find people taking pride in the public schools. You will find them maintaining public libraries and enlarging churches. You will find people ready to back any proposition which tends to make their community a better and more desirable place in which to live. If the county fair does this, then it pays, no matter what the knocker may say to the contrary.

AN ADVERTISER.

I have a friend who every little while recites to me this couplet:

The man who whispers down the well,
About the things he has to sell,
Will never reap the golden dollars
Like him who climbs a tree and hollers.

Why is it that wherever you go in the State of Kansas, you hear the expression that Brown County is the best county in the State? Why is it that outsiders are coming here eager to buy Brown County land at \$30 an acre. Doniphan County has just as good soil, so has Atchison County, but they are not in the same class with Brown County. Why is this so? Is it not because Brown County has been up in the tree, crying her wares? For more than thirty years the fair association has been advertising the advantages of the county. It has published to the world the fact that Brown County products would be on exhibition and has defied the world to come and beat them in open and fair competition. Your stock-raisers have been put upon their mettle and have used their best endeavors to increase the good points of their herds in order to keep the blue ribbon at home. Local pride has been stimulated and just in proportion as this pride has grown, the scrub steer and the razor-back have given way to the whiteface, the Shorthorn, and the Poland-China hog. The fruit-raiser has been stimulated to raise a bigger and better apple and a more luscious peach than his neighbor and so year by year the inferior varieties have been pruned out of his orchards and their place taken by something better. Better stock has demanded better barns and better facilities. These in turn have demanded better farming. Better orchards have made increased revenues and more comforts. County pride has been supplemented with neighborhood pride. I know of one road-overseer in the neighborhood of Hiawatha who prides himself on the good roads in his district and who invariably warns the tax-payers to put the roads in shape a week before the fair in order that the visitors who travel over that road may see that his district still heads the procession. All of these things have tended to strengthen us in the belief that Brown County is the best county in the State. It has tended to make our people happy and contented. They have not wanted to sell out and move away and any one who has wanted their land has had to pay the price. Brown County land is worth to-day from \$5 to \$10 per acre more than it would be, were it not for this local pride.

Your fair association has done as much as any single agency in producing this result. I grant you that there is one class of men that it has not paid. That is the stock-holders of the fair association. The old association, formed in 1864, spent its money and fell. It was merged into another association with increased capital stock, which finally lost the grounds at a sheriff's sale to satisfy a real estate mortgage. The association which now owns the ground went up against a \$700 deficit last year. Its stock-holders are still suffering from that tired feeling. They still believe, however, that the fair association has paid Brown County, and they are going to try it once more and see if they can bring more of you farmers to their way of thinking.

THE SOCIAL FEATURE.

There is another feature of the county fair that is important and that is the social feature. Here old-time acquaintances meet and shake hands and inquire about absent friends. Old settlers who have not seen each other for twelve months find genuine pleasure in getting together on occasions like this and telling each other about the terrible drouth of 1860 and the grasshopper raid of 1874. They have their dinners together and enjoy a social feast. The boys and girls are better off because of two or three days' recreation. They absorb new ideas and take up their work on the farm with renewed vigor.

The secretary of the State Board of Charities in the short talk he made here on the first day of this institute told us that isolation was a breeder of insanity and that investigations made at your State



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institutions had shown that insanity among farmers' wives was greatest in sparsely settled communities or where the wife was deprived of the benefits of social enjoyments and that it decreased in proportion as this useful concomitant of daily life was supplied. This is important, if true, and should stimulate every farmer to give his family more of this intellectual diet. The county fair is the only organization in Brown County which brings the whole county together. Where can you find a substitute for it that will approximate it in a maximum of enjoyment at a minimum of cost?

More should be made of this social feature of the county fair. There should be an old settlers' association in connection with the fair and the annual reunion and harvest-home features so popular in some localities should be emphasized. Prizes for the oldest settler on the ground, the largest family, and kindred prizes would stimulate this interest. The machinery for all of these is here. It is left with you to determine how much you will make of it.

EDUCATIONAL FEATURES.

There is another feature of the fair that more could be made of, and that is the educational feature. You farmers meet in this institute and pat each other on the back and declare you are the most progressive farmers in the county because of the new ideas you have absorbed. You tell each other here about the things you are going to raise this year and the new ideas you are going to put into practice. Why not have a special session next fall in connection with the fair and there prove the correctness of your theories by exhibiting suitable specimens of your skill and industry. The best live stock in the county will be on the grounds. We are all interested in knowing that G. Y. Johnson's bull, Prince Edward 71177 carried off the blue ribbon in his class but how many of us know why the expert judge picked this animal out as a prize-winner? A school of instruction should be carried along with the judging. The boys should be taught what the good and bad points of an animal are. They should know the essentials and non-essentials. They will not learn these things from the books. They should see the animal scored and be told why this point counts four and the other one three. They can not learn these things from the books. They must be shown. Knowledge of this kind would certainly be of the utmost value to farmers' boys and probably of some value to you farmers, even though you are at the head of the procession now.

These are some of the things that are and can be accomplished by the county fair. If you belong to the class of knockers, you will say at once that it does not pay; that it is money wasted; it is a back number; it had better be dropped. If you are wide-awake and progressive, you will want the fair continued. You will not only want the fair continued, but you will be willing to help carry the load. Do not get it into your heads that the fair is a Hia-

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watha institution. Hiawatha profits by it only incidentally, just as she profits by the reasonable rains which give you an increased crop. Anything that brings people to Hiawatha and makes this a center of activity benefits the town but the fair is primarily a farmers' institution. You can not keep it up unless you are willing to pay for it. It is not self-supporting any more than are your schools and churches. It can not exist on sentiment unless that sentiment is backed by patronage. The stock-holders are getting decidedly weary of playing the role of disinterested, public-spirited citizens, and unless you farmers get behind the fair association and support it willingly and liberally, it will quit business. It took the hardest kind of work to bring the association into line this year. The effort will not be made again should the farmers show they do not care whether it is maintained or not.

Do the Farmers or Town People Derive Any Benefit from Exhibits at County Fairs?

PETER PFEIFFER.

You might just as well ask me if you derive any benefit from farmers' institutes or from common schools or church organizations. All these are beneficial to mankind as they elevate us to a higher standard of civilization. The exhibits at the county fairs are generally the best the county produces. In the ladies' department you find all kinds of needle work, all kinds of preserves, bread and butter, cakes, pies, etc., so if any one wishes to find out how to improve their own work, here is the place to find it. In the fruit department you can learn the proper names of the fruits, also find out what kind of fruits are best adapted to the country and what fruits are best to eat. In the vegetable department you can learn how certain vegetables are produced and how insects are kept from destroying the different plants. You can go to the grain department and see all kinds of grains which you can compare with the kind you raise, and see if your seed is as good as these; if not you know where to get better seed. I remember a few years ago two Brown County farmers sent to Minnesota for seed-wheat. After they raised it they exhibited it at the county fair and it proved to be a good quality, yielding more per acre than any other wheat in the county. The result of that exhibit is that to-day there are thousands of acres sown with this wheat.

In the poultry department you see different breeds of poultry, and you can learn the proper names of the breeds and what breeds are best for selling or laying. In the stock department you see sheep of different breeds, and learn which is the best mutton sheep, and which is best for wool. Sheep-owners who exhibit at the fair will kindly inform you what kind of a sheep is most profitable. In the swine department you see the improvement in breed; by learning who these successful swinemens are you are able to know where to go when wishing to improve your herd. In the cattle department there are cattle with horns and without horns, some especially for beef, some for dairy purposes. From these you can learn the good points on the beef-cattle and the good points in the dairy-cow, but it takes more of an expert to tell the good points of the dairy-cow than it does of the beef-cattle.

By your acquaintance with these cattlemen you are able to buy and sell cattle at a better advantage. It is far better to buy of the home breeds, for cattle brought from some other part of the country will have to be acclimated before they are any good for fattening or breeding. You also see all kinds of machinery, for the latest and best machinery is generally at the fair. You see the improvements and thereby you are able to be informed of the latest improvements. We are a progressive people; thus making it all the more necessary that each one of us should be well informed on these points.

The best of all is the social gathering of the people where they can meet once a year, and talk with each other, and gain some good information.

A few of the people say the fair is the same old thing; they forget that most of the exhibits are things which have been raised that year in the county.

It is also true that a great many never go to the fair yet they receive the benefit, for the influence of the fair is like the influence of our schools, churches, and societies; though we may not go to these gatherings yet by their existence the standard of civilization is raised and although some rebel, a few are not able to bear up against the mighty force and power that surrounds them.

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Grange Department.

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

Conducted by E. W. Westgate, Master Kansas State Grange, Manhattan, Kans., to whom all correspondence for this department should be addressed. News from Kansas Granges is especially solicited.

NATIONAL GRANGE.

Master.....Aaron Jones, South Bend, Ind. Lecturer.....N. J. Bacheller, Concord, N. H. Secretary...John Trimble, 514 F St., Washington, D. C.

KANSAS STATE GRANGE.

Master.....E. W. Westgate, Manhattan. Lecturer.....A. P. Hearson, McLouth. Secretary.....Geo. Black, Olathe.

The July Picnics.

Patrons, do you want Brother Aaron Jones, Master of the National Grange, Prof. Cottrell, and Miss McIntire, professor of domestic science in the Kansas State Agricultural College, to address you at your annual picnic in July? The expense will be the local entertainment of the masters of National and State Granges and as much towards railroad fare as your financial condition will allow. The representatives of the college will cause no expense to the grange.

A similar notice was published some weeks since, and only one application has been received. It will be necessary to make arrangements as soon as possible, as a great deal of correspondence is necessary before a full program can be made for the field meetings July 17-28 inclusive.

With the increased interest now manifest in the subordinate granges and from those outside our gates, it seems that there is encouragement for greater results from the presence of the National master, than there has been for many years. Four granges have been added to our roll since the last State meeting, and many subordinate granges are receiving large additions to their membership.

The fields appear to be ripe for a harvest, and when we have an opportunity to secure such a harvester as Master Jones all should strive to secure his services.

The masters and deputies of each county should consult together upon the matter and inform me of their conclusions very soon. E. W. W.

Grange Discipline.

Some patrons think there is too much red tape and formality in the work of the grange, and this complaint is not limited to Kansas. Michigan is one of the most prosperous grange States, and yet there appear to be some drones in the hive even there. The following advice is given to them by Brother Butterfield, to all of which I say—amen.

"One of the most efficient and earnest grange workers in Michigan writes us protesting against the lax usages prevalent in some granges, such as members leaving the room whenever they choose, without going before the overseer, etc. We join heartily in this protest. The rules of procedure in the grange may seem to some foolishness, but they are foolish only when disobeyed. Why does the Legislature have rules? If it had none it would be but a mob. So grange rules are absolutely necessary in order to maintain the organization. Grange rules are made to be observed, and no grange is doing its true work when it becomes careless in this particular. Moreover, to fail in observing grange rules is to commit suicide. It is as sure a fate that the grange which is lax about grange procedure will soon grow lax about the program, about the business interests of the grange, and finally you will have a dormant grange. It is the duty of the officers of a subordinate grange to post themselves on the proper methods of doing business from the time when the master calls to order until the chaplain pronounces the benediction, and to correct without hesitation, any member not observing the rules. The overseer should never permit a patron to enter or leave the room while the grange is in session, except by the proper method. This is the first duty of the officers—that is what they are for, and no grange can long prosper when the officers sleep at their posts."

The Grange.

The grange as a whole is a grand and good organization because its work pertains to the every-day welfare of the farmer and his family socially, educationally, financially, and influentially. Notwithstanding its far-reaching possibilities each local grange is just what the members make it. Organization in a country neighborhood will aid its members but little if the designs of the organization are not carried out. Each local grange has it in its own power to have a strong and prosperous

grange or a weak and dormant one. Each grange must itself work out the possibilities of the order for local benefit. The founders of the order have formulated the plans, but it is left for each grange to execute them.

GEO. B. HORTON.

Master Michigan State Grange.

Murdock's Microbes.

In local newspaper controversies there is often bitterness, sometimes brutality, generally much that is commonplace. But the following from the Douglass Tribune with regard to Col. T. B. Murdock, of the El Dorado Republican, resists to the dignity of satire and is entirely worthy of Hon. Joe Satterthwait, the Quaker editor of the Tribune:

"It was two or three years ago that T. B. Murdock, editor of the El Dorado Republican, announced with much assurance that the office-microbe that had dwelt in his inward parts was dead—very dead—and would never be resurrected. He did not know, however, that the office-microbe is intensely immortal, indestructible, imperishable, and won't stay dead under any circumstances. Ghost-like it rises up and asserts itself though cruelly killed, pulverized, and then cremated.

"In a recent issue of his daily he announced that he is a candidate for Congress, and submits a statement to the voters of the district. He admits that he would take some other office, if he could get it, but says he would not have such offices as he could get. It is poor policy to talk so. The man who has the microbe should be willing to take anything he can get. You can not appease the office-microbe without office. It is like the Indian's appetite for strong drink—nothing short of strong drink will satisfy the longing. If the Indian can not get whisky, Jamaica ginger, red ink, the fluid contents of a galvanic battery, bottled lightning, the extract of hell-fire, or anything will go, but something must be had. So it is with one tormented and afflicted by the microbe.

"He admits poor prospects for a nomination, but the revived microbe urges him on to the yawning gulf of defeat.

"He admits poor prospects of getting a delegation from Butler County. He seems to have a clear conception of some conditions—conditions that would discourage and dismay one not goaded on into the gloom of reverse by the pitiless, powerful microbe. But he is mistaken about being a candidate. It is a night-mare-like effect produced by the workings of the microbe.

"We all like Editor Murdock—nearly everybody likes him. People love to read after him, people love to look at him and it makes his friends sad to see him in the hopeless bondage of the microbe.

"But what can we do? What can be done for anyone who has within him the imperishable microbe?"

At the Kansas City Market.

There is probably no live stock commission firm that does business at the Kansas City Stock Yards that can give you better service in the way of selling or purchasing stock than the Union Live Stock Commission Company. This company has a corps of competent men in all of the departments of the live stock trade. It furnishes market reports free upon application.

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When a woman is sick she falls off in looks. This is particularly the case when she suffers from diseases peculiar to her sex. Not only is her strength undermined, but she loses beauty of face and grace of form.

It is characteristic of the cures of womanly diseases effected by the use of Dr. Pierce's Favorite Prescription, that with restored health there is a restoration of good looks.

"Favorite Prescription" establishes regularity, dries weakening drains, heals inflammation and ulceration and cures female weakness.

"I wish to thank you for the good your medicines have done me," writes Mrs. Mac Brown of Canton, Fulton Co., Ills. "I was troubled with female weakness and doctored with several different doctors. They did not seem to help me; indeed I got worse all the time. I had ulceration and displacement of the uterus. What I suffered no tongue can tell. I had heavy bearing-down pains and thought my back would kill me. I also had a very bad drain, but after taking five bottles of 'Favorite Prescription' and three of 'Golden Medical Discovery,' I am feeling as well as ever. It has been almost two years and I have had no return of the trouble. My friends tell me I don't look as though I ever was sick."

Dr. Pierce's Common Sense Medical Adviser, paper covers, is sent free on receipt of 21 one-cent stamps to pay expense of mailing only. Address Dr. R. V. Pierce, Buffalo, N. Y.

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Better call on your dealer for a pail of SECURITY STOCK FOOD at once—don't forget the name—SECURITY—for every day you put it off you are neglecting true economy. All our goods are guaranteed satisfactory or money refunded, so you take no risk.

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When writing our advertisers please mention KANSAS FARMER.

In the Dairy.

Conducted by D. H. Otis, Professor of Dairy Husbandry, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

Arrangements for the State Dairy Association.

RAILROAD RATES.

All railroads have granted a one-and-one-third rate on the certificate plan. These rates apply during the week of judging dairy-cattle, beginning March 3, and are good returning until March 11.

ARRIVING AT MANHATTAN.

We hope all visitors will, as far as possible, arrive during the day, and not on the midnight trains. However, we expect to have one of the dairy students meet every train and direct people where to go. In case any of our plans miscarry, and a train be missed, visitors should take a hack and go to Park Place, about fifteen blocks from either depot, where some one will be stationed day and night to answer questions and show visitors rooms and boarding places.

HEADQUARTERS.

The secretary's office, in the main building of the college, will be headquarters for the association during the day and evening sessions. Hotel headquarters will be maintained at the Park Place, five blocks from the foot of the college walk.

RATES.

Board and lodging can be had at the Park Place for \$1.50 per day. No reductions will be made for meals taken outside. Board and lodging can be had in private families for \$1.00 per day. Single meals can be secured for 25 cents per meal. Dinners can be had on the college grounds for those who do not care to return to town.

HACKS.

There will be hacks to meet every train to carry visitors to the college or to hotel headquarters. Hacks will run between the city and the college at stated intervals. Hack fare ranges from 10 to 25 cents. It might be well to ask the hackman his price before entering the hack so that there will be no misunderstanding as to the rate. Hotel headquarters being only five blocks from the foot of the college walk, doubtless many of our visitors will prefer to walk back and forth to the college.

THE PROGRAM.

A detailed program is published on this page. Much credit is due our secretary for the very excellent program he has managed for this year's session. After reading the program we feel sure that no dairy-farmer can afford to miss the feast of good things offered at that time. We are planning for and expecting a large crowd. We hope every reader of this article will be at Manhattan during this week. D. H. O.

A Young Dairyman.

C. G. ELLING.

There are, perhaps, many young men who desire to become dairymen, and who would no doubt follow it if they were aware of the vast opportunities along this line of work. You may ask, "What is the first step toward success in the dairy business?" The first step and one which would be a good strong foundation, would be a course in some dairy school. You may say, "Book-learning is all theory and when put to practical use the theorist is left behind with books for his companions." The writer does not entirely believe in theory. When in combination with good practical training—training that is carried out with up-to-date machinery and under the eyes of an expert—I dare say that the so-called "theorist" will come to the front and stay there. Where can such training be had? It can be obtained at the Kansas State Agricultural College.

Although this department is somewhat limited financially, in the agricultural hall are all of the up-to-date dairy tools, which are kept in good running order. The dairy business is carried on from the very beginning. The college herd supplies it with a large amount of milk daily, consequently the student studies the whole thing from beginning to end. However, if you have decided that it is impossible for you to pursue such a course, the following statements may be of some interest to you.

In no other line of work does cleanliness occupy such an important position. You can not afford to have anything in your dairy that is not absolutely pure and clean. Strive to make the best butter that comes to the market, and it will not be long until you can get a higher price for it, and have no trouble to get rid of it, thereby saving time and gaining prominence among your customers. If you have a cow which does not give as much milk as some of the rest, do not condemn her, but treat her right until you are certain what her milk tests. Then and not until then, can you tell how she compares with other cows in your herd. It is very important that you fully understand the process of testing milk. (When in a creamery you can not tell how soon one of your patrons will demand an explanation for the contrast between his and his neighbor's milk.) Never allow your milk-cow to be chased by a dog, as she is very nervous, and as a result will be uneasy when within fifty yards of a dog. Weeds and stagnant water have a detrimental effect on the flavor of the butter. Observe regularity in feeding and milking. Study the various feeds, taking into consideration the price and the product. If your herd is not so well-bred as your neighbor's, do not make excuses, but improve your herd at every opportunity. Success in dairying does not depend so much on the breed of cows, as does it on the breed of the man.

Advantages of a Registered Dairy Cow.

EZRA MICHENER, BEFORE GUERNSEY BREEDERS' ASSOCIATION.

In looking over some old papers, recently, I came across the statement of a dairy friend, who said he was endeavoring to make his herd reach the 200-pound butter notch for the coming year. The previous year it was 175 pounds. He gave as his main reason for the increase the fact that the herd would include a greater number of registered cows than before.

I think that none of us will admit that merely because a cow is registered, she will give any more milk, or make any more butter than she would if nothing whatever were known of her breeding. But the fact that the dairy cow should also be a registered animal has as much to do with improvement along the line as anything which can be mentioned. The generally considered dairy breeds are the Guernsey, Jersey, Holstein, and Ayrshire. All have their good qualities, and the situation and taste of the dairymen and breeder will decide the question of breed or grades that may best be fitted for the purpose intended. We all know that there are many excellent grade or common cows, making as much butter as registered ones, but they lack the power to transmit their good qualities to their offspring, which an equally good registered cow possesses.

I saw, a few days ago, three herds of Guernseys, two of them registered herds and one in which only registered bulls had been used for years. No man living could tell by their appearances which were registered and which were not, as all were indeed splendid specimens of dairy cows. Then where is the real advantage of a registered cow? Why is she any better than a grade or common cow? In the first place, without registered cows and bulls such herds as one of the above mentioned could not exist, as the registered sire would not be obtainable for starting in that line of improvement. The registered cow has been bred by careful breeders for generations, and her good qualities have become fixed and are transmitted to her progeny as long as the dairymen works with this idea in view. It will not do to enter the breeding ranks with good stock for a few years and then accept anything cheap that may and very likely will be inferior, and thus lose years in work, and be forced to start again to regain the ground lost.

If we look over the dairy districts of the country, we see a vast improvement in the cattle near where registered herds are kept; since nearly all, when they become acquainted with the high colored, rich milk of the Guernsey cow, want to have at least some grades in their herds, and will patronize a registered bull for that purpose, if they feel that they are unable to start the thoroughbred. Perhaps as much benefit has been secured by this class as by the owner of the registered animal. They, however, do not have the satisfaction of knowing that they have been the prime cause of this great improvement around them. It is left to the breeder of registered animals to know that the seed he has sown has fallen in fertile ground, that he has helped his neighbor equally with himself.

I think that any one who breeds reg-

istored Guernseys in the right way can not fail to obtain a measure of success. Their good qualities have become almost entirely transmissible; and this positive fixed type is only possible where registration and the using of only the best animals on both sides are faithfully carried out.

A Common Error Among Farmers.

RAY ARNOLD.

We have been told many times by farmers and dairymen, and it seems to be a common belief among them, that the man at the tester can, by adding more or less acid than the standard, lower or raise the test. In our experimental work in the dairy department at the Kansas State Agricultural College, we have proven beyond a doubt that within reasonable limits such is not the case. In one of our experiments we tried taking two samples and adding one-half the usual amount of acid. We then took two more and added the usual amount, seventeen and five tenths cubic centimeters. For the third we used two samples with one and a half times the usual amount. Then one bottle of each was placed in a turbine tester and the others in a hand tester, so that we were not only comparing the samples, but the machines. The results were practically the same, although where the large amount of acid was used the butter-fat was a little charred.

Program for Kansas State Dairy Convention, Manhattan, Kans., March 4-7, 1902.

Tuesday Evening, March 4.

President's Address, E. C. Lewellen, Newton, Kans.
Secretary's Report, T. A. Borman, Topeka, Kans.
"Ensilage—Its Value to Dairymen and Stock-Growers," E. N. Cobb (Buff Jersey), Monmouth, Ill.
"New Basis upon Which Farm-separator Cream is Bought," Prof. E. W. Curtis, Manhattan, Kans.

Wednesday Morning, March 5.

"The Use of Dairy Products in Cooking," Miss McIntyre, Manhattan, Kans.
"The Relative Value of Feeds," E. B. Cowgill, Editor of the Kansas Farmer, Topeka, Kans.
"Silos—How to Build Cheaply; How to Fill; What to Fill With," E. N. Cobb (Buff Jersey), Monmouth, Ill.

Wednesday Evening, March 5.

"Dairying in Europe," Major Henry Alford, Chief of Dairy Division, U. S. Bureau of Animal Industry, Washington, D. C.

Address by S. E. Bassett, Deputy Food Commissioner, Lincoln, Neb.

Thursday Morning, March 6—Skimming-Station Operators' Session.

"The Dairy Student After He Leaves College," Prof. D. H. Otis, Manhattan, Kans.

"The Skimming Operator: What He Is and What He Should Be," F. L. Huxtable, Wichita, Kans.

Examination: Station Operators' Class by W. H. McKinstry, Topeka, Kans.

"Pasturization and Its Relation to Kansas Dairying," Prof. E. H. Webster, Manhattan, Kans.

"Butter for European Market," Prof. G. L. McKay, Ames, Iowa.

Thursday Evening, March 6—Buttermakers' Session.

"Evolution of the Dairy Cow," N. L. Town.

"The Diet of the Kansas Dairy Cow," Carl Elling.

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"The Ups and Downs of the Babcock Test," A. D. Holloway.
"Where Does Kansas Come In?" W. H. Olin.
"What Shall We Do With the Skim-milk?" J. E. Griffing.
"The Possibilities of a Private Dairy," G. W. Loomis.
"Dairying Illustrated," E. W. Simpson.
"Contest of Dairy Course Students in Skimming-station Management." The contestants for the latter are: C. M. Clark, C. F. Elledge, J. O. French, G. W. Hunt, J. E. Jobe, F. W. Keys, R. L. Payton, C. F. Thestrup.

Friday Morning, March 7.

"Crop Rotation," Dr. Henry Wallace, Des Moines, Iowa.

"Growing and Feeding Alfalfa," H. D. Watson, Kearney, Neb.

"How Profits in Kansas Dairying May Be Doubled," Prof. H. M. Cottrell, Manhattan, Kans.

Friday Afternoon, March 7.

Before the dairy Stock-judging School. "The True Type of a Dairy Cow," living illustrations, Professor Haecker, Lincoln, Neb.

Friday Evening, March 7.

"Due West—or Around the World in 192 Days," J. E. Nisley, Topeka, Kans.

Address by Dr. Henry Wallace, Des Moines, Iowa.

The association will hold no afternoon meetings. This will give all members an opportunity to attend the dairy stock-judging school which will be in session each afternoon of the week March 3-8 inclusive. The stock-judging school is conducted under the auspices of the Kansas State Agricultural College, and everybody is invited and urged to attend. Before this school a number of experienced breeders and judges will appear. Among the number will be H. W. Cheney, Topeka, Kans., E. N. Cobb, Monmouth, Ill., Prof. T. L. Haecker, Nebraska Agricultural College, Lincoln, Neb., and such others of prominence as may be secured. T. A. Borman is instructor.

Have You Hogs?

All our subscribers who own hogs should read Blooded Stock, Oxford, Pa. It is a first-class swine paper. Send stamps for sample.

"Cook, my husband complains that the coffee was cold, the meat overdone, the biscuits burned, and the oatmeal soggy." "Yez hev me sympat'y, mum. It must be awful to live wit' such a man."—Credit Lost.

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" and Catalogue 237 free. West Chester, Pa.



The Easiest to Operate, the Closest Skimmer, Simplest and most Durable, is the
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We want you to know how good it is before you buy any other kind. Send for our free book, "Good Butter and How to Make It."
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Listen Everybody That Milks a Cow!

There are Two Ways: THE OLD WAY AND THE NEW WAY.

Along one is hard work; long hours; big load; a tired team; dirty cans to clean; cold, sour skim-milk; poor calves, and small net results.

Along the other is recreation; short hours; a light load; clean cans; new, fresh, warm, sweet skim-milk; strong, healthy fat calves, and large net returns.

Decide now which way you will go, and write to the "Pioneers" of the Farm Separator System for more information. The System that pays the highest price to the farmer. The System that enables us to pay right now

28 CENTS A POUND FOR BUTTER FAT

Don't wait a day. Ship your cream immediately. If you live within 500 miles of St. Joe, Mo., we want to do business with you. Hoping to place your name on our list of satisfied patrons, we are, Yours,

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AGENTS FOR THE EMPIRE CREAM SEPARATOR.



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Horticulture.

The Experimental Apple Orchard.

ALBERT DICKENS, M. S., ACTING HORTICULTURIST, AND G. O. GREENE, B. S., ASSISTANT, KANSAS EXPERIMENT STATION.

The Experiment Station apple orchard was planted in 1891. The site is a favorable one, sloping to the north and east, but rather steep in some places, being liable to wash unless carefully handled. The soil varies from a fairly good loam in the lower parts to a stiff clay on the higher points.

This orchard is the second one grown on this site. The first grown on this land was one of the first grown in this locality, and was set before the college owned the land. Memories of the men in charge, traditions, and printed references represent it as having borne well for many years. The best days of the old orchard were before the establishment of the Experiment Station, and the orchard was used by the college as a means of illustration for classes in horticulture and in practical horticultural work.

The old orchard was grubbed out in the winter of 1889-90, the ground heavily manured with stable manure, and the following spring planted to corn. The year 1890 was not a corn year, but a large crop of fodder was produced.

Early in the spring of 1891 the ground was plowed deeply and subsoiled to a depth of eighteen to twenty inches, harrowed until in first-class condition, and the trees were set the same spring.

The orchard was set primarily as a test of the varieties, some sixty varieties being planted. With some of the varieties a comparison of the rate of growth, endurance, and general behavior of trees grafted upon the so-called whole roots and ordinary piece-root grafts was planned. Budded trees of fifteen varieties were included in this comparison.

VARIETIES.

The whole-root grafts, the budded trees and the piece-root grafts of the same varieties were purchased from Stark Brothers' nursery, Louisiana, Mo. Three trees from whole-root grafts and three trees from piece-root grafts of the following varieties were set:

Astrachan.	Mammoth Black
Arkansas Black.	Twig.
Babbitt.	Mother.
Buckingham.	Pennsylvania Red
Celestia.	Streak.
Clayton.	Pewaukee.
Duchess of Oldenburg.	Rome Beauty.
Early Ripe.	Scarlet Cranberry.
Huntsman.	Shannon.
Isham Sweet.	Smokehouse.
Kinnaird's Choice.	Stark.
Lowell.	Stuart's Golden.
Loy.	Stump.
McIntosh Red.	Walbridge.

Of the following varieties, four trees were set, two of them from whole-root grafts and two of them from piece-root grafts:

Ben Davis.	Winesap.
Cooper.	White Winter
Grimes' Golden.	Pearmain.
Jonathan.	York Imperial.
Wealthy.	

Of the budded trees, the following is the list of varieties:

Arkansas Black.	Mammoth Black
Bobbitt.	Twig.
Broadwell Sweet.	Mother.
Celestia.	Scarlet Cranberry.
Crawford.	Stark.
Gano.	Stuart's Golden.
Kinnaird's Choice.	Tetofsky.
Loy.	

Piece-root grafts of Crawford and Gano were also set.

From William Cutter & Sons, Junction City, Kans., were obtained trees of the following varieties from piece-root grafts:

Benoni.	Lowell.
Cooper.	Mason's Orange.
Crawford.	Red Bletighelmer.
Fallowater.	Salome.
Fanny.	Smith's Cider.
Fink.	Winesap.
Gano.	White Winter
Haas.	Pearmain.
Huntsman.	Wolf River.
Isham Sweet.	Yellow Transparent.
Janet.	York Imperial.
Jonathan.	

Other varieties were obtained from Prof. J. L. Budd, then of the Iowa Agricultural College, from the Department of Agriculture, Washington, from the Experiment Station nursery, and from B. P. Hanna, Arlington, Kans.

The ground was platted on the quin-cunx or triangular plan, by which each tree is thirty-three feet from the four nearest trees. The rows, running north and south, were set double, or sixteen and one-half feet apart, with the intention of removing the extra trees when

crowding was evident. Many of the trees used for the temporary places were grown by the horticultural department.

The trees were carefully set and were given the best of treatment. Good growths are recorded for nearly every tree. A few accidents, a sewer ditch through the orchard, and washing from heavy rains caused the death of about twenty trees during the first two years. The records of accurate measurements and observations during these two years fail to show any differences of growth or vigor in trees of the same variety propagated in the various ways. The records of ten years of growth show practically the same results.

RECORD OF GROWTH.

The average height of the sixty-four trees from whole-root grafts is eleven feet four inches. The maximum diameter at eighteen inches from the ground is seven and one-half inches. The average diameter at eighteen inches from the ground is four and nine-tenths inches.

The average height of the 102 trees from piece-root grafts is twelve feet two inches. The maximum diameter at eighteen inches from the ground is nine inches. The average diameter at eighteen inches from the ground is four and six-tenths inches.

The average height of the thirty trees from buds is twelve feet three inches. The maximum diameter at eighteen inches from the ground is seven and one-half inches. The average diameter at eighteen inches from the ground is four and eight-tenths inches.

These trees were all 1 year old when set, and have had exactly the same care and as nearly as possible the same soil. The conclusion is inevitable that the manner of propagation seems to count for little after growth commences.

These orchard observations confirm the conclusions of the Experiment Station drawn from nursery work, and published in Bulletin 65, that, while the different methods may have some special value to nurserymen, the orchardist is concerned with the tree as it reaches him ready for setting and not with its method of propagation.

In the eleven seasons of the orchard's growth, careful observations have been made, and notes taken and recorded. In these notes as great variations appear in the growth and vigor of the trees of a given variety propagated in the same way, as in those propagated in the different ways. This has been true as regards rate of growth, foliage, and bearing. No stranger visiting the orchard could tell without consulting the labels which trees had their origin as piece roots, which as whole roots, and which as buds.

CULTURE.

During the first few years the spaces between the trees were planted to vegetables and nursery stock, the space allotted to these crops being narrowed each year as the trees required more room. At no time was the planting so close that the cultivation could injure the trees. Since 1897 no crops have been grown in the orchard. The tree rows were cultivated with the two-horse cultivator and the five-tooth cultivator, the hoe being used to keep down the weeds and to loosen the soil around the trees.

Since the trees have entirely occupied the ground, clean culture has been given. For some years the ground was plowed and harrowed each spring and the surface kept fine and loose. It was frequently noticed that even when plowing at a medium depth, some of the roots were cut. The later work of the station has been to prevent the injury to the roots and at the same time secure all the benefits of cultivation. The behavior of old orchards indicates that the seeding down to clover or other grasses is not the best treatment for Kansas orchards. It seems necessary for the best results that, so far as possible, all the moisture should be conserved for the use of the trees.

During the past season only surface cultivation has been given. The ground has been kept well worked to a depth of three or four inches with a disk. Two patterns of the disk have been used, the Clark Reversible Cutaway and the Ohio Reversible. Both of these disks have extension heads which set the gangs out from the center. The hitch is low, and with the added advantage of the extension head the soil can be worked well under the branches and the danger of "singletree disease" is reduced to a minimum. Both disks did remarkably good work. Where the ground was packed in one of the tree spaces the entire disk responded to weight better than did the cutaway. In slightly loose soil the cutaway seemed to have the lighter draft. When not extended, either disk is a most useful implement

SEED CORN.

Farmers must be very careful this season where they get their seed corn. It does not pay to run the risk of losing the crop just to save a few cents per acre. One had better buy the best corn and plant less acreage. He is then sure of having a good yield, good corn, and good prices.

The seed corn we offer this season is Nebraska grown and much of it comes from fields that made as high as 75 bushels per acre. It is all hand picked, dry, well matured, and tipped.

It will be important that you place your order early. The best always goes first and prices are sure to go higher.

NEBRASKA YELLOW PRIZE

This corn while something like our White Prize does not have quite as large ears nor as many rows. The kernels are deep and broad of a rich yellow color and well dentured. Cobs are small and dry out quickly. Price, 40c peck; 75c one-half bu.; \$1.25 Per Bushel.

NEBRASKA WHITE PRIZE

Ears are large and well filled at both ends, the white cob being hardly visible. The kernels are deep and wide, ranging from 16 to 22 rows to the ear. The corn is medium early and yields frequently 75 bus. to the acre. Price, 40c peck; 75c ½ bu.; \$1.25 Per Bushel. Catalog free.

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from early spring until the snow flies.

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general agent. The Acme harrow is manufactured by Duane H. Nash, Millington, Conn.

Since the orchard has been given up entirely to the trees, cover crops have been sown each fall. The growth of these crops has not seemed detrimental to the development of the late varieties of apples. It is believed that these crops check whatever tendency thoroughly cultivated orchards may have to make too great a growth late in the season.

The details of keeping the soil in the best possible condition will vary somewhat for different soils, and for the same soil under different atmospheric conditions. The great principle is that the soil should be stirred as soon after each rain that softens the surface as the ground is in suitable condition.

The results during the past summer (1901) were very satisfactory. The trees maintained a good condition as to foliage and fruit, and the rate of twig growth was normal in spite of the severe dry weather. In his article, "Some Lessons from the Drouth," Prof. J. T. Willard, chemist and director of the Kansas Experiment Station, says, in regard to this orchard: "In the latter part of July a considerable number of fields and plantations at and near the college were tested to a depth of fifteen inches, and determinations of moisture made. Careful notes were also taken as to the condition of the growing crops. It was found that with most cultivated crops the moisture was reduced to from eight to eleven per cent. In the case of grass lands it was reduced to as low as six per cent. As these samples extended to a depth of fifteen inches, it is obvious that the upper one-half must have been much drier still. The college orchard, which was kept free of weeds and thoroughly cultivated throughout the season, showed over sixteen per cent of moisture at the close of this period of nearly eight weeks with less than an inch of rain."

PRUNING.

When the trees were set the tops were shortened back in order that the leaf surface might, as far as possible, correspond with the shortened root system. Care has been taken to form the trees so that they have a low, symmetrical head, with no interfering branches. Thus, by forming the head while young, very little pruning of large branches has been required. Whenever cutting has been thought necessary, care has been taken that the knife has a sharp, smooth edge. Wounds made with sharp tools heal much more readily than where a rough-edged blade is used. The care taken to form the heads while young has been well repaid. Forks and crotches have been avoided, and, while each tree has been regarded as an individual to be made the most of, it has been borne in mind that the ideal tree exists only in the mind of the orchardist, and that he can only hope to approximate it in the orchard.

A knowledge of the habit of growth is helpful during the first few years of the life of the orchard, the vital time in the formation of good trees. With varieties that tend to an upright and too dense head, care has been taken to remove the twigs and buds from the inside of the tree, inducing, as much as possible, an outside growth. The trees have all been headed low. With wide-spreading sorts, it has sometimes been necessary to cut away the lower branches after they had served a few years as a protection from sun-scald. With the trees of most varieties, it has not been a difficult task to keep the head low enough to protect the trunk and high enough to allow the cultivation of practically the entire surface soil. We have found it cheaper to rub

off watersprouts in the summer than to prune them later, and it is certainly better for the tree.

The growth and general conditions of the orchard have been such as to encourage the observers. The trees on the higher parts of the orchard, where the soil is thin and poor, do not compare well with trees growing in reasonably good soil. Few localities in Kansas could furnish a more unfavorable situation than the poorer parts of the Experiment Station orchard. The ground is old, has matured one orchard, and has at times washed quite badly. In spite of this a fair measure of success has been attained. In the lower and better soil the Experiment Station orchard compares very favorably with other orchards in this locality planted on newer land.

CONCLUSION.

More time will be required to determine the value of some of the slower maturing varieties; but the varieties that have come to be regarded as the standards in Kansas orchards are the ones that have succeeded best. The records of the old orchards and the behavior of these varieties in the new one seems to warrant their being recommended. Early Harvest, Benoni, and Late Strawberry have been the best of the early varieties. Cooper and Maiden's Blush follow these. Fameuse, Grimes's Golden and Jonathan have been the best of the later fall varieties. York Imperial and Pennsylvania Red Streak have ripened earlier than a winter apple should. It may be well to state here that nearly all the varieties have usually ripened a month or more earlier than they are reported as ripening in the Eastern States. The past season, 1901, has been a notable exception; the drouth seemed to delay the ripening process so much that many varieties were six weeks later in ripening than in former years. Pennsylvania Red Streak has fallen prematurely in the station orchard.

Winesap, Missouri Pippin, Gano, and Ben Davis have been the best of the winter varieties. Janet has been under-sized. Huntsman's has a fairly good record as a bearer and is of fine quality. White Winter Pearmain has done well the past two seasons. Mammoth Black Twig is a hardy, vigorous tree and promises well. It is worthy of trial in specially trying localities. The fruit as grown here is not handsome but is of fair quality and keeps well.

Few apples were borne before 1897, when the following varieties bore light crops:

- | | |
|--------------------|------------------|
| Arkansas Black. | Loy. |
| Babbitt. | Mammoth Black |
| Ben Davis. | Twig. |
| Broadwell Sweet. | Pennsylvania Red |
| Buckingham. | Streak. |
| Cooper. | Rome Beauty. |
| Cullen's Keeper. | Salome. |
| Fink. | Smith's Cider. |
| Gano. | Smokehouse. |
| Grimes's Golden. | Stark. |
| Jonathan. | Stuart's Golden. |
| Kinnaird's Choice. | Tetofsky. |
| Keswick Codlin. | Winesap. |

Observations have been made as to the date of blossoming and investigations of the problems of pollination begun. The varieties that bloom at practically the same time have been grouped together. The dates vary somewhat with the season, and there is sometimes a difference in the date of blossoming in trees of the same varieties, but the relative dates are fairly constant. The following varieties were beginning to bloom April 23, 1900, and April 7, 1901; were in full bloom April 29, 1900, and May 2, 1901:

- | | |
|--------------|--------------------|
| Ben Davis. | Jonathan. |
| Benoni. | Kinnaird's Choice. |
| Cooper. | Pennsylvania Red |
| Crawford. | Streak. |
| Fallowater. | Smith's Cider. |
| Fanny. | Winesap. |
| Gano. | Wolf River. |
| Isham Sweet. | |
- The following varieties were beginning to bloom April 26, 1900, and April April 27, 1901; were in full bloom April 30, 1900, and May 5, 1901:
- | | |
|------------------|------------------|
| Arkansas Black. | Mammoth Black |
| Cullen's Keeper. | Okabena. |
| Celestia. | Park's Keeper. |
| Huntsman. | Rome Beauty. |
| Janet. | Stuart's Golden. |
| Keswick Codlin. | Stump. |
| Loy. | Swaar. |

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Agricultural Matters.

My Plan for Irrigation.

EDITOR KANSAS FARMER:—It is now pretty well asured that the United States will soon begin a system of irrigation, or at least, begin the making of a system of storage dams for the retention of water now running to waste, but, as I understand it, western Kansas, and by that I mean the western half of Kansas,—can not expect to be a participant in the benefits to be derived from these efforts, since western Kansas is too rolling to be irrigated, and even if some portions could be irrigated, there does not seem to be sufficient water to make much of a showing. In the suit now pending in the United States Supreme Court between Kansas and Colorado, the attorneys for Kansas do not ask that Colorado yield up any of her possessions of the waters of the Arkansas River, and as it is now, Colorado practically takes all the water the river affords; after a large outlay was made west of Garden City for the purpose of irrigation of a section north of that town, and after a half million dollars was spent in dams and ditches, it was found that there was no water. Windmills can only irrigate gardens and orchards, and unless some other means can be found, this great area, 200 by 200 miles, must be left in its present condition.

Here is my plan. Make lakes, big and little, wherever there is a spot low enough to hold a body of water, and where there is a stream adjacent from which water can be taken to fill it. There are hundreds of such places in western Kansas. The cost could not be very great, as a suitable channel from the stream to the lake could be built by dredge-boats, which are made to cut dry land as well as to drain sloughs and swamps. My attention was first called to this plan in 1896 by seeing the bed of an old lake about six or eight miles west of my ranch, which is located in the southeastern part of Kingman County. The old lake-bed probably contains several sections, and lies there useless. It is only two or three miles from the Ninescah River, which has quite a large flow of water, and could supply water enough for this old lake-bed without injury to those who depend upon it for stock water. The State could appoint an engineer to go over western Kansas and examine the country and pick out places where these lakes could be made at least expense. It should first make an appropriation of say \$25,000 per annum for five years; and then if successful a larger appropriation of \$50,000 or \$100,000, as might be found advisable. In a few years hundreds of lakes could be made over this region. Their effect would be to make conditions like those in Michigan, Wisconsin, and Minnesota. Land in western Kansas is now very cheap, and these lake-beds would not cost very much. Trees could be planted around the margin, and in fifty years the climate could be changed from high winds and drouths to moisture and mild breezes. While Kansas is doing this Uncle Sam can fill up the old Yuma lake-bed by using the Colorado River, and also irrigate millions of acres and make hundreds of lakes in the Arctic regions, and then sow sweet clover all over the sand-deserts where water can not be used.

Fifty years! Wouldn't you and I, Mr. Editor, like to come back to Kansas at the end of that time and travel over the green, shady, rich fields of Kansas? Perhaps we can.
Cheney, Kans. A. E. HARMON.

Alfalfa Experiences.

EDITOR KANSAS FARMER:—In your issue of last week I see a question asked by H. G. Walters, of Highland, Kans., which reads as follows: "Would you advise me to sow alfalfa on good clean land that was sown to wheat last fall, the wheat being partly winter-killed?" I don't agree with your answer. I think you can get no better seed-bed for alfalfa than land that was sown to wheat in the fall. When the frost goes out in spring and the land begins to dry it is so nice and mellow and there is always plenty of moisture at that season of the year to start the seed. I have frequently sown alfalfa among wheat in the spring just as the wheat was showing a little green. I give it a harrowing with a slanting-toothed harrow and I never fail to get a good stand. The wheat will not injure the young plants half as much as the crab-grass will, and, by the way, you get rid of it. I like spring seeding better than fall seeding. I sowed a field last fall. It came up all right, but in two weeks' time the hoppers ate up every plant of it. I know several parties who are go-

ing to sow alfalfa among the wheat this spring, and I am going to do so on twenty-five acres. One of our neighbors sowed alfalfa along with his wheat in the fall and did well, cutting a ton of hay to the acre after the wheat was cut.
A. SCOTT.
Westmoreland, Kans.

Mr. Scott's letter is most valuable. We are constantly learning more about alfalfa. Mr. Scott's experience points to the best possible use for land on which a partial stand of wheat has been obtained. Every year presents many fields in this condition. No better fortune can be wished the owners of such fields than that they may secure stands of alfalfa on them. The experience of Mr. Scott's neighbor in sowing alfalfa with his wheat in the fall is also valuable.

Let every farmer write his experience to the KANSAS FARMER. The editor would be willing to make a great mistake every week if by this and no other means he could bring out such valuable experiences as these related by Mr. Scott.

A Black Eye for Johnson-grass.

EDITOR KANSAS FARMER:—I have noticed several inquiries in the KANSAS FARMER about Johnson-grass: how much seed to sow to the acre, when to sow, and where seed can be procured, etc., and I can not keep still, but must give a note of warning. I would advise inquirers to go slow with Johnson-grass. It was introduced into the State by enterprising (?) seed dealers for the profit there always is in any new thing. It is the worst weed we have to contend with in the corn-field; it is almost impossible to destroy it, and nothing else will grow where it once gets a good hold. For pasture it will not amount to much, and you may think it dead; but plow it up, and every root an inch long will make a plant, and the more you stir the soil, the ranker it will grow, choking out anything you may plant or sow. It should be classed with Russian thistles and prohibited by law.
Jamestown, Kans. PETER HANSON.

Is There a Suitable Implement?

EDITOR KANSAS FARMER:—I would like to ask if there is an implement made to drill seed in lister furrows, two rows at a time, and press the soil after it? If there is, where and by whom is it made? A corn-planter is not satisfactory as it will not adjust itself to the rows, and when it drills on the side the snake-killer don't work well; neither does a one-row walking drill work, as it does not have a press wheel and does not drill at an even depth. I want something like a corn-planter, but that will adjust itself to the furrows and drill in the center of the rows.
Durham, Kans. JOHN W. WEBB.

Is There no Help for It?

EDITOR KANSAS FARMER:—In your issue of January 30, page 114, Professor Henry gives us a most interesting description concerning agricultural methods in Holland and Denmark, and from his strictures concerning the latter country both our farmers and legislators can gather much "food for reflection," and possible profit. Professor Henry would have done well to have followed his contrasts between the exports of the Danes and our own people to their logical conclusion, i. e., in that country nothing is too small or insignificant to be unworthy of the attention of the common people, and the general government, and government measures are put in operation and syndicates of farmers formed under government protection and auspices, that have for their object the profitable handling and marketing of the products of the dairy and poultry yard for the benefit of the country at large; while in this country, "we are bright only in spots," and the Government instead of lending a helping hand in like measure, seems to be much inclined to pass measures which insure more to the benefit of trust magnates than to the public. In evidence of this, one has but to refer to the enormous trusts and combines which have sprung into existence during the past few years.

It does seem, bright as the Americans claim to be, that some method could be devised whereby the board-of-trade manipulations, and the various trusts, could be controlled so that their influence, instead of being a pernicious one, could be turned into a channel whereby benefits would accrue to the people generally. That the present or past methods of legislative enactments are highly abortive in the control of combinations of capital, is shown most clearly and emphatically in the manner in which the Interstate Commerce Law has not prevented the extension of

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THOROUGHbred SEED CORN.

Seven different varieties to select from. All our varieties are grown from pure stock, and are heavy yielders. Our Seed Corn is carefully sorted, hand selected, and examined by men having years of experience. Our leaders are: West's Improved Legal Tender (yellow), price \$1.90 per bu., 10 bu. or more \$1.80 per bu.; Iowa Silver Mine (white), \$1.75 per bu., 10 bu. or more 1.65 per bu.; bags free. Write for free descriptive illustrated Catalog. Send 4c in stamps and receive samples of 5 varieties of seed corn.
Address O. M. WEST SEED CO., Shenandoah, Iowa.

FINE SEED CORN

CATTLE KING, medium early, from 90 to 100 bus. per acre, is one of the best cattle corns grown. EARLY REED, light yellow, ears from 9 to 12 in. long, deep grain, small cob, matures in 100 days, will yield more than any other early variety. MAMMOTH WHITE—We think this variety the very best for those wanting white corn, medium early, ears from 9 to 14 in. long, white cob. Our corn is all selected, tipped, shelled, sacked, and f. o. b. cars. Price \$1.25 per bushel. Write for samples.

W. W. VANSANT & SONS, Farragut, Iowa.

SEED CORN

If you need Seed Corn, write for my Descriptive Circular and Price-list. I have a good quantity of the best-grown pure seed, hand-picked, and dried, of following standard varieties: Legal Tender (yellow), White Pearl, and Early Yellow Rose. Also Early Amber Cane-seed and Early Oats. Secure samples, etc. Write

FRED ECHTENKAMP,
Arlington, Nebraska.

HENRY BROS., FAIRFIELD, IOWA,

Announce to their trade they are offering their...
BLACK DIAMOND SEED OATS, 100 lbs., \$3; or 500 lbs., \$13. IOWA'S PREMIUM WHITE OATS, 100 lbs., \$2.75; or 500 lbs., \$12. YELLOW DENT SEED CORN, \$1.50 per bu.; or 6 bu., \$7.50. CHOICE WHITE CORN, \$1.50 per bu.; or 6 bu., \$7.50.

Write for prices of Choice Clover, Timothy, and Millet Seed.

306 K. Ave. TOPEKA SEED HOUSE 'Phone 42.

ESTABLISHED 1876.

All kinds of Garden, Field, and Flower Seeds, Millet, Cane, Kaffir, Seed Corn, Flowering Shrubs, Plants, and Bulbs. Choice Fruit-trees and small Fruits. Hardy two years' old ROSES A SPECIALTY. ALL KINDS OF POULTRY SUPPLIES.

Address S. H. DOWNS, Manager, TOPEKA, KANSAS.

special rates and privileges to certain "pet" shippers over many of our trunk lines of railway.

The great question for the common people to settle in this, the beginning of the new century, are not questions of new inventions and mechanical methods, but how best and most justly to regulate the products of those we already have, and the evils and benefits accruing therefrom.

Fifty years since, much doubt existed concerning the ultimate outcome of the slavery question for fear that its solution meant the down fall of the Union and the Republic. The questions confronting this prosperous Nation at this time are no less important to the American people, and there can be no doubt but that they will be finally adjusted without injury to the great interests involved, but before this can be done, a higher standard must be set by our legislators or else they must live up more closely to the standards set them by the people. M. R. DAVIS.

Clearwater, Kans.

Stopped Pot-hunting.

EDITOR KANSAS FARMER:—What we have done down in southeastern Kansas may be of interest to those that have been doing "some talk" on the question of pot-hunting. In our township this hunting became a great nuisance. The hunters not only shot our quails, etc., but they considered chickens and turkeys game if seen in the road or away from the buildings. They shot and carried them away in great numbers, stealing small tools from our machinery, and pilfering around our buildings, until our farmers said this thing must stop.

Last fall we organized four lodges in our township at different school-houses, calling them "The Anti-Hunting Association." The object was to stop hunting, trespassing, and lawlessness. We adopted a constitution and by-laws, we published in our newspapers the different lists of members with warning to all hunters that they would be prosecuted. In the middle of our township is a fine city of 5,000 or 6,000 inhabitants. At about this juncture the hunters proposed to show the old hay-seeds that they intended to hunt all they wanted to. Five or six hunters were arrested and tried before a justice of the peace. In each case the hunter had to pay a fine and costs. Then the hunters commenced to consult lawyers, and were shown that they could not hunt on any man's farm, or even along the road, without the owner's consent. We had our secretary publish the game law and Sunday-hunting law as found in our statutes. The consequence is, the farmers have won, and 99 per cent of the hunting has been stopped. We have been surprised in several ways: First, to find how unanimously the farmers were opposed to this hunting; second, to find how easy it was stopped when the farmers united and said it must stop. Our farmers do not propose to let it rest here. Our organization will meet once in three months, or at the call of the president, as we are determined that this hunting shall stay stopped. E. P. BODLE.

Chanute, Kans.

(Now let other townships do likewise. —EDITOR.)

Automatic Doors for Shed.

EDITOR KANSAS FARMER:—To make a self-regulating storm-shed, which cattle can go into and out of at leisure, build it lengthwise east and west; put a door at each end; hang hinges of both on the north side of the door. When the wind is from the northwest the least bit, the west door closes and the east one opens. When the wind is the least bit from the northeast the east door closes and the west one opens, so the cattle always go in and out on the warm side. D. B. HOSTETTER.

Tapping Maple-trees.

PRESS BULLETIN, VERMONT EXPERIMENT STATION.

There are some fine points to be observed even in such a simple matter as tapping a sugar-maple tree. Here are five points, just for instance.

Point 1.—Only a sharp bit should be used,—one that will make a clean-cut hole.

Point 2.—The hole need not be more than three inches deep. The investigations of the Vermont Experiment Station have shown that hardly any sap comes from a greater depth.

Point 3.—The hole should be carefully cleaned of chips, because even a very small quantity of waste matter will clog the spout, obstruct the flow of sap, and seriously reduce the yield of sugar.

Point 4.—A spout should be chosen

of such a pattern as will allow the freest flow of sap. It should interfere with the wood tissue of the tree as little as possible. The bark, rather than the wood, should play an important part in holding the spout firm.

Point 5.—The spout should be strong enough, and its hold on the tree firm enough, so that it will safely support the sap-bucket. Moreover the spout should be easy to insert and easy to remove. The various spouts commonly sold at the hardware stores differ materially in their merits when judged by the foregoing tests. The sugarmaker will do well to examine them all carefully before buying his supply for the coming season.

A Great Invention.

Within recent years, the Deering Harvester Company made one of the greatest advances in the line of corn machinery yet conceived. Several years ago it took up the development of a rotary corn shocker and arranged with Mr. A. N. Hadley, under patents he had taken out in 1890, and later, and with M. J. M. Shively, who had made improvements applicable to the same. Exclusive rights under all the patents were purchased, and with the aid of the inventors mentioned and the mechanics in its employ, the company has been able to test and exhibit the machines in various conditions of corn during several seasons. For the season of 1901 it put out a large number, in order to exhibit them to farmers throughout the country for approval. It was not the intention of the company, we are informed, to sell machines until they had fully passed the experimental stages, which proved to be true a year ago.

The Deering Corn Shocker is drawn beside the row to be cut, the team straddling the one previously taken. Gathering chains move the stalks to the cutting apparatus and deliver them to a vertical rotary reel mounted upon a revolving table, and around this reel the shock is formed more perfectly than can possibly be done by hand. When a shock is finished, it may consist of as many as one hundred and fifty hills.

The twine by which the shock is to be bound is in a box adjacent to the driver's position, and the end of it is attached to a pin. At the proper instant the operator thrusts the pin into the shock and the continued rotation of the latter carries the twine nearly around. He then stops his team, ties the ends of the twine, and the shock is ready for removal.

A crane is located upon the main frame and adapted to reach to a position immediately over the shock, from which a rope passes down to the shock-forming reel. By turning the crank of a windlass, located upon the machine, the shock is lifted a little distance and by turning another crank the crane is swung around so far that the shock may be dropped and leave room for the passage of the machine upon the next round. By an ingenious device the descent of the shock unlatches the arms of the verticle shock-forming reel, and the latter are permitted to fold, when the reel can be drawn up through the top of the shock and returned to its place on the revolving table.

The advantages of this shocker are apparent when it is understood that the shocks can be left at the sides of a field, if the latter is not too large, or if operating in a large field, can be left in rows very far apart so as to permit fall plowing and seeding. This machine is quite likely to be imitated, although the Deering Harvester Company controls the foundation patents and patents covering the improvements so far made; but nevertheless to the Deering Harvester Company must be given the credit of being first to supply this great want.

Almost a Lifetime.

If one were to count the manufacturers who have been in business continuously for a generation they would be found comparatively few in number, and yet among them would be that old and well-known house, the Elkhart Carriage & Harness Manufacturing Company, of Elkhart, Ind., whose ad. appears in this issue. This concern has been in business for twenty-nine years and during all that time has been selling direct to the consumer at lower prices than many factories charge dealers. The great saving effected by dealing with this advertiser is at once apparent. Their line of vehicles and harness is larger than ever. It embraces many patterns shown at the Pan-American Exposition, where the Elkhart people not only exhibited against some factories noted for their high prices, but carried off honors, too. Their new catalogue presents the complete line and a copy will be sent free to any one who mentions this paper in writing. Address, Elkhart Carriage & Harness Manufacturing Company, Elkhart, Ind.

The McMillan Fur & Wool Company have placed their price circular on file at our office for reference. This house has been established for nearly a quarter of a century, and shippers find their dealings with them very satisfactory.

DISEASES OF MEN ONLY.

The greatest and most successful Institute for Diseases of Men. Consultation free at office or by letter. **BOOK printed in English, German and Swedish, Explaining Health and Happiness sent sealed in plain envelope for four cents in stamps.** All letters answered in plain envelope. Variocole cured in five days. Call or address

Chicago Medical Institute,
518 Francis Street.
ST. JOSEPH, MISSOURI.

IRRIGATION (Not Prayers) DID IT.

A little stream of water was running down every corn row in my fields during the drouth last summer while other fields were suffering very badly, and drying up. Do you realize the difference? In other words—my fields produced a fine crop of fully developed seed-corn. The other fields produced mostly nubs and some not that. If you wish to raise a full crop this year, you can not do it by planting drouth-stricken seed.

When you plant my IRRIGATION GROWN SEEDS you have planted the best, and they will assure you a strong and vigorous stand, with the great vitality which is necessary to secure a large yield of corn. Send four cents for samples. **CLARENCE L. GERRARD, Columbus, Nebraska**

J. I. REYNOLDS, President. (Formerly of Trumbull, Reynolds & Allen.)
KANSAS CITY GRAIN & SEED CO.
BUY AND SELL, Millet, Cane, Kafr, Alfalfa, Red Clover, Timothy, Pop Corn, Seed Corn, Cottonseed Meal, Linseed Meal, Corn, Oats, Rye, Barley, Etc.
KANSAS CITY, MISSOURI

TREES Ours have stood the test of 50 years. Send for price list.
600 Acres. 13 Greenhouses. Established 1862.
PHOENIX NURSERY COMPANY,
1200 Park St., Bloomington, Illinois.

FOR SALE.... SEED CORN.

Large Stock, Choice Quality, Hand Picked, A number of varieties.

All new corn. We make Seed Corn a specialty, and put nothing but choice seed on the market. Address

HUMBOLDT GRAIN EXCHANGE, Humboldt, Kans.

WESTERN SEED AND AGRICULTURAL HOUSE

Reliable, Tested Seeds and Garden Implements.

We are always in the market for seeds. When you have some to sell, write us. For catalogue and price list, write

MANGELSDORF BROS. CO., ATOHISON, KANSAS.

SEED CORN

Drouth Resisting! We have it! Send 2-Cent Stamp for Samples, Prices, and Testimonials, to

J. B. ARMSTRONG & SONS,
Shenandoah, Iowa.

SEED CORN

TWENTY-FIVE YEARS OF OUR OWN IMPROVEMENT.

We have won four-fifths of the first prizes at the Nebraska State Fair for the past 19 years. At the 1901 State Fair we won all the prizes offered on field corn; 11 firsts and 9 seconds. We ship it in ear if so ordered, and have shipped on approval for 17 years, if not satisfactory to be returned at our expense, and we to return purchase money; and not one bushel has been returned. Immense yield in 1901. For a descriptive price list and samples, address with 2-cent stamp,

M. H. SMITH & SON, De Soto, Nebraska.

TOPEKA SEED HOUSE.

'PHONE 42.... ESTABLISHED 1876. 306 KAN. AVE.
SEED POTATOES.

We have now a stock of choice Northern Early Ohio Seed Potatoes shipped direct from the growers on the Red River. \$1.50 Per Bushel.

SEED CORN.

Send to a long established Seed House for your Seed Corn. We have some choice carefully selected Seed Stock grown in Kansas. More to come from Northern growers. Address **S. H. DOWNS, Manager,**

SEED CORN

FIFTY YEARS on the Farm; EIGHTEEN Years in the SEED CORN BUSINESS as a Specialty, convinces us that farmers prefer to buy their seed direct from the reliable grower; then he knows where it is grown; also that it is not Commission House or Elevator corn sent out for seed; besides he saves the Middle Man's profits. We are the largest Seed Corn Growers in the World and have sent out more seed corn during the last 18 years than any other Growers, Seed House, or Seed Firm in existence. We are headquarters for Seed Oats as well. Carload orders a specialty. Write for our **FREE Catalog of Seed Corn, Farm, and Garden Seeds;** also "Book on Corn Growing." Always address

J. R. RATEKIN & SON, Shenandoah, Iowa.

HOW TO RAISE LARGER AND BETTER CROPS.

The U. S. Department of Agriculture shows conclusively that this can be done only by selection of the heaviest and largest seed for planting.

The WONDER GRAIN GRADER

admitted perfect by all users, is the only machine or process that can make such selection, and is guaranteed to perfectly select the heaviest, largest, and best, or any grade desired, of all wheat, oats, rye, barley, clover, alfalfa, and other like seeds. Such selection is made, without screens, by the Power of Gravity, the only constant and steady force known, weighing and sizing each grain selected.

Try the **WONDER** for thirty days. If it is not all we claim, all you expect or want, return it to us; and we will refund the purchase price; no questions asked, no unpleasantness whatever. Write us for U. S. Government report on superior value of large, heavy seed, and for descriptive matter of the **WONDER.** Address:

EUREKA MFG. CO.,
24 and O Streets, LINCOLN, NEB.
All oats can be improved from 25 to 50 per cent this year.

WHEN WRITING OUR ADVERTISERS, MENTION KANSAS FARMER.

The Young Folks.

Conducted by Ruth Cowgill.

A SOUVENIR.

I found them in a book last night,
These withered violets,
A token of that early love
That no man e'er forgets,
Pressed carefully between the leaves,
They keep their color still,
I can not look at them to-day
Without an old-time thrill.
Ah! me! What tricks does memory play!
The passing years have fled,
And hopes that lived in ignorance,
Alas! have long been dead,
And this is all that I can say
When all is said and done;
Those flowers remind me of some girl,
I wish I knew which one.
—Somerville Journal.

A Son of the Soil.

IV.

THE NIGHT THE DORMITORY BURNED.

John reached the campus panting both from his long race and from excitement. The fire had evidently started in the basement at the north wing of one of the smaller dormitories, and the fire department was working gallantly to prevent its spreading further. The fact of the building's being of solid stone was in their favor, but the fire's long tongues kept shooting up and fastening upon whatever that was inflammable was in their reach. People were running about, shouting, and some of the girls were crying hysterically. If John had been in a mood to look around him critically, he would have found much to amuse him, and doubtless he would have learned much of human nature, for at no time is it displayed in all its weakness as at a fire. He happened to stand near Miss Clark, whom he had so recently met, and whose peculiar personality had so impressed him. She was making a fierce effort at self-control, but the tears were rolling down her white cheeks, though her eyes burned with the same somber intensity that he had wondered at before. John, who looked upon the fire merely as an exciting spectacle, could not understand her distress.

"Perhaps she has left something in the dormitory that she cares for," he said to himself. He went to her. "Miss Clark," he said, "have you lost anything?" She seemed not in the least surprised as she looked at him; indeed he almost thought she did not see him. "Isn't it fearful? Isn't it fearful?" she said and she put her shaking slender hands before her eyes as if to shut out the sight of the greedy flames.

John felt a touch on his arm and looking around, saw Wainwright standing behind him. "Have you seen Tom?" he asked. "He told me the other day that he sleeps in the basement."

Tom was the janitor, an old negro whom John had often seen sweeping and cleaning around the college buildings, singing old darkey songs in his quavering voice, and always ready with a cheery word for any of the college people who chanced to notice him. He was considered a fixed part of the institution, having been there for nearly twenty years.

John's heart grew cold at Wainwright's words. "Do you know where his room is," asked John, as they ran around to the south wing, where the fire had not yet penetrated.

"No." The coach stopped at a small basement window and with a kick broke the glass out. "Tom! Tom!" he called loudly, putting his head down to the opening. As they heard no answer, John said, "I'll go down and hunt for him as far as I can go," and slipped down through the window, which would have been quite too small for Wainwright's stalwart frame.

John found himself in a large bare room, across which he quickly and with little difficulty found his way. It was quite dark in that side of the room, but he felt along the wall, until his hand came in contact with a door, which swung easily in its hinges. Pushing it open, he passed into the next room. A cloud of smoke met him at once, almost suffocating him, but he went directly to the little bed which the flames, reflected through the windows, revealed to him. There lay the old negro stupefied by the stifling smoke. John shook him and called to him loudly but only partially aroused him. "Wha—what's de mattah?" John did not stop to answer, for just then a piece of glass falling from a broken window above, hit him on the head and almost stoned him. Exerting all his strength, he dragged the old man to-

ward the door and out into the clearer air of the outer room, which, however, was beginning to be filled with smoke, and to feel hot and stifling. As he and the old negro staggered toward the window, a pair of strong hands were stretched through it, to help him. He boosted the old man toward them and he was drawn out safely, though with some little difficulty, for he was larger than John.

John, feeling revived by the fresh air which blew in, reached up and grasping the ledge, sprang nimbly up and pulled himself out.

"Good boy," said Wainwright, "Shake."

But before he had time to "shake," the old negro threw his arms around him, pouring out his thanks to him and blessing the Lord in the same breath, while the tears rained down his face. John found this distinctly embarrassing and disengaged himself as soon as possible, only to find himself grasped by two little, trembling hands. "My dear boy, you are hurt," cried a voice so gentle that he hardly recognized it as belonging to the haughty Miss Clark.

"Oh, it's nothing," he said. But even as he said it, he found himself being hurried along toward Willard, another one of the dormitories. Wainwright rushed off to telephone for a physician while Miss Clark washed the blood from his face and made him comfortable in a big easy chair.

The doctor soon arrived and found it necessary to take a few stitches to draw the wound together. "And in a few days you'll be as good as new," he said. "But be a little shy about going into burning buildings after this, my boy. A little more and that blow would have made a dead man of you!"

Miss Clark said: "It did not need that to make a hero of him!" which brought the flush of shame to John's pale cheek, and made him wish he could "get out of there."

"Guess I'll be going," he said, awkwardly.

"Why, you can't walk home to-night with that cut in your head," protested Miss Clark.

"He can get in the buggy with me," said Dr. Brown.

John found the doctor's offer very acceptable, for when he arose, he felt so giddy that he tottered, and was glad to lean on Wainwright's arm until he reached the buggy.

Yet he enjoyed the short ride home, for he found the doctor a most agreeable companion, and before he realized it, he was telling him of his country home and his mother, his ambition for an education, and his father's opposition. "Of course," he said, "I understand how father feels about it. He's got along without an education and made plenty of money at it, and he don't see why I can't be contented to do the same way. And then, he's afraid I'll get so in love with city ways, that I won't be satisfied with the farm."

"Um-uh," grunted the doctor, understandingly. "And how about it? Do you think you will be satisfied to go back to it?"

"Well—you see, it's this way," said John. "There ain't any business that hasn't got some things about it that you don't like, I don't suppose. And some way I like to see things growing and 'tend to the stock. And some way, it seems as if I was made to be a farmer and I wouldn't never be contented in any other business. Well, you see, father don't—right there on the corner's my room—father don't see any use in me going to college, so I have to kick around for myself."

"Well, you're on the right track, my boy. Just stick to it and 'never say die.'"

"Thanks," said John, as he stepped out of the buggy, feeling quite refreshed by his ride.

"Say, boy," called the doctor after him as he started into the house.

"Yes, sir."
"If you want a job, and aren't too stuck up to do dirty work, I think I know of something you can do. I'll send word to you when I've thought about it." He drove on before John could answer.

The morning light was already breaking, but John went to bed beside Carl, who was snoring comfortably. But for the first time in his life, John found it difficult to go to sleep. His head pained him, and the events of the evening kept repeating themselves in his brain, until he was utterly weary with nervous excitement.

But when at last he did sleep, his unconsciousness was so deep that he did not hear Carl's noisy departure for breakfast, nor did he arouse himself until evening.

At the club-house, where they usually took their meals, Carl, who had not

cared to go to the fire, learned of the events of the night.

"Say, what was that about Copley?" one of the boys asked.

"About Copley? Why, I don't know anything about him, except that he's fast asleep now." But two or three voices broke in to give more or less accurate accounts of old Tom's rescue. There had been but one or two witnesses of it, as we know, but Wainwright had told of it and so also had the poor old negro himself, who vastly exaggerated both his own part and John's.

"Well, that's the reason he slept so sound this morning," said Carl. "He 'most always gets up before I do. Guess I'll go and take a look at him."

(To be continued.)

One of America's Early Heroes.

It is well that the people of America should not fail to remember the brave men of her early history. Some of them were great generals; some famous orators; one became the father of his country; some were obscure privates, who loved their fatherland though they could serve only in simple, humble ways; many were willing to become martyrs to their patriotism, if need were. One of these last was Nathan Hale, who was hanged as a spy at the age of twenty-one. He was a graduate of Yale, and that college is so proud of this patriot son of hers, that she has employed a great sculptor to reproduce his figure in order that it may stand upon her campus as an inspiration to all her sons. The Little Chronicle tells how the noble task was achieved. It says:

How would you go to work to make a lifelike picture of a man who died in 1776 and whose portraits have all been lost?

This question confronted William Ordway Partridge, the New York sculptor, five years ago when he began his statue of Nathan Hale. The heroic figure is to stand on the campus of Yale University, as a monument to her first patriot and typical son, and an inspiration to the students. Of course it was wanted as true to life as possible and as there was no portrait of the hero to work from, Mr. Partridge made one himself. That is, he has done the work in plaster, ready to be cast in enduring bronze; and after hearing of his methods you will see that this statue will look very much like the man it is intended to represent.

First, Mr. Partridge read all he could find about Hale. He learned that he was an all-round man; six feet tall, broad shouldered, noted for manly beauty, Yale's champion jumper, a graduate with honors at 18, and liked by everybody for his looks, grace, charm, mind, and morals. He saw him an orator and a young volunteer for independence the night the word came of Lexington, a captain for gallantry during the siege of Boston, the idol of his men because at midnight with only a few comrades he boarded a British supply ship in East River, New York, under the guns of a hostile man-of-war, gagged the sentry, locked the sleeping crew below deck, and steered the ship with its rich stores of food and clothing into the eager hands of the ragged and hungry Colonial troops. He read how, after the rout on Long Island had left Washington in sad plight in New York, and in sore need of a spy to go to the British camps and learn where the enemy would strike next, all the other officers shrank from the task in dislike or disgust, but Hale said:

"I will do it; nothing is degrading when done for your country."

He saw him as a Tory schoolmaster out of work in the British camps, hailed everywhere as a "good fellow," making drawings of defenses and Latin notes of plans caught at the last moment, sentenced by Howe to be hung and dying an ignoble death with the noblest of sentiments on his lips. The sculptor then began to see Hale's face, in imagination, for features not only betray thoughts, but the opposite is true; thoughts and character are usually associated with certain features. This is the underlying principle of the science of phrenology and physiognomy.

A cast was made of the visage of a Yale athlete who is much like Hale in many ways, and Mr. Partridge modeled his statue with this beside him. He also studied the portraits of Hale's relatives who were said to resemble him. Besides, he kept in mind something few would think of.

Men of a certain time or epoch have a peculiar type of face. For instance, Washington, Jefferson, and others of their time have a particular expression not found in men of to-day, and Mr. Partridge took care to give his Hale

this Colonial face. After the all-important face was done, the rest was easy.

As a model for the bust the sculptor's statue of Edward Everett Hale, which is of about the right dimensions, was used, with some exceptions. The body, legs, and arms are those of an athlete. The statue represents Hale dressed as a Colonial schoolmaster, the proper costume being arrived at without much difficulty by studying Colonial pictures and histories.

Yale should have set up this statue long ago. What was it that helped Washington's men to bear White Plains, Fort Lee, Fort Washington, the New Jersey retreat, Germantown, Brandywine, and freezing Valley Forge? Doubtless one aid was the vision of a boy of twenty-one, his neck noosed with a rope tied to an apple-tree branch, his brilliant prospects shattered, his letters to mother, sisters, and intended wife torn before his eyes, his grave and coffin at his feet, saying firmly to a sneering crowd:

"I regret that I have but one life to lose for my country."

QUESTION BOX.

Signal Service.—What is meant by the U. S. Signal Service? What are the requirements for entering this branch of service and what are the duties of those who secure employment; also what compensation is paid? I would be pleased to have a prompt reply to these questions.

WM. KURTENBACH.

The Signal Service is often confused with the Weather Bureau. We, laboring under this common misunderstanding went to Mr. Jennings, chief of the Weather Department, for the answers to your questions. He corrected our misconception but very kindly supplied the information you wish. His answers follow: The Signal Service is a branch of the army and its duty is to convey information by signals. The only requirement is to pass the examination prescribed by the chief signal officer. Compensation extends from \$25 to \$100 per month, depending on rank and station.

FOR THE LITTLE ONES

THE CITY BOY.

God help the boy who never sees
The butterflies, the birds, the bees,
Nor hears the music of the breeze
When zephyrs soft are blowing.
Who can not in sweet comfort lie
Where clover-blossoms are thick and high,
And hear the gentle murmur nigh
Of brooklets softly flowing.

God help the boy who does not know
Where all the woodland berries grow;
Who never sees the forest glow
When leaves are red and yellow;
Whose childish feet can never stray
Where nature doth her charms display.
For such a hapless boy, I say,
God help the little fellow.

—American Boy.

Martha's Dearest Doll.

Martha was a little girl, who had ever so many dolls—rag dolls and china dolls, dolls that closed their eyes and moved their heads, and dolls that could only smile at you all the time with wide-open blue eyes. But the doll Martha loved the best was a dear little doll, not quite two inches tall. It had lovely, tiny curls and it could turn its head and move its little arms and legs. Martha was a very small girl, but she could make beautiful dresses for this little doll, out of very small scraps of silk and satin and velvet that her mamma would have left.

One day a little boy named Donald came to see Martha, so she brought out all of her toys and dolls for him to play with. And what do you think he did,

It Isn't the Cook's Fault, It Isn't your Grocer's Fault,

that the bulk coffee you just purchased turns out to be different from the "same kind" bought before. Coffee purchased in bulk is sure to vary.

The sealed package in which LION COFFEE is sold insures uniform flavor and strength. It also keeps the coffee fresh and insures absolute purity.

first thing? He just grabbed that dear little doll and pulled her head right off!

Then Martha began to cry—she couldn't help it, when she saw her dear, dear dollie killed—and then the little boy felt ashamed, and he said, "I have got to go home quick, 'cause breakfast is 'most ready." It was in the afternoon, and breakfast comes in the morning, but he did not know any better, so he said, "I must go home to breakfast."

Then little Martha said, "All right, you can go home right now if you want to." She thought he was a very naughty boy and she wanted him to go home quick, before he could break any more of her pretty toys.

Well, what do you think? Next morning early, when little Martha was just eating her breakfast, Donald came to see her again! Her mamma came into the dining-room and said, "Donald is out on the porch, little Martha, and he wants to see you."

Little Martha almost scowled and she said, "He's a bad, bad boy, mamma. I don't want to play with him. He broke my dear, dear dollie!"

But her mamma told her how we have to be kind to people when they come to see us, even if they don't do as we want them to. So Martha went to the front door and said, "Good morning, Donald. Did you come to play with me again?"

Donald said no, he didn't come to play with her, but he brought her his own sharp pocket-knife to keep for her own, because he was sorry he broke her pretty doll. Then he turned away and ran home as fast as he could.

Pleasant memories can never be taken from us; they are the only joys of which we can be absolutely sure.—John L. Stoddard.

Pater:—"My boy, Washington could not tell a lie." Willie:—"Well, pop, if he just couldn't it was no credit to him that he didn't."—Chicago News.

"Your son is an actor, you saw, Mr. Maggins?" "Faith, he is." "And what roles does he play?" "Rolls, is it? Faith, he rolls up the curtain."—Tit-Bits.

Grandad—"What makes you look so unhappy, Willie?" Willie—"Cause nobody ever calls me good unless I'm doing something I don't want to do."—Catholic News.

Farmer Hayrick—"What's that noise?" Mrs. H.—"It's Jane cultivating her voice." Farmer Hayrick—"Cultivating, eh? If I'm any judge, that's harrowing."—Illustrated Bits.

"He may mean well," said the young doctor, "but I don't exactly like the tone of his letter." "What's the matter?" inquired the old practitioner. "Jones, the undertaker, writes and says that if I will send my patients to him he will guarantee them satisfaction."—Judge.

"That's right!" exclaimed old Mr. Bull, approvingly, after reading of the proposed legislation against anarchists. "It is a good thing to keep anarchy out of this country altogether." "The idea!" cried old Mrs. Bull; "why, they ain't nothin' better to rub on bruises and burns."—Philadelphia Press.

"Little by little the world grows strong fighting the battles of right and wrong. Little by little the right holds sway, little by little the wrong gives way."

When the breath is foul and the appetite disordered, Prickly Ash Bitters is the remedy needed. It purifies the stomach, liver and bowels, sweetens the breath, promotes vigor and cheerfulness.

Through knowledge we behold the world's creation, how in his cradle first he fostered was; and judge of nature's curving operation,—how things she formed of a formless mass. By knowledge we do learn ourselves to know. The noble heart that harbours virtuous thought, and is with child of glorious great intent; can never rest, until it forth have brought the eternal brood of glorie excellent.—Edmund Spencer.

Deadly Cancer Cured With Oils.
This terrible disease has at last yielded to a mild treatment. Dr. Bye, the able specialist of Kansas City, Mo., states that this terrible disease can be cured. The Doctor has accomplished some wonderful cures recently in what seemed incurable cases cured in from two to ten weeks treatment with a combination of Medicated Oils. A handsome illustrated book is sent free showing the disease in its various forms. The Oil cures cancer, tumor, catarrh, piles, fistula, and all skin and womb diseases. Call or address Dr. W. O. Bye, 9th & Broadway, Kansas City, Mo.

The Stock Interest.

THOROUGHbred STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.
February 28 and March 1, 1902—Dispersion of Waver-tree herd of Galloways, South Omaha, Neb.
March 15, 1902—C. F. Nigh, South Omaha, Red Polled cattle.
March 19, 1902—Dispersion Shorthorn sale. Col. W. R. Nelson, Kansas City.
March 20, 1902—B. B. & H. T. Groom, Kansas City, Shorthorns.
March 25-27, 1902—National Hereford Exchange, Chicago, Ill. (Sotham management.)
April 1, 1902—M. Sooter, Lockwood, Mo., Shorthorns.
April 15, 1902—Geo. H. Augustus, Kansas City, Mo., Shorthorns.
April 16, 1902—Geo. Bothwell, Nettleton, Mo., Shorthorns.
April 16, 1902—W. O. Park, Atchison, Kans., Aberdeen-Angus.
April 22-24, 1902—National Hereford Exchange, Kansas City, Mo. (Sotham management.)
April 25 and 26, 1902—H. O. Tudor, Holton, Kans., Shorthorns.
May 7 and 8, 1902—Colin Cameron, Kansas City, Arizona Herefords.
May 27-29, 1902—National Hereford Exchange, Omaha, Neb. (Sotham management.)
June 24-26, 1902—National Hereford Exchange, Chicago, Ill. (Sotham management.)

How to Make the Most Pork for a Dollar.

EDITOR KANSAS FARMER:—How to grow the most pork for one dollar will depend on several conditions. The question is really an important one. It has been discussed many times, and it may be a little difficult to find anything new in regard to it. Every one seems to have an idea of his own, and my idea may be a little different from some others, but such as it is, I give it. We can make pork by keeping a pig in a small pen and feeding it expensive food perhaps faster than some other ways, but we will not get the most pork for the dollar. There is not much profit in it, and profit is what counts.

We can not make much pork for a dollar from a scrub, say nothing about profit. To make the most out of the money spent on any animal, we must study the animal's ancestors as well as the animal himself. In other words, to make the most, we must have the right kind of blood to start with, and treat it right. It must come from vigorous stock, great feeders, fast growers, easy fatteners, those that answer quickly to feed of whatever kind. Therefore, first we must have the very best strains of blood to start with.

After having all this to start with and our little fellow in the world ready to be put to the test, it will be necessary to keep his mother in such shape as will cause her to produce the most and best food for him to start on his pilgrimage through life toward the pork barrel. He must get a good start, and it must be kept up. There must be no backset or we lost more than we make. While he gets his support from his mother during the early part of his life, he will soon need a little outside help. This must be furnished in proper shape, such as a little wheat, corn, or oats in its original state, with milk added. He will soon begin to look for something else. This something else seems to be his natural food, and that is grass. He will now forsake his mother and become very independent.

From this on, it is necessary to study economy more than before. For if we feed him one dollar's worth of food in order to produce one dollar's worth of pork, how much have we made out of our dollar, to say nothing about our work? Some cheap food in connection with grain is necessary at this time. Grass of some kind is the thing, as it costs very little in comparison to corn or wheat. We must give him a good help in the shape of shorts, slop, corn, wheat, and oats with milk if on hand, but to get the most pork for one dollar, some cheaper food is necessary in connection. A field of green wheat or rye or oats will furnish lots of cheap food early in the season, with green sorghum, Kafir-corn, or oats later, but the best of all, so far as our experience in Kansas goes, is a field of alfalfa.

I do not think much can be made on green food alone. It may grow some bone but very little flesh. To grow flesh and bone at the same time, the pig must have grain in some shape. Alfalfa will make the best growth of all green stuffs alone, and I make the claim that grain and green stuff combined will produce more pork than twice the amount of grain alone.

It is possible we could get a pig ready for market a little quicker on grain alone but the cost would be greater. To get cheap pork, cheap food must be used, and unless we get a little profit for our money and time while we feed, we would better invest our dollar in some other way and work at some other calling. A pig shut up in a small pen and stuffed with grain may grow plumper than one that is hustling in the field

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Eureka Harness Oil
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for some cheap food to help his grain; but it is easy to count without much figuring which dollar is the best invested, the one spent on the pig that is not helping himself, or the dollar spent on the one that adds another dollar to itself.

To sum it up, we must get good breeding stock, good sucklers, good foragers, good feeders, fast growers, easy fatteners, and those that grow to large size; start them with care, make all the growth possible on green stuff and grain combined, get them to market as early as possible and get as good price as possible for them; and then we may count dollars profit instead of dollars lost. In this way, we will surely prosper.

Abilene, Kans. D. TROTT.

The Future of the Swine Industry.

THOMAS SHAW, PROFESSOR OF ANIMAL HUSBANDRY, UNIVERSITY OF MINNESOTA.

The future of the swine industry in the United States will be just what the people make it. This does not mean that it will be just what the farmers make it but what the producer and consumer make it. It rests more with the consumer to say what the type of hog shall be in the future than with the farmer. The taste of the consumer will control the demand of the market. A dealer will not buy what he can not sell, and a consumer does not care to buy what he does not want. Virtually then, the consumer will control the type of hog that will be grown. I have not said that he will control the breed, but simply that he will control the type.

THE NEEDLE POINTS TO THE POLE.

Now what about the taste of the consumer? Does it mean anything at the present time? Does the needle point one way or the other at present? Or, can we come to no conclusions in regard to it? You answer, no. I answer, yes. My contention is, that public taste is veering in the direction of pork that has more muscle in it and less of lard, that is, in the direction of leaner pork. It requires some courage to say that, in the face of the fact that heavy hogs and well fattened to-day will bring at least as much in the markets as the lighter and leaner animals whose carcasses are more of the bacon type. Notwithstanding that is just what I do say. The public taste in this country is going to call for pork that is more of the bacon type than is usually grown at the present time.

You ask the reasons. Here they are. First, the public taste in Britain was content with the lard hog until within recent decades. It is not so content now. The quantities of high-class bacon produced in Britain are relatively on the increase. The same is true of the bacon imported from Denmark and from Canada. Now, what has brought about this change in public taste? Why, the increased purchasing power of the people. As soon as people become familiar with a better food product, they buy it if they are able. This does not imply that the purchasing power of the people of Britain is greater per capita than in the United States, for the reverse of this is true, but that the purchasing power of the people of Britain is greater than it was a quarter of a century ago, and because of this, they want meat superior in quality. As soon as our own people become generally acquainted with superior bacon, like the Gauls when they first tasted of the wines of Italy, they will say that they want more, and in this respect they must be given what they want. Real bacon has been so little grown in this country that the public are only now getting familiar with it.

CHANGE IN MUTTON.

Until recently, it was not far different with our mutton, but in that line of meat production the change has been marked during recent years. Second, the trend of change in the public taste, with other classes of meat, is altogether in the direction of leaner meat. Because of this change, the large, heavy-weight steer of 1,800 pounds has been set away back in the markets of to-day. The handy weight, early maturing steer 1,200 to 1,500 pounds has taken his place; old, fat wethers weighing 120 to

180 pounds alive are now being superceded by the lamb under 12 months and weighing from 70 to 100 pounds. It would seem incredible to the writer, that public taste should change so much in the direction of leaner beef and leaner mutton, and that there should not follow a corresponding change in the same, in the line of leaner pork, that is to say, in the line of pork that is more of the bacon type. Third, a certain Iowa packer of pork purchased last autumn, at least three car-loads of Large Improved Yorkshire swine. These were taken down into central Iowa, that is to say into the very heart of the corn-belt. They were not taken there for purposes of slaughter, but for breeding uses. The males were chiefly intended for being crossed upon the types of sows already in that country. The purchaser told the writer that his object was to induce the farmers from whom his supplies were obtained, to grow swine that were more of the bacon type. He wished such animals, he said, because all in all they suited his trade better than the other types of swine, such as he had been purchasing. Fourth, when the average farmer of to-day kills swine for his own use, which type of animal does he prefer? Does he not pass by the large, heavily laden hog, and choose such as are lighter and not so highly finished? If the taste of the farmer himself is veering in the direction of meat more nearly resembling the bacon types, why should not the taste of the customer for whom he grows it veer in the same direction?

WILL PAY BETTER.

But leaving aside public taste altogether, and setting market demands aside for the time being, my contention is, that it will pay the farmer in the corn-belt better to grow pork of the bacon type or approximating to it, than to grow pork of the other type. It will pay him better because he can do it more cheaply. This may seem like taking strong ground. I take it, nevertheless. I claim that, all things considered, the farmer can grow pork of the bacon type more cheaply even in the corn-belt than he can of the other type. And now for the reasons.

An animal of the bacon type in order to produce bacon must have a peculiar conformation. It must be long in body and deep, or the bacon will not be forthcoming. It must be moderately long in head and limb through the law of correlation which never associates a short head and very short limbs with a long body. Such an animal will have much more ease in locomotion than one that is short in limb, short in body, and broad and heavily built, and the limbs will sustain it better under heavy feeding. In other words, it will be a more vigorous animal. It will be a better grazer. It will be more prolific. And because of its greater inherent vigor it will digest its food more perfectly. It will, therefore, be a more satisfactory animal than the one that is of an entirely opposite conformation.

GOOD BREEDER, GOOD EATER, GOOD GROWER.

That such an animal will be a better breeder does not need much argument. The long and roomy body is associated with superior breeding qualities in the minds of every one who understands the laws of breeding. A sow of this conformation will breed more surely than one of the opposite conformation. She will produce more pigs at a litter. Her pigs sharing in her own superior vigor, will be strong at birth, and, consequently, under good management, the losses will be few in the litters. Such an animal will be a superior milker, and, in consequence, will nourish her pigs well. She will also be able to breed for a longer period, since obesity does not interfere with her productiveness, as it does with the short-bodied and weak-limbed sow. That it will have superior limbs follows from their greater relative length and strength.

This means that the animal can move about with ease and gather food during the pasturing season. This ease in locomotion is conducive to vigor. It keeps an animal on its feet longer during the finishing period, and it greatly reduces the number of instances in which there is breaking down from

(Continued on page 254.)

KANSAS FARMER.

Established in 1863.

Published every Thursday by the
KANSAS FARMER CO., - - TOPEKA, KANSAS

E. B. COWGILL.....President
J. B. McAFEE.....Vice President
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E. B. COWGILL.....Editor
I. D. GRAHAM.....Associate Editor
H. A. HEATH.....Advertising Manager



ADVERTISING RATES.

Display advertising, 15 cents per line, agate (fourteen lines to the inch).
Special reading notices, 25 cents per line.
Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.
Annual cards in the Breeders' Directory, consisting of four lines or less, for \$16.00 per year, including a copy of the Kansas Farmer free.
Electros must have metal base.
Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.
To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.
All advertising intended for the current week should reach this office not later than Monday.
Every advertiser will receive a copy of the paper free, during the publication of the advertisement.
Address all orders:

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116 West Sixth Ave., Topeka, Kans.

A prominent central Kansas farmer in renewing his subscription for the "old reliable" writes: "I believe that the highest compliment that I can pay to the KANSAS FARMER is to say that I have been a subscriber for twenty-seven consecutive years and now renew for the twenty-eighth." Verily this man speaks the truth.

BLOCK OF TWO.

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

ENGLISH BLUE-GRASS.

EDITOR KANSAS FARMER:—Can any of the farmers tell me where I can purchase the English blue-grass seed, and at what price; how much to sow to the acre, and when is the best time to sow?
L. A. SNAPP,
Westmoreland, Kans.

Doubtless some of the seedsmen who advertise in the KANSAS FARMER will inform this correspondent as to the price of English blue-grass seed. Experience of farmers who have sown it is the most desirable basis for information as to when to sow and the amount of seed required per acre. It is hoped that this experience will be stated in the KANSAS FARMER.

CATALPA SPECIOSA.

EDITOR KANSAS FARMER:—1. Are catalpa speciosa trees hard to confine to the ground on which they are planted?

2. Do they sprout from the root or stump when cut down?

3. Do they sprout readily from the seeds that fall from the trees, and are the sprouts hard to kill out?

Malta Bend, Mo. F. W. BAKER.

1. No.

2. When a tree is cut down sprouts numbering in some instances as high as twenty are thrown up around the stump. Sprouts are never thrown up far away from the stump.

3. They sprout readily from the seeds that fall, but a single cultivation kills them. If cultivation is neglected the young seedlings are smothered by the weeds.

BROWN COUNTY FARMERS' INSTITUTE.

The KANSAS FARMER presents, this week, a special report of the papers read at the Brown County Farmers' Institute. With twenty-two years' experience the farmers of Brown County know how to arrange and conduct an

institute that is both interesting and instructive. The large attention given to questions of the home and society indicates a degree of advancement far beyond the pioneer stage. It also voices an imperious demand of human nature, a demand that must receive from farmers more attention in the future than has been given to it in the past.

The subjects were ably handled. It is with no small degree of satisfaction that the editor finds himself able to announce that the finish of these manuscripts compared favorably with any lot of papers ever sent to this office from any source.

It is greatly to be regretted that copies of the superior papers read by Hon. Ewing Herbert, editor of the Brown County World, and Miss R. D. Kiner, of the Hiawatha Academy, were not received until after the institute proceedings had gone to press. The editor hopes to obtain permission from the authors of these papers to print them in a future number of the KANSAS FARMER.

IN SOUTHERN MARION COUNTY.

Farmers of Marion County residing just south of Florence have a live, farmers' club which meets every two weeks in the schoolhouse on the hill. Last Saturday evening the writer had the pleasure of attending this club and participating in the proceedings. The meeting was not large, but an easier audience to talk to never greeted a speaker.

As the Santa Fe train progressed into the wheat-belt, the writer was much interested to note the fine condition of the wheat wherever it was to be seen among patches of melting snow. Some fields had the appearance of too close pasturing, but the cattle appeared none the worse for this kind of indulgence.

Passengers on the Santa Fe have not failed to note the bluffs which bound the valley of the Cottonwood on the south. Southwest of Florence there winds a spring branch along the base of these bluffs. About thirty-three years ago Mr. A. N. Allison "took a claim" so as to have eighty acres of bottom-land on the side of which this spring branch runs. He then estimated that for forty or fifty years he would have an outlet on the hill pasture-lands just south of his claim. In this estimate he was mistaken, but, as the highlands settled, he secured 320 acres thereof with a front on the spring branch. On this half section, 100 to 125 head of cattle are pastured every season. They start to grazing early in the morning, make the circuit of the pasture and return to water and the timber at about 10 o'clock. In hot weather they remain for several hours in the shade, then make another grazing circuit late in the afternoon and evening.

But this is not the only use made of the beautiful rock-bottomed spring branch. The house was built so as to make the stream one side of the yard. The strongest spring comes out of the rocks at a height of about six feet above the bed of the stream. Twenty years ago a hydraulic ram was installed and has ever since sent pure, clear, cold spring-water through the milk-room adjoining the kitchen. The expense of repairs on the hydraulic ram for the twenty years has been \$10, or an average of 50 cents a year. Later, a flume was installed, and a six-foot overshot water-wheel was made to drive a feed-grinder.

After one of the sons, Mr. T. W. Allison, had graduated at the Agricultural College in 1898 and returned to the place of his birth, it was decided to dam the stream so as to impound the water and use it for irrigation. So a six-foot stone dam was erected, making a reservoir half-a-mile long and twenty to seventy feet wide. A ten-horse-power gasoline-engine and a centrifugal pump completed the outfit. The lift is twelve feet.

The water has thus far been applied to the young orchard with small fruits between the tree rows. The cost of fuel for pumping water enough for a good irrigation lies between 20 cents and 25 cents an acre—the latter figure is sufficient to cover cost of lubricating oil and repairs.

The raspberries were irrigated five times and the blackberries six times last season, making the maximum cost \$1.50 an acre.

All evil effects of the hot, dry weather were counteracted by the irrigation. The entire crop of fruit was grown to full size, and it brought top prices on the market.

There are twenty-seven acres in the orchard. The apple-trees were planted in 1897. They consist of Ben Davis, Winesap, and Missouri Pippin. The apple-trees were planted forty-eight feet apart each way. In 1898 and 1899, pear-trees were planted between the apple-

trees in such a way that they also stand forty-eight by forty-eight feet. The varieties of pears are Bartlett, Kieffer, and Seckel. About half of the orchard has been planted in small fruits, chiefly raspberries, blackberries, and strawberries. There are some gooseberries and black currants.

This orchard is in finer condition than any other the writer has seen in Kansas. Grass and weeds are not to be seen. The trees and briars have the thrifty, smooth appearance which characterizes irrigated stock. The furrows have all been opened for the early spring irrigation, which will be given as soon as the soil comes into condition to receive the water. Beside the impounded water lies a fifty-acre field of alfalfa.

This story would not be complete did it fail to mention that, some eighteen months ago, Mr. T. W. Allison took a partner for life in the person of a young lady who received a sheepskin at Manhattan in the same class with Mr. Allison. Her diploma reads Inez Manchester, but as Mrs. T. W. Allison she is putting into practice the knowledge of domestic science acquired at college. The writer can testify that she is a charming hostess. Being a farmer's daughter, she knows what is to be done to make a farm home; being an educated lady, she knows how to do it; being energetic, she puts her knowledge into execution. On her center table are magazines and papers. About the entire home is the spirit of the homemaker, the intellectual Kansas woman who rejoices in her mission in the world; who enjoys her situation in life, her opportunities, and her surroundings.

FIGURING ON FEEDS.

EDITOR KANSAS FARMER:—Will you tell me through your paper which is the cheapest, shorts at \$12 per thousand, or oil-meal at \$18 per thousand, for horses, cows, calves, and hogs? What I want is something to take the place of a half corn ration. My roughness is mostly fodder. Yours truly,
Cambridge, Kans. W. N. CRAWFORD.

According to the accepted tables these feeds contain digestible nutrients per 100 pounds as follows:

	Protein.	Carbohy- drates.	Fats.	Total.
	lbs.	lbs.	lbs.	lbs.
Shorts	12.2	50.0	3.8	66.0
Linseed-meal	29.3	32.7	7.0	69.0

If these nutrients were all of equal value in feeding there would be little difference in the prices which should be paid. But they are not of equal value. At ordinary prices for feeds protein is worth at least ten times as much per pound as carbohydrates. At all prices fats are worth one and three-fourths to two and one-fourth times as much per pound as carbohydrates. To be more exact, when the following prices for feeds prevailed:

Corn, per 100 pounds	\$0.50
Bran, per 100 pounds	0.55
Shorts, per 100 pounds	0.60
Linseed-meal, per 100 pounds	1.10

computation showed the following values for the digestible nutrients:

Carbohydrates, per 100 pounds	\$3.37
Protein, per 100 pounds	32
Fats, per 100 pounds	56

Applying these values to the above stated components of shorts and linseed-meal it appears that the prices which were taken as the basis of the computation were not quite consistent. The shorts were a little overvalued and the linseed-meal a little undervalued, or when feeds were selling at ordinary prices shorts was worth \$5.92 per 1,000 pounds and linseed-meal was worth \$11.31 per 1,000 pounds. If, now, we take the price for shorts named by our correspondent, namely, \$12 per 1,000 pounds, as a basis, we shall find \$22.91 per 1,000 pounds as the corresponding value for linseed-meal.

But, it must be remembered that market values are based on supply and demand. In the ordinary course of production of farm crops, carbohydrates are produced in excess while protein may be said to be deficient. Each is essential in feeds, and each must be had at some price. Protein is therefore usually valued at a price at least ten times as high as that of carbohydrates. The year 1901 was exceptional in more ways than one. Plants rich in protein suffered far less from the dry weather than did those of more carbonaceous composition. It would be hard to make a satisfactory computation of relative values based on present prices, because present prices are results of emergency conditions. Quite likely the relative prices stated by our correspondent are nearly according to relative feeding values where the roughage is fodder.

If, however, our correspondent had plenty of alfalfa hay he would find the shorts the cheaper feed at the price, for the alfalfa would furnish the needed

protein while the shorts furnish a larger amount of digestible carbonaceous food than the linseed-meal.

This feeding problem is an important one. It should be studied carefully by every farmer, regard being had for his own case. Considerable help will be found in a pamphlet published about a year ago, by the Kansas Farmer Company, and which will be mailed to any address on request accompanied by 2 cents to pay for postage and mailing. This pamphlet does not tell just how to feed under all conditions, but it gives a basis for effective thought along the line of figuring on feeds.

STANDARD POLAND-CHINA ASSOCIATION.

The KANSAS FARMER has received from Geo. F. Woodworth, Maryville, Mo., the minutes of the sixteenth annual meeting of the Standard Poland-China Record Association, held on February 5, from which we make the following excerpts:

Roll call of the members of the association—27 members present.

Report of the board of directors read and approved, as follows:

We, the board of directors, beg leave to submit the following report to the sixteenth annual meeting of the stockholders of the Standard Poland-China Record Association. We have examined the reports of the secretary and treasurer and find them correct.

Cash on hand January 25, 1901.....\$2,933.88
Cash received to January 25, 1902..... 3,672.45

Total\$6,606.33
Amount paid out..... 3,377.09

Balance on hand January 25, 1902.....\$3,229.24
Cash received to February 4, 1902..... 183.40

Total\$3,412.64
Paid out since January 25, 1902..... 312.50

Cash on hand February 4, 1902.....\$3,099.14

ADDRESS BY PRESIDENT H. M. KIRKPATRICK.

I congratulate you gentlemen, shareholders of the Standard Record Association, on the continued prosperity of your enterprise—a steady growing treasury fund, no complication of a serious nature, being at peace with all the world. Out of an aggregate number of 490 shareholders, 2 have been called away by death, O. S. Hotchkiss and N. M. Findley; we can but add our sorrow to that of their many friends. The business of the association was never in a more prosperous condition, and the outlook is for easy sailing and a clear sky; and I anticipate we are at the beginning of the most prosperous year in the history of the association and prosperity for this association means individual prosperity. And to further attain this desirable result I wish to call your earnest attention to some of the things that promise good results. My feelings towards trusts and combinations are not kindly when the result is a conspiracy to compel me to pay a greater price for that I use or consume, and there is probably a unity of feeling among all who hear me at this moment. Nevertheless were our positions transposed with the trustee, who could vouch for our unselfishness?

Concentration is the tendency of business enterprise and I anticipate will be the most advantageous until they are prohibited, checked, or controlled by law, because of the greater economy in production. Could all the Poland-China record associations be consolidated into one great company, the economy of administration would be nearly four hundred fold or nearly 100 per cent for each association without diminishing the efficiency of the work and on present basis of charges to patrons the surplus obtained by profit would multiply in proportion. Such consolidation would and should not mean any hardship to the patron. On the contrary it would make it possible to greatly reduce the cost of registration and create a fund beyond the possibility of impairment by accident or temporary depression, that would enable the organization to do many things for the promotion and building up of this great industry. I therefore recommend that you consider the advisability of appointing a committee charged with the duty of attempting such consolidation.

One of the most desirable results to be attained by the consolidation that I have just recommended to you would be the assurance of ability to promote the interest of the industry with money, combined effort and multitude of counsel, and while looking forward to the consummation of so desirable a result we should not lose sight of the opportunities to promote the interests of the fraternity in our individual capacities. I believe it to be greatly to the advantage of the Poland-China interests of the West and Southwest territory as well as to the country at large to hold a great exhibition of our hogs at Kan-

sas City the coming autumn, and to this end I ask your earnest, unselfish, enthusiastic cooperation. Your pride in a magnificent surplus in your treasury is laudable enough, but it brings no results other than a guarantee against a future misfortune, that in all reason will never occur, and should it occur the fertility and ability of nearly 500 able-bodied share-holders would readily provide a remedy. Of the 488 share-holders of this association 390 of them live west and southwest of the place where I now stand. Kansas City is almost if not quite the geographical center of the population of this 80 per cent of share-holders. I take it therefore that when I mention Kansas City as the seat for a great exhibition of Poland-Chinas, that all will readily concede the convenience of the location, and I am not unmindful of the fact that this very large percentage of share-holders have much to do with the large surplus of money now in your treasurer's hands, and make it possible for the association to promote the interests of the whole. I therefore ask you to consider the advisability of appropriating such portion of your surplus funds to the promotion of this splendid enterprise as you may deem wise and proper. Keeping in mind that while the Poland-China hog is the greatest and best of all the breeds, that this fact is not known to all and that there are a few people yet to be shown, and that the competition by other worthy breeds requires us to be constantly pushing and aggressive for success. No narrow or conservative policy ever established or maintained a considerable industry.

Mr. Gentry requests me to ask this association to recommend a classification for all breeds of hogs for the World Exposition at St. Louis in 1903. He desires a more comprehensive classification than is customary at State and other large exhibitions, and I would recommend that you appoint a committee to draft such classification and report it to you for adoption.

The committee, consisting of Mr. Cheney, Mr. Winn, Mr. McKelvie, was instructed to make their report of the classification for the World's Fair at St. Louis direct to Mr. Gentry instead of reporting back to this association.

Election of officers being next in order Mr. Schooler put in nomination John Blain of Nebraska for president; there being no other nominations the rules were suspended and secretary was instructed to cast the whole vote for him.

The following named were chosen vice-presidents by suspension of rules, and the secretary casting the total vote for them:

- James Johnson, Arizona; S. W. Myers, Illinois; J. T. Paynter, Kansas; C. R. Allen, Mississippi; H. H. Wing, New York; P. W. Peterson, South Dakota; J. A. Finley, Arkansas; W. A. Paxton, California; J. West Jones, Iowa; F. M. Lail, Missouri; David Craig, Oregon; A. W. Parrott, Texas; James Bolinger, Colorado; Bruce Findley, Indiana; D. B. Garriott, Kentucky; S. R. Foss, Nebraska; F. B. Hutchinson, Oklahoma.

The election of directors being next in order the following were elected:

- W. T. Garrett, votes 196; F. D. Winn, votes 131; E. R. Woodford, votes 185; Alex. John, votes 185; E. E. Axline, votes 149; B. F. Gilmore, votes 185; H. M. Kirkpatrick, votes 134.

Garrett:—We are on the edge of prosperity for our record. We have sold 491 shares of stock and been refusing stock for quite a while. We have given a volume to each stock-holder for the last nine years and it has cost the association \$3. Now in my opinion we ought to take some kind of steps for increasing our stock. My idea is to increase our stock 200 shares.

Kirkpatrick: I am wondering what we will do with all this money. I move that this association give \$500 as premiums at the Kansas City Fat Stock Show at Kansas City this fall.

Winn: I second the motion.

Garrett: We may not have the \$500 or any other amount to give for show purposes. As the old board has already declared a 50 per cent dividend, and we have contracted for the printing of volume 16, which will cost about \$1,200, and the secretary here \$1,500, and printing and incidentals necessary to the running of the office. Our patronage is contiguous to drought-stricken country. We may not be able to pay running expenses, therefore will consider it unwise to instruct the directors to give any specific amount of money for any purpose other than running expenses.

O'Fallon: Moved to amend by instructing the board of directors to appropriate such sum not to exceed \$500 as in their judgment they may see fit as premiums for the Kansas City Fat

Stock Show. Motion as amended carried.

On motion, the board of directors were instructed to take immediate steps to increase the capital stock to seven hundred shares.

The minutes also show that leading Missouri and Kansas breeders favored a consolidation of the American with the Standard and other Poland-China records; also urged a liberal appropriation for the National Swine Show at Kansas City this fall, but this liberal and progressive policy was stubbornly opposed by W. T. Garrett, the leader of the "Maryville contingent," the power that dominates and controls, as well as handicaps the affairs of what should be the best Poland-China Record Association on earth. It is unfortunate at this opportune time that the breeders who support and maintain the Standard Record should be deprived of the control of its affairs. If the Standard is to hold its proud prestige in the future, that it has held in the past, the management must cease to be a close corporation guided by a narrow policy under the absolute dictation of the "Maryville contingent."

Kansas Sugar-beets.

It is not entirely same to assume that Kansas can be both slighted and kept silent while F. D. Coburn remains on deck. The following remarks by Mr. Coburn on a recent case show what Kansas has done and is probably going to do again even without the gratuity of free seeds from the U. S. Department of Agriculture:

I note, by the story sent to press from Washington, that Chief Chemist Wiley, of the Department of Agriculture, repeatedly declares Kansas is not to be considered seriously in the development of the beet-sugar industry, and that for this reason he cruelly refuses the Kansas Congressmen and Senators any portion of the free sugar-beet seed handed out to others.

I am not a chemist, a beet-grower, nor a sugar-beet crank; I do not live in Washington and I do not know whether Kansas will or will not be "seriously considered" there, but a very good way to incite Kansas to do some unusual or "impossible" thing is to have the Washington authorities say it can not be done. Kansas is likely to do it then, just to show 'em.

Instead of theorizing at long range, let us for a moment get right down close, and look the situation squarely in the face, to date: No part of Kansas ever tried to raise beets for sugar-factory purposes prior to last year when, owing to the proximity of a factory at Rocky Ford, Col., one hundred or more farmers, all new to the business, in Finney, Kearny, and Hamilton three western Kansas counties, representing a strip of country seventy-five miles long, undertook the raising of a few acres of beets each, under a contract with the factory, at \$4 per ton for all beets with at least 12 per cent of sugar, and an increased price in proportion as the beets were sweeter. Some neglected their crops and did not attempt to deliver them to the factory, but seventy-seven growers harvested 1,747 tons from 337 acres, or 22 1/2 tons each, ranging in sugar content, according to the factory's weighing and paying, from 13.3 to 22.8 per cent, and averaging, the good with the bad, 17.8 per cent, while the average in Germany, the great beet-sugar country of the world, is reported as about 15 per cent, and in all Europe but 13 1/2 to 14 per cent. Some of these beets were rich enough that the factory was glad to pay as high as \$7.50 per ton for them, and paid an average for all Kansas beets of \$5.14 per ton.

The average profit per acre realized by thirty-seven growers from whom figures were obtained was \$17.08, and ranged, in some instances, as high as \$43 per acre. Fifteen of the more successful or painstaking growers raised an average of not quite eleven tons per acre (the maximum per acre was eighteen and forty-one hundredths tons), yielding an average of 17.59 per cent of sugar and \$28.48 profit per acre. All this was exclusive of the \$1-per-ton bounty paid by the State.

This statement may or may not have the bearing desired by some people with reference to tariff legislation, but I believe that if our Kansas farmers in these three counties, with their inexperience and insufficient and unsuitable equipment, could make such a record for quantity and quality in their first year, and now have the ducats to show for it, the Washington officials ought to at least give us a trial by jury before pronouncing sentence and condemnation, even if the good Doctor Wiley does exclude us from any share in his beet-seed prize-packages. With profits of

\$17 to \$43 per acre, the Kansas beet-grower, if he concludes to stay in the business, will be fairly able to buy the seed he needs.

Catarrh Can Not Be Cured

with LOCAL APPLICATIONS, as they can not reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

F. J. CHENEY & Co., Props., Toledo, O. Sold by druggists; price, 75c. Hall's Family Pills are the best.

Time is Money.

Modern business methods and the pressure of sharp competition compel the successful merchant houses of the present day to give special attention to the quick shipment of goods. This requires the employment of a large number of persons in one capacity or another all tending to one end, viz., the prompt and accurate execution of orders. The economical handling of such a business requires that only sufficient help be employed as will properly carry on the firm's business. The result is that the unexpected absence of an employee for a day or even a few hours throws back the routine work by just so much as the work of this one person relates to the entire business.

Among a large number of employes there are always occurring little ailments which, if neglected, entail a loss of time to the employee and a loss of business to the employer, and many employers are beginning to recognize the importance of a little precaution in this connection to prevent, or at least to reduce to a minimum, the loss occasioned by interruptions of this kind. As an instance of this we can cite the case of Meyer Brothers Drug Company, wholesale druggists and dealers in medicine, of St. Louis, who employ over three hundred persons exclusively in the work of collecting, packing, and shipping goods. It is a rule of this firm that every order for a customer's current wants must be executed completely on the same day it is received. Competition makes this necessary. If a clerk is feeling badly, his work is poorly done and in a day or two he is too sick to work; meanwhile the firm's customers complain of mistakes or delay. This company hit upon a plan a few years ago, which has not only saved them thousands of dollars of profitable business, but has been a substantial benefit to their employes. Selecting from their extensive and varied stock of patent medicines a remedy which was suitable for the purpose and of whose value and efficacy there was no doubt, they placed a bottle of this remedy in every department of their large establishment for the free use of their employes.

The remedy selected was a well-known liver, stomach, and bowel regulator and kidney tonic, the celebrated Prickly Ash Bitters, and the result of the experiment was in the highest degree satisfactory. The amount of this great money-saver used by the employes of Meyer Brothers Drug Company averages about fifteen bottles per month, or about fifteen dozen per year, a considerable investment from the standpoint of time saving. Whenever an employe complains of headache, bilious feeling, sick stomach, or constipation, he is referred to the bottle of Prickly Ash Bitters. One or two doses soon sets matters right, and he is enabled to perform his proper share in the restless and never-ending activity so characteristic of this remarkable house. It follows naturally that the selection of Prickly Ash Bitters from among several thousand medicinal articles of a similar nature, by persons qualified by experience and an intimate acquaintance with such goods, to select the best, is a mark of distinguished honor for this remedy which we are pleased to refer to as an evidence of the estimation in which it is held by those who are in the best position to know and appreciate its merits.

Israel Pidgeon's Letter.

Topeka Foundry, Topeka, Kans. Dear Sirs:—Replying to yours in regard to your pulverizer and roller, will say: Yes, I have one of your rollers and have been using it for eight years, but if you expect to sell any to any farmer you will be badly fooled. They would "borry" it if you lived close to them, but you couldn't sell 'em one—never. They want to plant their corn in a "furrer," and then pull the "gale" in on top of the weeds. They don't know that it would be a blamed site better to plant corn on the ridge than in the "furrer," if it is a wet season. They don't seem to know that the ridge takes all the moisture from the "furrer" in a dry season. You can't teach a farmer "nothin'" and I'll bet my Shorthorn bull you won't sell twenty-five rollers this year. You knew me when I broke my farm (eighty acres), when the stable was Kansas. Last year when you came out to see me you couldn't find the place, 'cause the place looked so big (240 acres), two-story house and two large barns. If I hadn't been sick abed that day I'd told you, an old friend, the roller had done more than any other tool to make my farming a success. When my two boys, Zeke and Si, left me and went to farming, they each got a set of your wheels, too, you know. I'll bet you couldn't buy them back at three times the price, but then they are "Pidgeons" of course, and first-class farmers, if I do say it. You know I've always been cranky on surface culture, and what you say is the "Campbell system," what you called it by that name, I did but till you called it by that name, I did not know him. You had better write the boys, maybe you might get more consolation from them. Yours for success, ISRAEL PIDGEON.

P. S.—Come to see me when spring chickens are ripe, and I'll tell you all about it. I. P.

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We wish to direct the attention of our readers to the advertisement of the Burr Incubator Company in another column. The factory and general offices of the company are located in Omaha, Neb., and those among our readers who are in need of incubators, brooders, and poultry supplies should correspond with that firm. They have one of the best equipped incubator factories in the country, but owing to the growing popularity of the Burr machines the factory is being taxed to its utmost capacity. Every machine sent out by the company is fully guaranteed, and customers are given the privilege of returning them any time within thirty days, if not satisfied, and the company will return the money received for them. The fact that although the company has been making this offer for many months and not one machine has been returned as unsatisfactory is good evidence that Burr incubators and brooders are doing their work properly. One of the strongest features about the Burr incubator is the ease with which it is heated up to the proper temperature. That means that it is economical of oil and therefore, in the long run, is cheaper than a poorly made machine that might be sold for less money.

Future of the Swine Industry.

(Continued from page 251.)

weakness in the limbs. Good grazing qualities are very important in these days when the constant aim is to cheapen production, by making the pig gather its own food to the greatest extent that is consistent with profit.

SUPERIOR VIGOR.

That it will be more vigorous nobody will deny. But some one may ask, how much vigor is enough? The question is not easily answered in a tangible way, but it may be answered. That vigor is sufficient which will enable the animal best to fulfill the end for which it is kept with the greatest profit to its owner. It is possible for an animal to have an excess of vigor. The wild hog has more vigor than is necessary to profitable production. So, too, has the razorback. On the other hand, what about the average hog of the corn-belt? Has it enough, or too much, or too little? What do you say, farmer? How do you answer that question? Nobody will say that it has too much vigor. If you answer that it has enough of vigor, how can you prove it? If you concede that it has too little vigor, how is it to be given more? These may be hard questions to answer. But the farmer in the corn-belt is going to be compelled to answer them whether he wants to or not. My contention is, that the average pig of the corn-belt has too little stamina, and if you ask how can I prove it? I answer, I do not need to prove it. The millions of graves that are dug every year in the corn-belt to receive hogs that die of disease prove it.

STRONG DIGESTIVE POWERS.

But how is it to be shown that these more active hogs of bacon types have a stronger digestion? Well, in the first place, that should be looked for from the intimate relation which exists between the physical powers of the being. If the constitution of an animal is strong, and its inherent vigor marked, bodily it will be strong, its locomotion will be active, its appetite good, and its digestion will be good also. It may and probably will take more food, but what of that, if it digests it more thoroughly? Experience has taught that animals that consume food most largely and at the same time digest it well, other things being equal, are the most profitable. The strong digestion of these animals has been proved by experiment.

At the Minnesota University Experiment Station, in 1900, the cost of increase in making pork with swine of various breeds and crosses was as follows:

Table with 2 columns: Breed/Cross and Cost. Includes entries like Pure Tamworths, Third Cross Large Improved Yorkshires, etc.

In 1899, at the same station, the results were as follows:

Table with 2 columns: Breed/Cross and Cost. Includes entries like Pure Poland-China, Tamworth Poland-China Cross, etc.

CHEAPEST GAINS.

It will be noticed that in the above experiments, which were conducted by the writer and with much care, in 1899 the Tamworths and Large Improved Yorkshires stand lowest in point of cost of production, and that the crosses of these on Poland-Chinas make a good showing also. In the experiment of 1900 the Large Improved Yorkshires are lowest in point of production and the Tamworths stand fifth. During the first period of twenty-eight days the lots fed in 1900 were given, shorts three parts and corn-meal one part by weight. During the second period of similar length, they were given shorts two parts, corn-meal one part, and barley-meal one part by weight. During the third and fourth periods they were given corn-meal and barley equal parts by weight. They were also fed green food in season, as peas and oats, rape, corn, and mangels, about two pounds per animal per day. They were fed for 126 days, and the average weight when the feeding began was about fifty pounds. The conditions under which the lots were fed in 1899 were not far different.

Now this does not prove absolutely that Yorkshire and Tamworth swine can be made to grow pork more cheaply than the other breeds. These are only two experiments. But they do tend to show that Yorkshire and Tamworth swine may be expected to grow pork as cheaply as swine of other breeds. And

we can give no reasons for this result that would seem quite satisfactory, except that their digestion enables them to utilize food in a marked degree. It may be stated here that these results are in line with other results from somewhat similar experiments conducted by the writer personally.

SELF INTEREST PROMPTS MODIFICATION OF METHODS.

I claim, therefore, that self interest ought to prompt farmers to modify their methods in growing swine. I claim that they will find more money in growing swine of longer type than those now grown, and not inclined to put on so much fat. I claim that to grow such swine, while it will call for some modification in the methods of feeding, will be also in the line of better maintaining the fertility of our farms. My contention is, that the farmers will be compelled to do these things whether they want to or not. And that these modifications are not very far distant.

IMPROVED OVERMUCH.

It may be asked just here, what are we to do? Are we to discard those breeds of swine that we now have and that we have been trying so hard to improve for the last fifty years? Not at all. Let us call a halt in present lines of improvement. We have improved them overmuch. Put on the brakes, reverse the engine, run backward, and switch onto other methods of growing our swine. Make them longer in the side. Lessen the width somewhat; stretch out the neck a little bit, and put longer and stronger limbs under them. It is perhaps fortunate for me that I do not face you men when I say these things. It may be well that I am out of reach. But I do say them, and I intend to repeat them many times again. You can do all this by selection in breeding. Another way of saying these things is to ask you to put more stamina into your pigs. And yet another way is to ask you to conform them more to swine of the bacon type. A few generations of careful selection and the change is made.

OVER-REFINED.

Now, swine-growers of this corn-belt, let us reason together. Is it not true that Poland-China and Duroc-Jersey swine are over-refined? Is it not true that the breeding powers in each have been weakened during recent years? I speak of them as breeds. Is it not true that they have been so converging in type in the effort to get the easy feeding, quick maturing hog, that if both were painted the same color, one could hardly tell them apart? Is it not true also that the Berkshire breeders would be in the same boat practically, but for the fact that recently they have modified their type of hog and changed their standard to enable them to do it? They have stretched them out a bit. This, then, is one line of action that can be pursued.

STOP POKING FUN.

Here is a second line of action that may be followed. Stop poking fun at the Tamworth and Large Improved Yorkshire breeds. Cease calling them such names as razorbacks and greyhounds. The time spent in thus ridiculing them would be vastly more profitable if spent in introducing them to cross on short-bodied, high-grade sows of any of the breeds. Try this cross. Prove it for yourselves, and if it proves a failure, then advertise Professor Shaw in all the papers for having given you bad advice.

Then, you ask, if such a cross is good, why not cross all our pigs in this way? For the reason, first, that there are not enough Tamworth and Yorkshire swine in Great Britain, Canada, and the United States to effect such crossing, though it should be desired. For the second, second, that crossing pure breeds is usually bad policy. And for the reason, third, that it is not necessary. We can improve the excellent breeds of swine that we have, by modifying our methods.

MODIFY PRESENT METHODS OF FEEDING.

But, it may be objected, as it has been objected, where will be the advantage of trying to secure renovation as outlined with our present methods of feeding and management? Will not the tendency of continuous corn feeding soon transform bacon swine into lard swine? True, that would be the tendency. But it could be met in two ways. Be persistent and careful in selection, and modify present methods of feeding. Are we to go on forever rearing pigs practically on corn only, because our fathers did so, or will we modify our methods somewhat? Is it not a fact that while corn will always be the important food factor in making pork in these corn States, that our swine will do better if fed less of this highly carbonaceous food, except while being fin-

ished, and are fed more of protein in the form of legumes? Which shall be the protein crops? Clover in its several varieties, alfalfa, the Canada field pea, the cow-pea, the soy-bean, rape, and mangels. Our farms would stand a little more barley also, which is not so highly carbonaceous as corn. While growing all these crops we would be improving our lands. In fact the improvement in the soil brought about by growing one or the other of the leguminous crops in the above list, would go far to pay for the cost of the same. Our swine would be healthier. They would stand forced feeding better and would also produce that type of pork that will constantly grow in favor with the multitude.

Kansas City Berkshire Sale.

The combination sale of pure-bred Berkshire swine, held at the Kansas City Stock Yards on Friday, February 21, by the American Berkshire Association, drew but a small crowd of visitors and buyers, but under the skillful handling of Colonels Sparks, Harriman, and Harshberger as auctioneers, the animals were made to bring fair prices.

The fifty-one head sold brought a total of \$1,355, an average of \$26.56. Forty-six of these were sows, which brought \$1,257, or an average of \$27.32. The five boars brought \$98, averaging \$19.60.

The top price of the sale was brought by two different sows belonging to Mr. Pollard, each of which sold for \$57. These were Premier Duchess 5th 61359 by Lord Premier 2d 54111 out of Duchess 204th 55903 by Baron Charming 48278, which went to Roberts Bros., White Cottage, Ohio, and Victoria Lee 8th 61368 by Fitz Lee 61125 out of Victoria Langtry 2d 41050 by Victor 3d 30308, sold to G. G. Council, of Williams-ville, Ill.

Harris & McMahan topped the sale on boars on a young boar by Baron Beauty 45470 out of Stumpy Girl 51st 53976 by Sunnyside Duke 2d 45288, who brought \$25, bought by J. D. Robinson, Kansas City, Mo.

Harris & McMahan consigned nineteen head—seventeen sows and two boars—which brought a total of \$506, or an average of \$26.63, the seventeen sows averaging \$27.29 and the two boars, \$22.

June K. King consigned twelve head, which sold for \$264, an average of \$22, the eleven sows bringing \$22.27 on an average and the one boar, \$19.

J. T. Pollard sold twenty-one head for \$621, or an average of \$29.57. The nineteen sows averaged \$30.84 and the two boars, \$17.50.

The purchasers were W. A. Apperson, Tecumseh, Neb.; S. M. Reynolds, Corder, Mo.; E. C. Arn, Ellis, Mo.; M. Harker, Ottawa, Kans.; J. D. Robinson, Kansas City, Mo.; R. U. Kemp, Le Loup, Kans.; A. B. Hughes, Hardin, Mo.; G. G. Council, Williamsville, Ill.; J. W. Wilson, Sedan, Kans.; Chas. Gelsen, Leavenworth, Kans.; O. J. Peterson, Kansas City, Mo.; Roberts Bros., White Cottage, Ohio; J. A. McKitterick, Greenwood, Mo.; W. F. Corblin, Hodge, Mo.; T. J. Wornall, Liberty, Mo.

Ryan's Shorthorns at Omaha.

T. J. Ryan & Son, Irwin, Iowa, have an offering of Shorthorn cattle that is a topper; and it is going to Omaha as the grandly rich draft offering of the year. It would not do to attempt to sell such cattle without talking about them, so they have been at some pains to show them to our field-man, who recently visited their Pleasant View Farm, and turned him loose with a volume of interesting information about the herd. The Ryan sale-catalogue will be in the hands of all who ask for it at a very early date. Fifty-two head of good things are enrolled for this big day's work at Omaha, March 13, as per the terms of the advertisement on another page. The first feature of this big offering of breeding cattle that kindles a spirit of pride in the hearts of their owners is the fact that they are Shorthorns. That fact alone is sufficient to give such an offering a broader front of interest for the beef-cattle-growing world than if it fell under any other head. The Shorthorn breeding public will soon perceive that they are not picking up crumbs under the table when the Ryan Shorthorn feast is on. There are ten straight Scotch cows sent forward as the cream of Pleasant View Farm's contribution on this occasion. These embrace cows of the highest type of the breed, a type that stands highest in popularity before the beef-cattle-growing world to-day. They also embrace pure Cruickshank cattle, several of them also being imported. Twenty others are of straight Bates breeding—and as good as they grow. The foundation Bates stock in the Ryan herd is unsurpassed. The Ryans secured this blood at a time when they could secure it from the richest fount of the breed. The balance of the offering consists of richly bred Scotch and Bates-topped cattle—a fount from which both show cattle and the most useful type of breeding cattle are to be drawn. The Scotch cattle run in the following valuable families: Clipper, Crocus, March Violet, Victoria, Duchess of Gloster, Alexandrina, etc. Lot 1 in the Ryan catalogue will be found to be the great breeding cow 62d Duchess of Gloster, safe in calf since September to the celebrated sire, Imp. Scotland's Crown, at head of the Experiment Station Herd, Ames, Iowa. The dam of this great cow is Imp. 33d Duchess of Gloster; she is thus a half sister to the great sire Cumberland, at head of the Gaunders herd. This fine Duchess of Gloster matron is a most fitting catalogue opener. The splendid procession that follows will get our attention in issues to follow. Please note the attractive advertisement, and mention Kansas Farmer when you write for catalogue.

Dispersion Sale of Red Polls.

On March 15, at South Omaha, Neb., Mr. C. H. Nigh, of Mead, Neb., sells at public auction his entire herd of Red Polled cattle. The herd consists of forty-two head, aside from calves sold at foot of dam, and so liberal an offering of Red Polled cattle under the hammer at so central a point as South Omaha is certainly a rare treat, and should excite no small degree of attention among Western cattlemen. The writer has been in close touch with Mr.

A POSTMAN'S STORY.

C. W. Allen, Thirteen Years in the Service, Talks Interestingly About His Life.

The postman often has strange experiences. One of these came recently to Mr. C. W. Allen, of 377 St. Albans street, St. Paul, Minn., who has been a letter carrier for the past thirteen years. He is 38 years old and has passed the greater portion of his life in St. Paul. Owing to exposure, Mr. Allen contracted a severe case of muscular rheumatism, which doctors failed to relieve. Hearing of the merits of Dr. Williams' Pink Pills for Pale People, he was persuaded to try a box. His improvement dates from that period. To use Mr. Allen's own language, "The first box brought me the first real relief from suffering I had experienced in weeks, the second made me practically well again and, since taking the third, I have had no recurrence of the rheumatism though it has been more than a year since I used Dr. Williams' Pink Pills. Why shouldn't I recommend them?"

The blood in rheumatism has an acid impurity which irritates the sensitive tissues that unite the joints and cover the muscles, thus causing those indescribable tortures which rheumatic sufferers endure.

Rheumatism is always dangerous, as it is liable to attack the heart. Years ago those afflicted were bled; as if taking away some of the impure blood could remedy the balance. This folly has been abandoned, and to-day physicians prescribe and druggists recommend the use of Dr. Williams' Pink Pills for Pale People, as these marvelous vegetable pills go directly to the seat of the trouble, exerting a powerful influence in purifying and enriching the blood by eliminating poisonous elements and renewing health-giving force—thus making a potent remedy for curing this disease.

Dr. Williams' Pink Pills for Pale People will not only cure rheumatism but are a positive specific for all diseases arising from impoverished blood or shattered nerves. They are sold by all dealers or will be sent postpaid on receipt of price, fifty cents a box, or six boxes for two dollars and fifty cents, by addressing Dr. Williams Medicine Company, Schenectady, N. Y.

Nigh's Cedar Farm Herd since it was founded some years ago, and when it is stated that it has been a good paying venture from start to finish, our statement is simply a reflection of the facts in the case. Mr. Nigh's young bulls have brought him the good price of \$100 or better as soon as they were ready to go. Since claiming his sale date about a month ago, he has been importuned to let several of these good young bulls go at good figures, but he has absolutely refused to price them. They are being catalogued and will go to the highest bidder in this South Omaha sale-ring. The cows to be sold by Mr. Nigh are notably good mothers, and some of them are of exceedingly heavy milking strain. It has always been a well kept herd, and it therefore fairly and squarely represents the dual purpose qualities of the breed. Mr. Nigh has proceeded somewhat upon the rather homely but true proposition that "pretty is as pretty does." That is to say, if his cattle do well by him in money returns to his pocket, one year after another, their good qualities are magnified in his eyes accordingly and all is well and good. This sale is made because it becomes for the owner to raise some money and he falls back upon the cattle as a sort of reserve fund on which to draw in case of emergency. He perhaps should not sell them at all, but in order to convince buyers that he will give them the best he will give them a chance at all of them; and then, too, he will know just "where he is at." The dual purpose kettle will be boiling somewhat at Omaha in the month of March, and buyers would do well to come out to this dispersion of Mr. Nigh's good herd. See advertisement and write for the catalogue.

Sale of the Great Riverside Ranch and Cattle.

On February 17 a deal was consummated in Kansas City whereby the Riverside Hereford Cattle Company sold its ranch and herd of registered Herefords at Ashland, Neb., to Geo. A. Ricker, a Quincy, Ill., banker for \$481,000. Twelve hundred head of registered Herefords were included, and this is believed to be the largest transfer of registered cattle of any breed that has ever been made. The cattle alone were estimated in the deal as worth \$300,000. The herd is headed by Admiral and Thickset, the latter having been purchased by Mr. Wm. Humphrey, manager of the Riverside company, for \$5,100. Many of the cattle purchased a year ago from the Shadland Stock Farm, of Lafayette, Ind., were also included. The ranch consists of 3,700 acres of good river-bottom land. The Riverside Hereford Cattle Company still own a ranch of 2,000 acres and 600

regard to pedigrees of both Shorthorns and Poland-Chinas, he is even more careful and more accurate in regard to the animals he produces and sells, and the mere fact that he sold old Gloster and about a dozen head of other Shorthorns to head the herd of F. Bellows & Son, shows that he has the quality in the hide as well as the pedigree in the book to offer his patrons. Mr. Bellows inserts a card in the Kansas Farmer this week so that breeders in the State and in the Southwest may know where to get such splendid animals with such royal breeding as he is now able to offer them.

Col. R. E. Edmonson, of Kansas City, will be auctioneer in charge of the grand dispersion sale of Col. W. R. Nelson's Shorthorns, at Kansas City, on March 19, 1902, assisted by Colonels Judy, Jones, and Sparks.

H. O. Tudor, of Holton, Kans., proprietor of the Bill Brook herd of Shorthorn cattle, which now numbers something over 200 head, recently sold thirty-five head of bulls to parties in Texas, Colorado, and Kansas. Mr. Tudor has a well developed trade in these three States and has little trouble in disposing of his surplus stock every year at satisfactory prices. Having really good stock and advertising it where the buyers are to be found, is generally a sure cure for slow sales. Mr. Tudor has tried the right medicine.

His annual sale this year will be held at Holton, Kans., on April 25 and 26, when he will offer ninety head of cows and heifers and twenty head of bulls. Our readers are urged to keep these dates in mind, as Mr. Tudor promises to offer a grand lot of stock. His herd is the largest Shorthorn herd in the State, and he has the breeding and merit from which to make a more than ordinary good selection.

Coming to the Front.

One of the breeders of fine hogs, who is rapidly forging to the front is E. W. Melville, of Eudora, Kans. He has one of the finest and largest herds of "blue-blooded, big boned, broad backed" Berkshires in the West, and has spared neither pains nor expense to secure the best. His motto has been "the best is the cheapest," and his herd contains representatives of the most noted prize-winning families and individuals.

The announcement, found in another column of Knollwood Farm, it will be seen that the herd contains three noted prize boars. Golden Lee III 60179, won the first prize at the Illinois State Fair in 1901 for the best boar over 6 and under 12 months, and is a very fine individual.

Golden Duke 7th 5856 won the first prize at the Missouri State Fair last September for best boar pig under 6 months, and gives great promise.

Lord Premier 6th 55573, bred by N. H. Gentry, has proven an exceptional sire of large and even litters.

Mr. Melville was the largest purchaser at the combination sale of choice Berkshires at Kansas City Stock Yards pavilion on February 14.

If Kansas has a good corn crop next summer, and we are sure to have it, there will be the greatest demand ever known for breeding hogs, because the country is practically stripped. The wise breeder will proceed to stock up and be ready to supply the demand and "make a stake." Mr. Melville has a few choice sows and gilts bred to the above mentioned prize boars; also a few choice young boars ready for service.

Publisher's Paragraphs.

The "Jack of all Trades" was placed on the market three years ago and was evidently a machine which all farmers were locking for, judging from the thousands of them now in use. They are capable of accomplishing so much work at so little cost, that a farmer once using one of them is lost without it.

The Kansas Farmer will issue early in March two very important publications: First, the 1902 Stock Breeder's Annual and Kansas Breeder's Directory, the twelfth annual proceedings and directory of the Kansas Imported Stock Breeder's Association, sent free to our readers for 2 cents, the cost of postage; second, on March 13, the Kansas Farmer will publish its Special Dairy Edition, sent free to all applicants.

The cowboys have about been supplanted by the plow-boys. In place of wearing whip and spurs, and riding a bucking broncho, the average Kansas boy is now brought up to wear a smile and ride the St. Joe Lister. One of these young chaps was recently heard to sing the following beautiful stanza: "Ours is the land of sunflowers; And the St. Joe Lister that scours, Is also a good thing that is ours," and he continued to sing to the effect that he would keep pushing it along to the end of the 1902 furrow. See St. Joe Plow Company's advertisement.

The great Magnetic Healing Institute at Nevada, Mo., so long conducted by Prof. Weltmer, has lately been strengthened by the addition of Prof. H. C. Murphy to its working force. This institution now occupies two very large buildings, and will probably need additional quarters soon. Their record among the bankers and business men of the city is first-class for reliability and financial standing, and their record among the 400,000 people whom they have treated has served but to increase their business. Write for a free copy of the Magnetic Journal to Prof. S. A. Weltmer, Dept. 2, Nevada, Mo., and learn the facts.

R. M. Kellogg, of Three Rivers, Mich., has just issued a new treatise on "Strawberries and How to Grow Them." This is a text book for progressive fruit-growers, who desire to keep pace with the

new horticulture. It is a treatise on plant physiology, which shows how the fruit-producing organism of a plant may be developed so as to throw its energies to the evolution of fruit instead of useless runners and foliage. This is an extremely valuable book for every farmer because every farmer should plant a few strawberries, and we understand that it can be had free by any one who will mention the Kansas Farmer and write to Mr. Kellogg for it. It is a great book, and you ought to get it.

At this time of the year, when the warm days begin to appear, our mind turns to trees, which reminds us to say that if any of our readers desire fruit and ornamental trees, shrubs, roses, grape-vines, small fruits, etc., we gladly refer them to our advertisers in this line, and especially to our Kansas advertisers. One of these is W. F. Schell, owner of the Wichita Nurseries, who is one of the best known men in the business in Kansas. His stock is grown in the heart of the Arkansas Valley, consequently has strong vigorous roots, which enables the trees and plants, when transferred to other localities, to grow thriftily, and practically without any loss. Write him for descriptive catalogue, and mention Kansas Farmer.

About a year ago the Jansen Nursery, now the Galbraith Nurseries of Fairbury, Neb., offered a prize of \$25 worth of nursery stock for a new name. We are advised that the winner was Chas. J. Sechlenisg, of Dunlap, Iowa. He first suggested "Galbraith Nurseries" which suggestion was adopted. We have just received a copy of the new catalogue issued by this company, and while it is not so showy and pretentious as some, it is very complete and presents, in a sincere and intelligent way, the various varieties of fruits and trees. Mr. Galbraith writes us that he has a large line of two-year-old apple-trees this year, which are remarkably vigorous and thrifty, and a very choice line of grapes. Forestry has always been a hobby with Mr. Galbraith. Ash, catalpa, maple, box-elder, and other native hardwoods are all raised by the Galbraith Nurseries and sold at remarkably low prices. Write to-day for a catalogue and get your order in early. Please mention this paper when writing.

One of the handsomest things that we have seen lately is a souvenir of the Second International Live Stock Association, held at Chicago in December last, issued by Clay Robinson & Company, the live-stock commission merchants. The book is made up of large full page photograph reproductions, showing the prize-winners and grand champions in the fat stock classes as they appeared in the sale-ring, the feed-lot, or on the block. It also contains a picture of Mr. Jas. Peter, Berkeley, England, the famous judge of fat cattle classes at the International, as well as one of Geo. P. Henry, Goodenow, Ill., who bred and exhibited the grand champion steer. This souvenir is not for general distribution, but will be sent free to bona fide breeders of registered stock or to persons shipping not less than one car-load of stock per year to Kansas City, St. Joseph, Omaha, Chicago, or any other town where Clay Robinson & Company have business houses.

Mr. Chas. E. Bartlett, Jr., of Columbus, Kans., who advertises the lumpy-jaw cure, is receiving a great deal of business through his advertising card in the Kansas Farmer. One of the best reasons for this is that his is a thoroughly reliable remedy, which gives entire satisfaction. It costs less to the consumer than most others on the market; it is absolutely safe to use; and is thoroughly recommended by competent men. Mr. Fred Cowley, member of the Kansas Live Stock Sanitary Commission, says that he is familiar with the Bartlett Lumpy-jaw Cure and is confident that it will cure the worst cases of lumpy-jaw in any of its stages, and cheerfully recommends its use to any whose stock is afflicted with this disease. He further says that it is far better to use an external treatment, like Bartlett's, than to use potassium iodide, as he is sure the iodide has a bad effect on the offspring, and makes them weakly. He adds, "I will guarantee that Mr. Bartlett will fulfill any contract he may make."

The Fairbury Nurseries of Fairbury, Nebraska, who are among the valued users of our advertising columns this season, call attention to the large quantity of standard fruits which can be bought from them for one dollar. This is elaborated in their catalogue, a copy of which has just reached us. The various kinds of fruit-trees are listed with well and sensibly worded descriptive matter, and there is an entire absence of that extravagant language found in some nursery catalogues. Small fruits and flowering shrubs are in their proper place and priced most reasonably. Many farmers are planting forest-trees every year, and find it pays to do so both for shade and shelter and to create future fuel and timber supply. The Fairbury Nurseries grow all the leading forest-trees in great abundance and can furnish just what you may want. Write for one of the catalogues to-day and mention this paper in writing them. A German catalogue is also issued. Unless specially called for the English one is sent. Address Fairbury Nurseries, Fairbury, Neb.

There are a great many ardent sheep men in Kansas and Oklahoma, who love the animals they are raising better than other classes of stock, and who are making money out of their business, but who dread shearing time. There are many other farmers in this territory doubtless who would be glad to engage in the sheep industry, but for the bother and vexation of shearing. These anticipated troubles have all been removed by the invention of a simple instrument which combines a flexible shaft with a clipping machine, and is advertised and sold by the Chicago Flexible Shaft Company, corner LaSalle Ave. and Ontario Street, Chicago. These machines are light, easily worked, and cheap, and are valuable not only for shearing sheep, but for clipping horses and mules, and putting other classes of livestock into shape. Professor Shaw says that with this machine an inexperienced man can shear sheep at the rate of one animal every fifteen minutes, while an

expert can do the work in ten minutes or less. A boy can run this machine without getting tired. Write for their large handsome catalogue.

A Woman's Experience.

It was my privilege recently to call upon the world famous Mrs. Pinkham, at Lynn, Mass. I must confess that among all newspaper women there has always been a great feeling that Mrs. Pinkham was a myth; we are so familiar with advertising methods we grow to be skeptical and always take such statements as are made in the Pinkham advertisements, as well as all other advertising, with the proverbial "grain of salt," but, as before stated, being near the city of Lynn, Mass., I thought I would investigate a little in order to satisfy my curiosity, and I must say I was surprised at what I found.

To begin with, I had no idea that the Lydia E. Pinkham establishment was anything like the immense size that it is, and when the street-car stopped in front of a great collection of buildings and the conductor told me that it was the Lydia E. Pinkham laboratory, I should have been sure he had made a mistake had it not been for a small sign which is on one of the original buildings.

Upon entering the office I was received by a very courteous lady and was very much impressed by the fact that all the occupants of the room were women and although my sojourn in the building covered something more than an hour visiting the entire place and private office, I saw nothing but women, and was also pleased to learn that no man ever had access to these rooms. I was satisfied that their claims that this is strictly a woman's institution were altogether truthful.

After stating the purpose of my visit, I was introduced to Mrs. Pinkham, who turned me over to a head assistant, with instructions that I was to be shown everything in and about the laboratory, and particularly asked me to visit the "private letter department," which I did. This is the department in which is received hundreds of thousands of letters from ailing women, and in which every letter is opened, carefully considered by competent persons under Mrs. Pinkham's guidance, and carefully and accurately answered by women only—so particular is Mrs. Pinkham about having even a suspicion of these letters going through a business office where men are allowed to frequent, that she will not allow a typewriter to be used, and every letter that goes out of this office is written by hand by women. I was also shown positive evidence, which clearly satisfied me on the point that no letters are published unless the writer's special permission is first obtained.

To say that all this was a revelation is putting it mildly, and when I was shown the great cabinet of files that contain thousands upon thousands of letters, then, and only then, did I begin to realize the magnitude of Mrs. Pinkham's work. Just think of it, every one of these letters had been answered as carefully as the most competent knowledge could dictate, and not one cent has ever been charged for such letters where more than one million such letters were filed, and I began to feel that this one woman was doing more good among the sick women of America than any combination of men and women that I ever heard of. I came away from Mrs. Pinkham's laboratory feeling that it was my duty to all women to use my facilities as a newspaper writer to assure them that what I saw convinced me that Mrs. Pinkham is more competent to advise sick women than any other one person in the United States. The volume of information which she has collaborated during the last twenty years contains a record of every kind of female illness that a human being could possibly develop, and that nowhere in the world could a woman get more accurate and helpful advice in regard to her illness than by writing to Mrs. Pinkham, at Lynn, Mass. I have no interest in Mrs. Pinkham or the Pinkham Medicine Company, but I have a streak of humanity in my make-up, and I can not rest without unburdening my mind in regard to this matter, and every time I see the following paragraph in a newspaper, I can hardly keep from saying out loud, while I am reading it: "Every word of that is true, and every woman who is ill and does not take advantage of Mrs. Pinkham's advice is slowly committing suicide." The paragraph referred to is as follows:

"Women suffering from any form of female weakness are invited to freely communicate with Mrs. Pinkham at Lynn, Mass. All letters are received, opened, read, and answered by women only, thus has been established the eternal confidence between Mrs. Pinkham and the women of America, which has never been broken and has induced more than 100,000 sufferers to write her for advice during the last four months. Out of the vast volume of experience which she has to draw from, it is more than possible that she has gained the very knowledge that will help your case. She asks nothing in return except your good-will, and her advice has relieved thousands. Surely any woman, rich or poor, is very foolish if she does not take advantage of this generous offer of assistance."—Margaret L. Briggs, in Boston Herald.

Enormous Exports to Europe.

The old world is largely dependent upon this country for its labor-saving machinery, and although enormous quantities of machinery of this character are being shipped every day, the trade is as yet in its infancy. Nearly every steamer leaving our American ports at this season has for its cargo a large quantity of harvesting and other agricultural machinery, the major portion of which is manufactured in Chicago. The steamer "Asyria," which sailed for Havre on February 11th, has a freight tonnage capacity of 10,348 tons which was occupied by Deering harvest machines. The tonnage capacity of other steamers which have recently sailed for Europe, and whose cargoes were divided about equally between harvesting machinery and other American labor-saving machines were the "Othello," with a capacity of 3,318 tons, the "Alecto," 5,852 tons, the "Serviphos," 5,125 tons and the "Stellia," with a capacity of 4,660 tons. Truly America is cutting a wide swath across the pond at the present time and the end is not yet.

Brain Markets.

Conducted by James Butler, Secretary of the Farmers' Co-operative Grain and Live Stock Association.

"The human race is divided into two classes,—those who go ahead and do something, and those who sit still and say, why wasn't it done the other way."—Oliver W. Holmes.

Grain-Growers' Program at Hutchinson.

March 4, Evening Session.
7:30 p. m.—Address by Governor W. E. Stanley: "The Right of Farmers to Organize and the Necessity of Organization."
8:00 p. m.—Address by Alonzo Wardall: "What Cooperation has Accomplished."
8:30 p. m.—Address by J. A. Souders: "The Farmers and the Grain Trust; Why Farmers Should be Loyal to the Local Associations."
9:00 p. m.—Address by C. B. Hoffman: "Grain Growing and Milling the Leading Industries of Kansas, and their Relation to Each Other."
9:30 p. m.—Address by J. M. Senter: "The Origin of the Farmers' Cooperative Grain and Live Stock Association in Kansas, and What it Has Accomplished."

THE MARKETS.

Kansas City Live Stock Markets.

Kansas City, Mo., Feb. 24.
The shortage of fat stock in the West was more pronounced last week than at any time during the season. All forms of live stock receipts showed a falling off at Kansas City, and the Missouri River points, but at Chicago there were increases. The Western shortage overcame the latter, however, as far as cattle were concerned, and toward the close of the week the markets all strengthened. At Kansas City the receipts were 20,000 head, a falling off of 41 per cent from the same time a year ago. Trade opened dull and at lower prices, but assumed more life and activity later on, and closed 10 to 15c higher than the previous week. Plain to coarse heavy cattle showed but little change for the better. Few export steers of prime quality arrived, hence no toppy prices were realized. The best price was \$6.35, given on Tuesday. Quarantine cattle sold at \$5.75, the highest point reached at any market. The curtailment in the supply of stockers and feeders gave the market on such cattle a decidedly stronger tone, the general advance amounting to 25c. The demand from the country for feeders and stockers is remarkably brisk considering the high price of corn. Local cattle dealers expect a red-hot demand for stockers when grass starts, and are figuring on a decided rise in values. A slump in the beef-steer market or unfavorable climatic conditions are the only factors that will break down these calculations.

Hogs shared with cattle the decrease in receipts, arrivals at the local market amounting to but 53,300 head, against 82,400 the same time a year ago. Toward the fore part and middle of the week values sagged down until best top hogs brought but \$6.10 or \$6.15. More strength was put on at the close of the week, however, and values got back to the starting point or about on a par with the close of the preceding week. The average weight of hogs is slowly becoming heavier, now that receipts are falling off. The cessation of the abnormal movement of trashy Southern pigs is accountable for the slight improvement in the average weight. Kansas City

VIRGINIA BEAUTY APPLE

Highest Quality Yet Attained. Bears Young, Large, Beautiful, Red Winter Apples. . . . The coming market apple. Tested in the west for 20 years. Trees in Virginia 55 years old still bearing good crops. A full line of Fruit Trees Propagated From Selected Bearing Trees. Also small Fruit Plants and Ornamentals. Our Book How to Grow Fruit and price list free. TITUS NURSERY, Nemaha, Neb

SEED CORN.

\$1.25 and up. Raised in the best corn district in the United States. Oats and Grass Seeds. . . Stamp for Catalog and Samples. THE McELROY SEED FARM, Blanchard, Iowa.

SEED-CORN KANSAS CROWN.

I have a fine lot of Yellow SEED-CORN for sale—my own raising—crop of 1900. Tipped, shelled, sacked, and f. o. b. cars. PRICE \$1.25 PER BUSHEL. F. L. RAYMOND, Vera, Wabausee Co., Kans.

\$100 PER ACRE, IRRIGATED LAND

per month for our IRRIGATED fruit, farming, and stock land appeals to you. Address Orchard Land Co., Orchard, Idaho. Hotel rates \$1.25 per day. DUROC-JERSEY HOGS FOR SALE. Glits of the lengthy, deep-bodied type, bred for March and April farrow, and a good lot of 4 to 6 months old pigs of both sexes. S. Y. THORNTON, Blackwater, Mo.



FREE For the purpose of introducing my Home Treatment in certain localities, I will for a short time, give to every sufferer wanting a Cure for Catarrh, Bronchitis, Consumption and Weak Lungs, a medicine for 3 Months' Treatment FREE. No O. D. Imposition. Write at once. Dr. M. Bealy, 334 W. 9th St., Cincinnati, O. NOTE—Dr. M. Bealy, the Throat and Lung Specialist, has an enviable reputation for ability in his profession, and will not promise what he cannot carry out. We advise our readers to write to him. (Christian Standard.)

Now that can be ly tha only to sho swine cheap

packers gained a notch or two on Chicago this week by giving prices that looked level with the Lake City's best values. In the face of big runs and sluggish markets with declining values in the East, sheep at this point sold steady to strong all week, and closed a little higher. Lambs eased off somewhat, however, from the high point of the week. On Tuesday, Colorado lambs sold for \$6.60, the best point of the season and the highest since the spring of 1900. Mutton is away out of sight at present, however, and there is some apprehension of buyers soon beginning to start a bear crusade. This will not be possible, however, until heavier runs are had, and these are not looked for until the movement of Southern grass sheep starts.

A brisk inquiry was had all week for horses and mules, though the former carried off the lion's share of the activity. A better demand was had from the East than was experienced in several weeks, and values ruled strong. The breaking up of the cold spell this week had a great deal to do with a firm inquiry for farm horses. The scarcity of work stock throughout this section of the West, owing to heavy shipments last fall during the drouth months, and also to the steady draining of the country's supply by the British government, will be felt more this spring than ever before. Farmers are now giving more for work mules than Southern planters are offering.

Kansas City Grain Markets.

Topeka, Feb. 24, 1902.

If the last month has taught the farmers one thing more than another, it is this, that the old theory of demand and supply, making prices hold no longer good. If it does, how can anyone harmonize the price of wheat of the early winter with the price of wheat of to-day, when the price is certainly sixty millions of bushels less than it was a couple of months ago. This amount has been consumed and exported since that time, and yet the price is fully 10c lower. What then can be the cause of this decline? It is manipulation, pure and simple, by a few big operators, who absolutely control the situation. There is one remedy and only one, and that is for the farmers to get together and form a combine of their own, and put their own price on the products of their toil. The decline in wheat can be accounted for in no other way except as herein stated; the visible supply decreased over a million bushels last week; exports were liberal, and primary receipts down to the lowest point of the season—only 1,379 cars, against 3,024 cars for the same time a year ago—and Argentine wheat shipments have averaged only about one-half of last year's shipment. Still wheat goes down, which fact is certainly food for reflection. Our total exports of wheat since July 1 have been 177,869,000 bushels against 127,767,000 bushels for the corresponding time a year ago.

Corn has also suffered a severe decline. This, of course, may be of some help to our people, as the entire Southwest seems to be buying corn for feed. Corn exports have been very small this crop-year. Since July 1, 1901, we have sent abroad only 23,537,000 bushels, against 127,145,000 bushels for the corresponding time a year ago, proving, in a measure, the smallness of our crop of corn. Right here it may not be out of place to state that May corn a year ago to-day sold for 41 1/2c on the Chicago Board of Trade, while the price of the same cereal to-day was 69 1/2c, or 18c per bushel higher. But May wheat closed 1c per bushel lower to-day, than it did the corresponding day a year ago, when it closed at 76 1/2c, the closing price to-day being 75 1/2c.

The situation, as far as the growing wheat is concerned, remains about the same; there is a small amount of surface moisture and a very dry subsoil all over the Southwest, and the condition of the whole is not as good as last year at this time.

A Michigan crop report is out and makes conditions several points below those of last year. We repeat, on legitimate grounds, that we believe wheat is now low enough, but as stated before, conditions do not count; a few big fellows hold the lines and do the driving.

Markets closed as follows:
Chicago.—No. 2 red wheat, 81@83c; No. 2 Kansas hard wheat, 74 1/2@76 1/2c; No. 2 corn, 58 1/2@59c; No. 2 oats, 42@43c.
Kansas City.—No. 2 red wheat, 82@83c; No. 2 hard wheat, 73 1/2@74c; No. 2 corn, 58 1/2@59c; No. 2 oats, 43 1/2c.
F. W. FRASIUS.

Elgin Butter Market.

Elgin, Ills., Feb. 24, 1902.
The quotation committee announce butter 28c.

About the Wabash.

The Wabash has just placed orders for more than \$3,000,000 worth of eighty-pound steel rails. This summer \$1,000,000 in steel rails will be laid on the Wabash lines to Kansas City, to Omaha, and to Des Moines. Sixty-thousand tons of steel rails will be laid on the Wheeling and Lake Erie and on the Pittsburg division. It is the intention to have the rails for the Western lines down in time for the World's Fair in St. Louis. Contracts for the work will soon be let, and the construction will then immediately begin. Orders for these rails have just been placed by President Joseph Ramsey, Jr. He said yesterday: "The finest roadbed in the world is not too good for us. The World's Fair is going to bring hundreds of thousands of people into St. Louis. We intend to have the fair eclipse that made by us during the Pan-American Exposition at Buffalo. The road is already figuring on an enlargement of service, and an addition to equipment to handle a tremendously heavy business. Increase in the company's gross earnings for the fiscal year July 1, 1901, to January 31, 1902, have reached almost \$1,000,000, and the passenger department has made the remarkable record several times of almost equalling the earnings of the freight departments. The company's Pittsburg improvements are well under way. Everything in that direction will be completed in time for the fair, which is the objective time of all the road's improvements."

The family that keeps on hand and uses occasionally the celebrated Prickly Ash Bitters is always a well-regulated family.

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time will be inserted in this column, without display for 10 cents per line of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it.

SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

CATTLE.

FOR SALE—A thoroughbred Hereford bull, 4 years old, weighing 1,800 pounds. Splendid breeder, his spring calves now weighing 800 pounds. Call on or address A. Woodcock, Bronson, Bourbon Co., Kans.

FOR SALE—My herd bull, Model 147941, he by Glendower 103837. Ought not to use him longer. Is good enough to head any herd east or west. Is red, extra heavy bone. Will be 4 in May next, and weigh about 1,800 pounds; no trade. L. F. Parsons, R. R. 3, Salina, Kans.

FOR SALE—Or trade for one equally as good—my Shorthorn bull, Roscoe 136812. Gentle and a good breeder; 4 years old. O. A. Rhoads, Columbus, Kans.

FOR SALE—Two pure-blood Shorthorn bulls, 8 high-grades. James Ely, Aulne, Kans.

FOR SALE—Four Galloway bulls, 1 and 2 years old; also a few year-old heifers, all registered, and good individuals. Thos. Gribben, Hope, Kans.

I HAVE 15 registered Aberdeen-Angus bulls for sale, from 8 to 24 months old; also some choice females that must sell. A. L. Wynkoop, Bendena, Kans.

FOR SALE—Three pure Cruickshank-Shorthorn bulls. Call on or address H. W. McAfee, Topeka, Kans.

SHORTHORN CALVES FOR SALE—Two bull calves, thoroughbred, and 18 months old. Geo. D. McClintock, Rural Route 2, Meriden, Kans.

THE STANDARD CATTLE COMPANY has 12,000 acres of the richest land in the west; and will receive applications from tenants desiring to lease land. We also want men with families to work in beet-fields. Correspond with Standard Cattle Company, Ames, Neb.

D. P. NORTON—Dunlap, Kans., will sell long and short yearling Shorthorn bulls at price of calves.

FOR SALE—Three registered Hereford bulls; also a few high-grades. Inspection of foundation stock invited. A. Johnson, Clearwater, Sedgwick Co., Kans.

SHORTHORN CATTLE SALE—I will offer at public sale, 1 1/2 miles south of Marysville, at 2 o'clock p. m., on Tuesday, October 15, 17 registered Shorthorns, 19 high grade Shorthorns, and 3 thoroughbred Jerseys. Lewis Scott, Marysville, Kans.

SWINE.

POLAND-CHINA HOGS, Shorthorn cattle, and Barred Plymouth Rock eggs, for sale cheap. George Manville, Dearborn, Mo.

LARGE ENGLISH BERKSHIRE BOARS, sows and gilts, safe in pig to two of the best farms in the West, for sale. E. J. Oliver, Lone Spring Farm, Dearborn, Mo.

FOR SALE—Choice pigs from Large English Berkshires; recorded stock. Early yellow soy-beans, at \$1.75 bushel, sacked. H. M. Starns, Lafontaine, Kans.

FOR SALE OR TRADE—My herd boar for a good sow, bred; also for sale two good males sired by Proud Perfection, dam by Missouri's Black Chief. Call on or address Wm. Maguire, Haven, Kans.

FOR SALE—A few good gilts sired by son of Chief I. Know, and bred to son of Missouri's Black Chief. Bargains to quick buyers. I ship from Lawrence. Address, W. B. Van Horn, Lone Star, Kans.

PEDIGREED—Duroc-bred sows. \$12 for a few weeks only. C. Dorr, Peterton, Kans.

HORSES AND MULES.

FOR SALE OR TRADE—For a good jack, my Percheron stallion, dark gray, weight, 1,700 pounds; a fine breeder and a sure foal-getter of high-class horses. Address W. Q. Hyatt, Carbondale, Kans.

TO TRADE—For draft stallions, one of two good jacks. J. Sharrock, Girard, Crawford Co., Kans.

FOR SALE—A car-load Coach-bred mares, 2 to 5 years old. All bred from native mares. W. Guy McCandless, Cottonwood Falls, Kans.

FOR SALE—One span of well-matched, black work mares. Brookhaver Bros., Eureka, Kans.

FOR SALE OR EXCHANGE—A fine 3-year-old road stallion, should at maturity be 16 1/2 hands high and weigh 1,200 pounds. A nice bay and good mover, with plenty of Hambletonian blood in him. Call on or address C. O. Chapman, Lakin, Kearny Co., Kans.

FOR SALE—French Coach stallion, Bismark 1925. Address C. E. Hayes, Stanley Iowa.

FOR SALE—Black Percheron stallion Monthaber 13162 (24057), 12 years old, weight 1,800 pounds; an extra breeder; price \$400. Address G. W. Southwick, Riley, Kans.

REGISTERED stallions, mares, and jacks for sale, one mile west of Hartford, Lyon County, Kansas. Three registered Percheron stallions, 3 registered Percheron mares; 3 registered Hackney mares; 1 stallion Standard-bred, Rubini 12844, sired by Lord Russell, sire of Maud S and grand sire of Miss Previous, sold at Marcus Daly's sale as a yearling for \$10,000; and Prelatis for \$4,000; 1 large black jack, good and sure breeder; 3 work mares; 1 carload of Hereford heifers; 3 top crosses. Address Thomas Evans, Hartford, Kans., or see B. F. McCormick on place.

FOR SALE—Four big black jacks. Address J. P. Wilson, Wellsville, Mo.

FOR SALE—Two jacks 5 years old. One Shire and two Belgian stallions. Address Chas. H. Guffin, Scandia, Kansas.

FOR SALE—One Cleveland Bay, one seal brown Percheron, and one imported black Shire stallion. Will sell one of the above cheap for cash. Lewis J. Cox, Concordia, Kans.

FOR SALE OR TRADE—Two large, black jacks, mealy points, 3 and 4 years old. E. E. Potter, Sterling, Kans.

FOR SALE—At a bargain—young draft stallions. A. I. HAKES, Eskridge, Kans.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORTHORN CATTLE and POLAND-CHINA HOGS. Write for prices of finest animals in Kansas H. W. McAfee, Topeka, Kansas.

FARMS AND RANCHES.

FOR SALE—160 acres one-half mile from college and street-car, 3 miles from packing-houses; 50 acres alfalfa, 60 acres prairie, balance in cultivation and fruit; improved and fenced, city water, artificial lake; \$50 per acre. Address B. W. McGinnis, Rural Route 2, Wichita, Kans.

BEULAH-LAND FARM—Has for sale young Red Polled bull calf, \$50. Cows and heifers, \$75 up. Poland-Chinas, choice and cheap. Wilkie Blair, R. R. 1, Girard, Kans.

FOR SALE—One of the finest stock farms in Geary County, contains 400 acres. For particulars, address G. A. Wingfield, Junction City, Kans.

FOR SALE—One of the best wheat-and stock-ranches in Ford County, Kansas, at \$5 per acre; 1,800 acres fenced and cross-fenced, inexhaustible water supply, four miles from Dodge City, Kansas. For further particulars address J. H. Churchill, Dodge City, Kans.

FARMS FOR SALE—On reasonable price and terms. Address for particulars D. W. Jones, Iola, Allen Co., Kans.

FOR SALE—A 16-acre fruit and garden farm near Junction City and Fort Riley. Address R. W. Scott, Junction City, Kans.

WANTED—Correspondence from parties wishing to buy wheat-farms or stock-ranches. J. M. Patten & Co., Dighton, Kans.

120 ACRES—Improved, Osage County, \$1,500. Rents \$100. Buckeye Agency, Agrioola, Kans.

FOR SALE—Alfalfa farm on the Arkansas Valley, running to the river, 2 miles west of Dodge City; a model dairy-farm containing 178 acres alfalfa and alfalfa-land, 500 acres pasture adjoining; good improvements. For further particulars address J. H. Churchill, Dodge City, Kans.

SEEDS AND PLANTS.

GREENHOUSE PLANTS Carnations, Coleus, Roses, Fuchsias, Heliotropes, Geranium sorts. Samples by mail, 1 doz. 25c. Mrs. T. Montgomery, Larned, Kans.

BERRY PLANTS For Sale—40 varieties, moderate price. Send for 1902 Catalogue. B. F. Smith, P. O. drawer C, Lawrence, Kans.

FOR SALE—Kaffir-corn seed. Send for samples and prices. I. W. Gilpin, Admire, Kans.

HOME-GROWN Nemaha County, Kansas, Seed-corn, different varieties; sample and prices 10 cents. It's guaranteed. Otis Warrenburg, Centralia, Kans.

ALFALFA-SEED—Good, \$4.25 per bushel. I want a good young man by the year. He can invest wages in cattle after first year. Give reference when writing, and state where you saw this advertisement. J. W. Cook, Leoti, Kans.

FOR SALE—At \$1.25 per bushel, 200 bushels seed Leaming corn that will mature in 120 days, and has produced for five years in straight field crops, an average of 75 bushels of corn per acre. All orders must be given by April 1. No orders filled except accompanied by cash. Address John T. Harris, Shiloh, N. J.

SEED SWEET POTATOES FOR SALE—All leading kinds; also plants in their season. Enquire of N. H. Pixley, Wanego, Kans.

EARLY HARVEST BLACKBERRIES—Very prolific; fine root cuttings; sure to grow; \$2 per 1,000. Also Catalpa Speciosa seed in any quantity. O. A. Rhoads, Columbus, Kans.

ALFALFA SEED FOR SALE—\$4, \$4.50, and \$5 per bushel, sacked. Order by mail of J. C. Riggs (seed house), Florence, Kans.

SIBERIAN MILLET, the new forage millet, 100 lbs., sacked, \$2.50; seed-corn, several varieties, per bushel, \$1.50; Bromus Inermis, per lb., 18 cents; per 100 lbs., \$18; Dwarf Essex rape, per lb., 8 cents; per 100 lbs., \$7. Write for catalogue. Trumbull & Co., Kansas City, Mo.

BLACK HULL KAFFIR SEED of my own growing, re-cleaned and screened; a choice article; crop 1901. Send for samples and prices. Asher Adams, Osage City, Kans.

BEST pure Red River Valley, Ohio and Triumph seed potatoes at wholesale prices. T. G. Ferguson, Central Station, Beaver Crossing, Neb.

FOR PRICE LIST of Strawberry, Raspberry and Blackberry plants send to Wm. Brown & Sons, Lawrence, Kans.

WANTED—Cane and Kaffir-corn seed in car lots. Mail samples and quote price. McBeth & Kinnison, Garden City, Kans.

WANTED—If you wish to buy or sell corn, oats, hay, cane seed, Kaffir-corn, corn chop, or anything in the feed line, correspond with us. Western Grain & Storage Co., Wichita, Kans.

HIGHEST PRICE paid for cane seed, alfalfa, millet, Kaffir-corn and pop-corn. Please send samples. Kansas City Grain & Seed Co., Kansas City, Mo.

AGENTS.

WANTED—A good, active man with horse and wagon, to represent us in each county. Will bear investigation. Imperial Stock Food Co., 902 Jackson St., Omaha, Neb.

WE PAY TWENTY DOLLARS A WEEK AND EXPENSES—To men with rigs to introduce our Poultry Compound. Send stamp. Javelle Mfg. Co., Dept. 92, Parsons, Kans.

AGENTS WANTED to sell "Schley and Santiago," by Geo. E. Graham. Autograph introduction and personal account of the battle by Rear Admiral Schley. True Story of Santiago told exactly as it occurred for the first time by the only eye-witnesses of the fight. No subject before the public interests everybody as this story of Admiral Schley. The American people demand full recognition of the Hero of Santiago. Books selling like wildfire. Price \$1.50 to \$2.75, according to binding. Liberal commissions. Outfit and books ready. Send seven 2-c. stamps for complete outfit. Act quick. Big money for you. W. B. CONKEY CO., Sole Publishers, CHICAGO.

PATENTS.

UNITED STATES AND FOREIGN PATENTS
F. M. COMSTOCK & CO.,
Office, 529 Kansas Avenue, Topeka, Kans.

J. A. Rosen, attorney and counselor in patent, trademark, and copyright causes. Patents procured and trademarks registered. Office, Rosen block, 418 Kansas Avenue, Topeka, Kans.

SHEEP.

FOR SALE—Plain Merino ewes, 150 head; Merino rams, 45 head; at low figures for quick sale. L. C. Walbridge, Russell, Kans.

MISCELLANEOUS.

BLOOD-MEAL cures scours in calves; 97 per cent protein; mixed with other feeds makes nearly balanced ration. Best corrective of stomach disorders known. For stunted stock surprising in results. A good investment for all kinds of stock. Best brand, 5 pounds, 50 cents; 10 pounds, 75 cents; 25 pounds, \$1.25. Union Supply & Mfg. Co., Kansas City Stock Yards.

WANTED—Married man to take charge of farm of 300 acres. Must be thoroughly competent and up-to-date. Address with references and details as to family and experience. A. Nelson, 423 Altman Building, Kansas City, Mo.

WANTED—150 horses and mules for pasture at \$5 per head. E. W. Thoes, Alma, Kans.

THE BEST CUP OF COFFEE and plenty of good things to eat. Farmers' trade a specialty. Come and get something good. The Two Minute Restaurant, 532 Kansas Ave., Topeka, Kans.

FOR SALE—Page Woven Wire fencing. O. P. Updegraff, Topeka, Kans.

VISITORS TO TOPEKA—Rooms for rent for transients, northwest corner 12th and Polk Streets, Topeka, Kans. Meals served. Mrs. E. Porter.

WANTED—Guns; buy, trade on new ones. Remodel or repair any part of any gun made. Strictly high grade work. The largest line of modern guns in the State always on hand. Athletic sporting goods. Foot, and base ball supplies. Practical ideas developed, and patent models manufactured; any material, any model. H. B. Howard, 505 Kansas Avenue, Topeka, Kans.

WOOL WANTED—We have just completed our New Woolen Mill in North Topeka and want at once 200,000 pounds of wool for which we will pay the market price. Write us if you have wool for sale. Western Woolen Mill Co., North Topeka, Kans.

BALMOLINE—Nature's Wonderful Healing Salve. Man or Beast. Druggists, 25 and 50 cents. Trial size 4 cents from B. H. DeHuy, Ph. D., Abilene, Kans.

FOR SALE—Feed mills and scales. We have 2 No. 1 Blue Valley mills, one 600-pound platform scale, one family scale, and 15 Clover Leaf house scales, which we wish to close out cheap. Call on P. W. Griggs & Co., 208 West Sixth Street, Topeka, Kans.

GLENWOOD Shorthorns and Poland-Chinas HEADS

Shorthorns headed by Victor of Wildwood, by Golden Victor, he by Baron Victor. Late herd bull Gloster 187862. Polands headed by Glenwood Chief Again. For sale choice young bulls; also females. Prices right. Choice fall boors and gilts cheap. Visitors invited. Correspondence solicited. Address

C. S. NEVINS, Chiles, Miami Co., Kans.
40 miles south of K. C., on main line of Mo. Pac. R. R.

.. LOW RATES TO .. California and the Pacific Northwest VIA GRAND ISLAND ROUTE

Every day during March and April the Grand Island Route will have on sale colonist tickets to all points in California, Washington, and Oregon, and to points intermediate at very low rates. Stop-overs allowed in certain territory. For rates and further information, call on nearest agent, or address,

S. M. ADSIT, G. P. A.,
St. Joseph, Mo.

The Stray List.

Week Ending February 13.

Edwards County—T. B. Hoffman, Clerk.
HORSES—Taken up by E. T. Esslinger, in Brown Tp. (P. O. Kinsley), January 13, 1902, one sorrel horse, 15 1/2 hands high; valued at \$30. Also one bay horse, 15 hands high; valued at \$30. Also one bay pony mare, 13 1/2 hands high; valued at \$20.
Finney County—C. A. Schreider, Clerk.
STEER—Taken up by I. L. Diesem, in Garden City, December 30, 1901, one black steer, 1 year old.

Week Ending February 20.

Russell County—Ora S. Greeck, Clerk.
Bull—Taken up by F. F. Benso, in Big Creek Tp. (P. O. Gorham), on January 3, 1902, one black bull about 18 months old.
Marion County, Ira S. Sterling, Clerk.
STEER—Taken up by J. A. Weiss, in Lost Springs Tp. (P. O. Lost Springs), on December 21, 1901, one black and white yearling steer, mark on lower side of right ear.
HEIFER—Taken up by Mrs. A. J. Fee, in Grant Tp., at the breaking up of the herd in the fall of 1901, one black heifer about 2 years old, S on right hip.

Johnson County—J. G. Rudy, Clerk.
HEIFER—Taken up by W. B. Kerner, in Anbsey Tp., on November 18, 1901, one heifer calf 1 year old, red with white spot in forehead and some on belly; valued at \$10.
MULE—Taken up by Jacob A. Steven, in Shawnee Tp., on January 7, 1902, one small black mare mule; valued at \$25.

For Week Ending February 27.

Greenwood County.
STEER—Taken up by Frank Dibert, Bachelor Tp., on February 15, 1902, one red and white steer, short yearling.
Rawlins County, A. V. Hill, Clerk.
CALF—Taken up by Paul Goettl, in Herndon Tp. (P. O. Herndon), on October 20, 1901, one black female calf; valued at \$8. Also taken up by same, one black male calf, white spots on head; valued at \$9.
Pottawatomie County, A. P. Scritchfield, Clerk.
STEER—Taken up by W. W. Phillips, in Green Tp. (P. O. Stockdale), on November 9, 1901, one red and white or roan steer, dehorned, 2 years old; valued at \$30.

The Poultry Yard.

Fatted Poultry.

EDITOR KANSAS FARMER:—The commercial or utility side of the poultry industry, while it has always been the moving power that drives the wheels of fancy, has now reached a stage in this country that will mark an epoch in its evolution. A new era has dawned; new forces are at work; and they are powerful and capable of creating a revolution in methods. This change once established can not do otherwise than succeed.

THE PACKERS RESPONSIBLE.

The Swifts, Armours, and others whose facilities for buying, slaughtering, and selling meat food-products to the world are of such magnitude and their system so perfect that there is not a city, town, or village in this, and but few in foreign countries in which their products are not sold or their influence felt. To these great establishments, and not to the producers themselves, are we indebted for the new conditions. More than five years ago, one of them stated to the writer that nothing would please them more than to be able to enter foreign markets, not with better, but only with as good poultry as those markets afforded. The reason it could not be done was because the American people have always set up as their standard of perfection a fat carcass, a yellow color, and plumpness, without regard to what that plumpness consisted of. The only material known to the raiser to produce this was corn, and the result from feeding it was grease or fat deposited in layers under the skin and a pound or more in the abdominal cavity. The flesh was inferior, often stringy and tough, and poultry in this condition is almost unsalable in European markets.

The American people with their extravagance are willing to pay high prices for such poultry, because it is the plumpest and the best looking the markets afford. When the meat is separated from the grease in trussing and cooking we are left little edible portion, which is not of the best quality; deluding ourselves with the belief that we are eating a delicious morsel simply because we paid a high price for it.

IN FOREIGN COUNTRIES.

No such extravagance is practiced in any other country. Poultry, to many in other countries, is a luxury rarely afforded. Under such conditions we can readily understand why a fowl must be finished for market with the largest possible percentage attainable of edible portion as compared to bones and offal. Furthermore, the texture of the skin; the shape, appearance, and firmness of flesh; entire absence of layers of fat in the dressed bird; and the white, juicy, finely flavored qualities when cooked are the necessary points of excellence. In order to attain this, a system of feeding for specific results became necessary. Instead of turning the birds loose to range at will, and shoveling out corn to them, they confine them, limiting the exercise to small coops, and feed them on material that produces the desired results.

The method of feeding varies in manner and material in different countries. The most successful locality, perhaps in the world, is le Mans in Normandy. It is not uncommon for choice specimens not over six pounds in weight to sell for 20 and 25 francs (\$4 to \$5) in the Halles Centrales in Paris. Such prices, however, are not obtainable outside of France, where their system of cooking and serving is so different from ours that it is possible for one fowl to serve three times as many persons as in any other country. The next most profitable districts are the counties of Surrey, Sussex, and Kent, England, where whole families are engaged in poultry-raising, as were their ancestors for generations back. They know nothing else; they never have done, and their children never will do, anything else but fatten poultry for the London market.

THE METHOD.

The method employed is both that of trough-feeding and by the use of the cramming machine, some using one, some the other, and many a combination of the two. The trough alone is not so profitable, but it enables more fowls to be kept. Ten days of trough-feeding and ten days of machine-feeding is more profitable, but the best results are obtained by machine-feeding from start to finish, care being taken to not overfeed during the first week, but gradually getting them up to full feed. The results are secured through the ability of the bird to digest and assimilate two or three times as much feed as it would consume from a trough if left to its own inclination. The food

is made semi-liquid and no water or grit are given in addition to it. The food is ground to a meal, and is composed of just such material as will produce these results without sickening or injuring the bird. By this method the feeder is able to add three to more pounds of meat to a four-pound bird in twenty-one days, at what would be in this country a cost in feed of about 8 cents per bird for the twenty-one days; and in this way he makes a profit, not only in the weight gained, but in the quality and finish. The perfectly finished bird has what fat it carries deposited in globules throughout the tissue, rendering it of that superior quality demanded.

If these fatters, as they are called, are able to buy the 10- to 12-week-old Irish birds, sent over for this purpose, at 75 cents each, pay the enormous prices they are compelled to pay for feed, and sell their products at a profit, what is to prevent Americans not only sending such birds to the English markets, but from supplying their own markets with this most desirable meat? Mr. Chas. W. Armour, the head of the Armour Packing Company, in an interview on this subject, stated that, "The American people will pay more for good food than any other people in the world." This is a significant statement from a man engaged in supplying the world with meat-food. All that the American people need is a taste of this kind of poultry and the demand will exceed the supply. When this demand sets in, there will be a wide divergence in price between the thin and the finished stock. The best will go higher, the poor lower. While the thin chicken will always find sale at some price to the fatters, the greasy ones will go begging for buyers.

Canada has for several years been developing rapidly along this line. England naturally looks to her colonies first for what she needs, and they are prompt to act on any suggestions from the mother country, and foster such industries as are susceptible of development on their soil. At Ottawa, Ontario; Truro, Nova Scotia; and Bondville, Quebec; the fattening of poultry for the London market is carried on extensively under government supervision, and they have standing orders for greater quantities than they can possibly supply. The climate of England is very unsuited to poultry-culture, being exceedingly damp. Large poultry-farms such as exist in this country are unknown there. While I believe it possible for those schooled in our methods of artificial incubation, brooding, and rearing to adapt these methods to English climate and conditions, it remains to be done.

There is no limit to the quantity this country can produce. We can supply every demand the foreign and home markets impose upon us. If we can produce a good article the world wants it, but it will not do for us to try to force them to accept our standard of excellence, at the same time knowing in our hearts that it is not the proper but simply a convenient one. We supply the world with the best beef; we finish our cattle up to the highest degree of perfection; and the quality governs the price. If we had refused to do so, and tried to sell Europe our grass-fed steers and insisted that such were the best we could produce, they would have none of it, and our home market would be our only outlet.

The reader can form some idea as to the quality and appearance of the best-dressed poultry produced in England by the following. At the Smithfield (London) table poultry show, held in December, the first prize-winners shown and weighed in couples were: Buff Orpington pullets, 21 pounds, 4 ounces; Dorking cockerels, 20 pounds, 8 ounces; farmyard cockerels, 23 pounds, 13 ounces; farmyard pullets, 17 pounds, 10 ounces; Pekin ducks, 15 pounds, 3 ounces; turkey cocks, 59 pounds, 3 ounces; turkey hens, 49 pounds, 10 ounces.

AMERICA CAN DO IT.

There is nothing in the above that we can not duplicate and even excel. We have only to adopt the necessary methods. The cramming machine produces the maximum results, but trough-feeding will add from two and one-half to three pounds of flesh to a four-pound bird in twenty-one days, by the use of proper feed, which of course is the foundation. A live three-pound pullet, as it comes from the farm, carries about six ounces of bone, twenty-one ounces of offal, and after cooking, about eighteen ounces of edible meat. Here the percentage of waste to edible portion is excessive. The bird is now in its best condition to take on flesh, but the farmer, unmindful of this opportunity to convert feed into meat, rushes her off to market. The middleman steps in and with but a few dollars invested

POULTRY BREEDERS' DIRECTORY.

Black Langshans

50 Cents, 75 Cents, \$1 and up. Circular Free
J. C. WITHEAM, Cherrystone, Kans.

PURE-BRED, farm raised Barred Plymouth Rock eggs. \$1 for 15; \$5 for 100. J. A. Sawhill, Edgerton, Kans.

BARRED ROCKS—Exclusively; the farm for range. The largest flock in the west; nothing but strictly first-class show birds used. Eggs \$1.25 for 15. Jno. D. Ziller, Hiawatha, Kans.

HIGH CLASS POULTRY—Silver Wyandottes, White Wyandottes, and White Plymouth Rocks. Eggs for hatching, 15 for \$1. R. F. Meek, Hutchinson, Kans.

FOR SALE—Bard Plymouth Rocks and M. Bronze turkeys of high quality. Write your wants and for prices. M. S. Kohl, Furley, Kans.

SIXTY MAMMOTH BRONZE TURKEYS—Two separate pens, headed by a 42-pound tom. Address Mrs. Fred Cowley, Columbus, Kans.

FOR SALE—Choice blue-barred Plymouth Rock cockerels, \$1 to \$1.50 each. Address Mrs. L. Hothan, Carbondale, Kans.

Have at Stud—HOBSON and NOBLE BRANDANE, sired by Imported Brandane Rightaway, possibly the best Coche that ever left England, a winner and a sire of winner puppies of either sex, for sale. Prices reasonable.

W. B. WILLIAMS, Proprietor, Stella, Neb.

G. W. SHUMAN, Ft. Scott, Kans., Breeder of LIGHT BRAHMA, BARRED PLYMOUTH ROCKS, and PARTRIDGE COCHINS.

Eggs \$1.25 for 15. Address at 1238 East Wall St.

\$5 INCUBATORS FREE SOUCE SIZE
Self-feeding. Guaranteed for 2 years. Hatches every good egg. Send for catalogue No. 54. Sell six and get one free.
INVISIBLE HATCHER CO., SPRINGFIELD, OHIO.

and no risks incident to the production and maturing of the bird, takes advantage of the situation and the grower's indifference or ignorance, and in three weeks makes more than double the profit on a bird than the man did who raised it. He skims the cream.

The following market quotations clipped from a Kansas City paper of December 6, 1901, perhaps tells the story more forcibly than we can, for after all the hard cash is the best argument:

"Poultry exchange quotations: Hens, alive, 5½c; roosters, young, 20c; old, 15c; springs, 6½c; ducks, 6c; geese, 4c; turkeys, hens, 5c; young, weighing over seven pounds, 6c; gobblers, 5c; culls, 5c; pigeons, 50c dozen; squabs, \$1.25 to \$2 dozen; dressed poultry—choice scalded stock in good condition—brings 1c above live poultry prices."

From an adjoining column on the same page we clip the following:


"The specially fattened chickens that the market affords.—A toothsome meat particularly adapted to this season of the year.—The newest offerings in poultry to be found on the market are especially fattened chickens, which a local packing-house is offering its patrons. Besides being unusually tender all the meat is as white as the breast. While these chickens have been fattened primarily for the English trade, their popularity is likely to become as widespread at home as abroad. Like all choice morsels they sell at high prices. A pound costs 18 cents in the shops, and buyers are offered their preference of either dry picked or scalded stock."

What reason or excuse can be advanced that will justify the producer in selling his pullets (springs) at 6½ cents, less express and commission charges, when if properly finished they will fetch him at least double that per pound—not theoretically or on paper, but in fact as it exists to-day. He would never dream of selling an unfatted steer or hog for slaughter, because the opportunity is his to convert grain into meat at a profit. He takes advantage of this slower and more expensive method, but ignores the quicker and more profitable one. His eyes are being opened, however, and the true situation is becoming apparent. The revolution is at hand and when the American people undertake it aright they will show the foreigner a clean pair of heels in this as we have in many other lines.

The business has already assumed large proportions in the West. The Armours at Kansas City, alone, are killing 10,000 fowls a day, and they are but one firm among those now engaged in it. They predict that in two years they will be killing twenty times this number daily. If the home markets will not consume them the foreign will. There could not possibly be a greater stimulant to the poultry industry than these big establishments have injected into it, and the time is close at hand when cramming machines may be as common as churns. We already make a better and cheaper machine than the English. In the meantime let the cry go forth, "Better poultry and more of it!"

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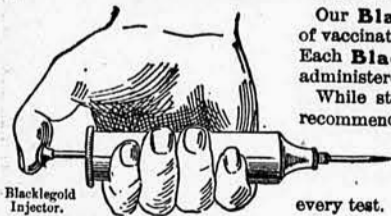
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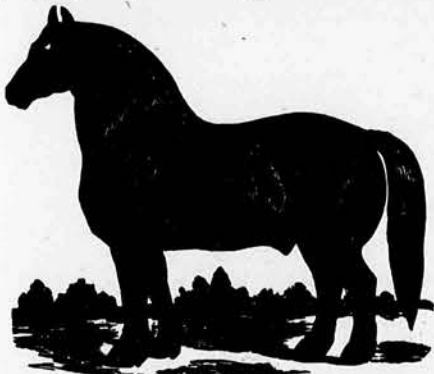
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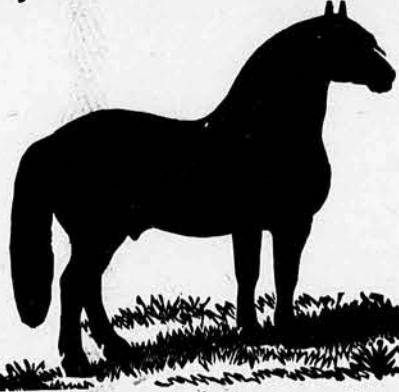
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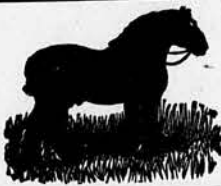
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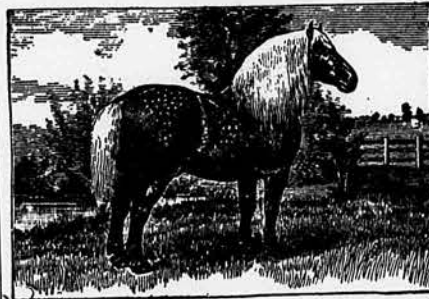
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THE BURGESS & GRAY IMPORTING CO.

ROBERT BURGESS & SON, Wenona, Ill. M. C. GRAY, Beatrice, Neb.

Are again prepared to save you from \$250 to \$500 on each horse you buy. We saved our Western customers over \$10,000 last winter, and from these same customers not a stallion has been returned and but one letter of complaint. We are not in the "clown" or "mascot" business, nor are we able to prevaricate in many languages; but we do keep some GOOD stallions, whose merits speak loudly for themselves, and THE BUYER TO BE THE JUDGE. See our American-bred and prize-winning Percherons and Shires before purchasing elsewhere; they are the best and most satisfactory at any price! But how does \$800 for a 3-year-old, that will mature at 2,000 pounds, strike you? You can get it at Beatrice. Don't throw your money into the sewer, but come where you can get a GOOD horse and a SQUARE DEAL at a MODERATE price! Call on, or address,

M. C. GRAY, Beatrice, Neb.

DRAFT STALLIONS

Percherons, Shires, and Clydes.



We have a selection that are sure to suit you. As grand a lot of young stallions, of serviceable age as can be found in the country. We do not claim to have every color or kind of a stallion, you or anybody may want, but what we claim you will find true if you pay us a visit. All of our selections are made by a member of our firm, who has been at this line of work the past decade and has absolutely a first choice from the leading breeders of Europe. Our last importation, consisting of the three great breeds, and 63 head in numbers were selected in the early part of February, before any of the shows and to-day are ready for sale. Write us, or come and see us, if you or your community are in need of the best to be found.

KEISER BROS., Keota, Keokuk County, Iowa.

OAKLAWN FARM.

The Greatest Importing and Breeding Establishment in the World.

Percherons and French Coachers. 500 Head on Hand.

Nearly 300 stallions purchased in France during the last twelve months, being more than double the number of Percherons bought by any other firm, and more high-class animals than by all others combined.

AT THE RECENT INTERNATIONAL LIVE STOCK EXPOSITION AT CHICAGO, the Oaklawn Percherons won every championship, first prize and gold medal award and every second prize in classes.

Notwithstanding the superior quality of our horses, it is a fact that our prices are lower than can be obtained elsewhere in America. Catalogue sent on application.

DUNHAM, FLETCHER & COLEMAN, Wayne, Du Page County, Illinois,





STEELE BROS., Belvoir, Douglas Co., Kans.,
Breeder of SELECT

HEREFORD CATTLE.

YOUNG STOCK FOR SALE. INSPECTION OR CORRESPONDENCE INVITED.

H. O. TUDOR, HOLTON, KAS.

THE ANNUAL OFFERING FROM THE

BILL BROOK BREEDING FARM, (REGISTERED SHORTHORNS)

TO BE SOLD APRIL 25 AND 26, 1902, AT HOLTON, KANSAS,
90 COWS AND HEIFERS, AND 20 BULLS,

Comprising cattle from the following well-known families, (topped with the best Scotch and Bates blood): Rose of Sharon, Zella, Belina, Ruby. This is a select draft from my herd and will constitute one of the best offerings of the year 1902. Also breeds registered and high-grade Angora goats.

T. K. Tomson & Sons,

Proprietors of

Elderlawn Herd of Shorthorns.

DOVER, SHAWNEE COUNTY, KANSAS.

Gallant Knight 1244468 and Imported Tellycairn in service. A choice lot of serviceable bulls, and a few bred cows for sale. Correspondence and inspection invited.

SCOTT & MARCH

BREEDERS OF PURE BRED

HEREFORDS.

BELTON, CASS COUNTY, MO.

BULLS in service, HESIOD 29th 66304, Imp. RODERICK 80155, MONITOR 58275, EXPAN-
SION 93662, FRISCOE 93674, FULTON ALAMO 11th 83731.

25 miles south of Kansas City on Frisco; Ft. Scott & Memphis; and K. C., P. & G. Railroads



Gudgell & Simpson,
Independence, Mo.,
..BREEDERS AND IMPORTERS OF..

Herefords

One of the Oldest and Largest Herds
in America.

ANXIETY 4TH Blood and Type Prevail

LAMPLIGHTER 51834.

Both Sexes, in Large or Small Lots, Always For Sale



Pearl Shorthorns.

YOUNG BULLS FOR SALE

sired by the Cruickshank bulls Golden Knight 108086, Lafitte 119915, and Baron Ury 2d 124970, ranging in age from 8 months to 2 years.

Inspection invited

C. W. TAYLOR, Pearl, Dickinson Co., Kans.

Valley Grove Shorthorns

THE SCOTCH BRED BULLS

LORD MAYOR 112727, and LAIRD OF LINWOOD 127149

HEAD OF THE HERD.

LORD MAYOR was by the Baron Victor bull, Baron Lavender 2d, out of Imp. Lady of the Meadow, and is one of the greatest breeding bulls of the age. Laird of Linwood was by Gallahad out of 11th Linwood Golden Drop. Lord Mayor heifers bred to Laird of Linwood for sale. Also breed Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.

Address **T. P. BABST, Prop.,** Dover, Shawnee Co., Kans

...IDLEWILD HERD...

....OF....

SHORTHORN CATTLE

OWNED BY **W. P. HARNED, VERMONT, COOPER CO., MO.**

THE strongest Cruickshank blood is obtained through Godoy. I Ask Special Attention to the Great Coats of Hair on Godoy Calves. They have scale and substance.

EIGHT YOUNG CRUICKSHANK BULLS BY GODOY FOR SALE. Send for bull catalogue. Also have herd catalogue.



Vermont is railroad station on farm. Tipton is on main line Mo. Pac. R. R. seven miles from farm. Telephone to farm.

CAR-LOAD BIG RANGE BULLS.

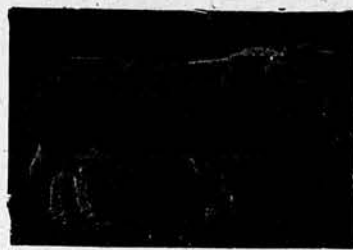
ONE OF THE CRACKS OF THE DAY IN A VICTORIA BULL BY GODOY, 13 MONTHS OLD, ROAN, WILL SELL.

Sunny Slope Herefords

...200 HEAD FOR SALE...

Consisting of 40 good Cows 3 years old or over, 10 2-year-old Heifers bred, 50 yearling Heifers, and 100 Bulls from 8 months to 2 years old. I will make VERY Low Prices on any of the above cattle. Write me or come and see me before buying.

C. A. STANNARD, Emporia, Kans



RED POLLED CATTLE SALE AT OMAHA.

A DISPERSION SALE Cedar Farm Herd RED POLLED CATTLE,

SATURDAY, MARCH 15, 1902, at Sale Pavilion, SOUTH OMAHA, NEB.

C. H. NIGH, MEAD, NEB.

Sells His Entire Herd of Red Polled Cattle at Auction

On above date and place. The Cedar Farm Herd consists of 42 head of Registered Cattle, not counting the calves to be sold at foot of dam. The fine breeding bull LELAND 2330 by the great sire WINDSOR 483, goes in this sale along with 8 younger bulls, all but one of these being of his get. Of the 33 females catalogued for this dispersion sale all of sufficient age are bred to Leland or have his calves at foot. A considerable sprinkling of the same blood as that of the WORLD'S FAIR CHAMPION, IOWA DAVISON 10TH, is to be found in this good herd. Everything is catalogued and goes to the highest bidder. If buyers want both beef and milk; if they want cattle that are hornless, evenly red in color, and all-rea, and that have remarkable smoothness of form, and that can be bought worth the money, let them come to this dispersion sale of Cedar Farm's Red Polls. The catalogue gives full line of pedigrees and all needed information.

COL. F. M. WOODS, Auctioneer.

C. H. NIGH, Mead, Nebraska.

Twentieth Semi-Annual Stock Sale

Limestone Valley Farm

Seven miles east of Sedalia, and 2 miles north of Smithton, Pettis County, Missouri,

Tuesday, March 4, 1902,

Twenty good breeding jacks, blacks, 14 1/2 to 16 hands; 6 good Percheron Stallions, saddlers, German Coachers and draft; 20 good work mules; 25 Choice Poland-China brood sows, representing all the best and most fashionable families, all safe in pig.

TERMS: Cash, or satisfactory bankable note. Free conveyance from Smithton, main line Missouri Pacific Railway, and Benman, main line M. K. & T. Railway. We shall be pleased to have all from a distance come the day before the sale. Come whether you wish to buy or not, we will be glad to meet you and take care of you free of charge. Catalogues ready February 10, and we will gladly mail you one.

Telegraph station, Sedalia. Telephone, Bell line Sedalia, No. 438.

COL. J. W. SPARKS OOL E. W. STEVENS,

L. M. MONSEES & SONS, Smithton, Mo.

Angora Goat Sale ...

Big Angora Goat Sale—to be held at

Kansas City Stock Yards, FEBRUARY 24, 1902.

1,200 head of good Angora Goats will be offered for sale by Mrs. Armer, of Kingston, New Mexico, and McIntire & Company, of Kansas City, Mo., consisting of 900 head of good recorded and high-class Angora Does, bred to recorded bucks, and 300 head of high-grade Angora Wethers for brush cleaning purposes; 600 of the above Does will be from Mrs. Armer's noted flock. For full particulars, address,

COL. EDMONSON, Auctioneer.

W. T. McINTIRE, Agent.

Knollwood Farm.

BLUE BLOODED, BIG BONED, BROAD BACKED

BERKSHIRES.

E. W. MELVILLE, EUDORA, KANSAS.

HERD BOARS IN SERVICE:

GOLDEN LEE III. 60179. Winner first prize Illinois State Fair, best boar 6 months, under 12 months, 1901.

GOLDEN DUKE VII. 55565. Winner first prize at Missouri State Fair, best boar under 6 months, 1901.

LORD PREMIER VI. 55579. Bred by N. H. Gentry, and has proven an exceptional sire of large even litters of choice pigs.

CHOICE SOWS AND GILTS BRED TO THE ABOVE BOARS FOR SALE.

Have a few choice young boars ready for service. If you want something fancy, write, or come and see.

ROME PARK STOCK FARM.

T. A. HUBBARD, Rome, Kans.,

...BREEDER OF...

Poland-Chinas and Large English Berkshires.

FOR SALE—12 Berkshire boars and 23 bred 1 sows and gilts, 20 Poland-China boars, and 50 bred sows and gilts

FOR SALE.

SEVEN HEAD OF REGISTERED HEREFORD BULLS

OF SERVICEABLE AGES, EXCELLENT BREEDING, AND ALL GOOD INDIVIDUALS.

BARNES & BIRCHER, Pratt, Kansas.

COMBINATION SHORTHORN SALE

55 Registered Shorthorns.

GRAND ARRAY OF BREEDING CATTLE

Friday, March 14, 1902.

The Kind We Like.

Best of Herds Represented.

At South Omaha, Neb.

SAUNDERS, WARD, RILEY BROS., EDWARDS, HELMICK.

FIRST CLASS CONSIGNMENTS for this great day's sale at South Omaha, Neb., come from the above-named herds about as follows: 25 head from C. A. Saunders' Greeley Stock Farm, Manilla, Iowa; 15 from Geo. E. Ward's fine herd at Hawarden, Iowa; while the balance of the consignments are divided pretty evenly between the well known herds of good Shorthorns owned by Riley Bros., of Nebraska, and Edwards and Helmick of Iowa. There are fine strings of richly bred and good young serviceable bulls to go forward in these offerings, as well as numerous fine cows, bred or with calf at foot. It will be a great day for everybody—an opportunity to buy Shorthorns that are useful, clean, well-bred, and that are beef makers to the very marrow in their bones. A hearty invitation is extended all good cattlemen to attend. Write for a catalogue of all offerings to-day to

C. E. SAUNDERS, Manilla, Iowa, or
 G. E. WARD, Morningside, Sioux City, Iowa.

COLS. WOODS, JONES, SPARKS, AND BARCLAY, AUCTIONEERS.

DOUBLE BLACK U. S. AT OUR DISTILLED BREEDING AUCTION!

PAOLA, KANSAS, MARCH 15, 1902.

C. P. SHELTON, Paola Kans. My herd is stronger in Welch's Black U. S. than any other west of Ohio. DIETRICH & SPAULDING, Richmond, Kans. Breeders in 15 States and Territories and in Europe are using the blood we consign to this sale.

45 Gilts, Young Sows Heavy in Pig, and 5 Toppy Young Boars.

With a Few Exceptions This is a Consignment of Strictly Crack Stuff. We heartily Invite Our Neighbors and Fellow Breeders to Come and See if We Have Not All That We Claim. Free Entertainment at the La Clede for Customers from a distance.

Col. James W. Sparks, Auctioneer.

Apply for Catalogues to O. P. SHELTON, Manager, PAOLA, KANSAS.

...GREAT SALE... OF PURE-BRED

Poland-Chinas

... AT ...

LENEXA, KANSAS, MARCH 10, 1902.

The blood of Chief Tecumseh 2d, Missouri's Black Chief, Chief I Know, Chief Eclipsed, and other famous sires.

A splendid offering of brood sows and gilts bred to such grand boars as Goode's Perfection 2d, Goode's Ideal Sunshine, Black Queen's Chief, and the best son of Hadley Jr. 13314.

Write for Catalogue at once and mention the KANSAS FARMER.

Address: W. P. GOODE, Lenexa, Kansas. RURAL ROUTE No. 1.

Combination Sale

... AT ...

FAIR GROUNDS, WINFIELD, KANS.,

MARCH 21, 1902

Fifty choicely bred Poland-China hogs, 12 choicely bred and tried brood sows, 4 prize-winning gilts—granddaughters of the great Chief I Know. One gilt and 1 choice boar, by Young Chief Perfection 46433, O.—a brother of Chief Perfection 2d—out of Oriental Princess, litter sister of sweepstake sow at Kentucky State Fair, 1900. Two gilts and 1 boar by Broadguage Chief, out of Artesian Beauty, also sister to Kentucky sweepstake sow of 1900. First prize boar at Kay County Fair in class over 6 and under 12 months, and other good things. Also 25 Shorthorns and Polled Durham bulls, registered, nonregistered, pure-bred, and high-grade. Apply to SNYDER BROS., for Catalogue.

**SNYDER BROS., Winfield, Kans.
HARRY E. LUNT, Burden, Kans.**

Auctioneers: Cols. J. W. Sparks, Marshall, Mo., J. N. Harshberger, Lawrence, Kans., Lafe Burger, Wellington, Kans.

..PUBLIC SALE..

...BATES-BRED...

SHORTHORNS

From the STAKED PLAINS HERD
OF B. B. & H. T. GROOM, MANAGERS, PANHANDLE, TEXAS.

ON MARCH 20, 1902,

.....AT THE.....

Fine Stock Sale Pavilion, in Kansas City,

We will sell 45 Head of HIGHLY BRED
Bates SHORTHORN CATTLE from our
Staked Plains Herd. Catalogues at Sale.

B. B. & H. T. GROOM, MANAGERS.

SPECIAL ATTENTION.—Colonel Nelson will sell on March 19th at same
place his entire herd, consisting of cattle of unexcelled blood lines and individ-
ual merit.

DISPERSION SALE OF A GRAND HERD

OF

SHORTHORNS

The Property of Col. W. R. Nelson, at Kansas City Sale Pavilion,
ON WEDNESDAY, MARCH 19, 1902.

The herd consists of the best Scotch families selected and imported personally by Mr. Nelson from the best herds of Great Britain, to which have been added some plums of other recent importations and the choicest lot of Bates-bred cattle which money could buy. Among the imported Scotch cattle are two half-sisters to the great show cow Cicely, one of the most valuable Lavenders ever brought to America, and the stock bull Bapton Arrow, selected for use in the herd, bred by that great breeder of stock bulls, Mr. J. Deane Willis. Also the celebrated Bates herd bull 53d Duke of Airdrie, whose reputation as a sire is one of which his owner is justly proud. These and many others of similar character make one of the greatest offerings of choice Shorthorns of recent years.

EDMONSON, JUDY, JONES, AND SPARKS. * FOR INFORMATION, CATA-LOGUES, Etc., ADDRESS F. H. GLICK, Manager, ROOM 4, STAR BUILDING, KANSAS CITY, MISSOURI.

RYANS' SHORTHORNS
AT OMAHA!

THURSDAY, MARCH 13, 1902, AT SOUTH OMAHA, NEB.

52 REGISTERED SHORTHORNS, PURE SCOTCH--STRAIGHT BATES

A Red Letter Day in Shorthorn Camp.

THE CREAM OF THE BREED.

MESSRS. T. J. RYAN & SONS, Irwin, Iowa, announce that they will sell to the highest bidder 52 capital breeding cattle from their well known Pleasant View Herd of Shorthorns, sale to take place in the new sale pavilion, South Omaha, on Thursday, March 13, 1902. This big draft offering of select Shorthorns is made up about as follows: Ten straight Scotch cows—some of them pure Cruickshanks, and several imported; about 20 straight Bates,—balance Scotch and Bates-topped; 18 calves sold at foot of dam; 8 good young bulls in sale. We are letting go a number of richly-bred Duchess cows, and good ones; others of Clipper, Crocus, Marsh Violet, Alexandrina, Duchess of Gloster, and Victoria families. The Pleasant View sale catalogue is a veritable galaxy of good things. Send for it at once. If you want good cattle—well-bred cattle—breeding cattle—show cattle—cattle that are cattle from the ground up, come to Omaha, March 13.

AUCTIONEERS: COLS. WOODS, JONES, SPARKS, AND BARCLAY. **T. J. RYAN & SONS, Irwin, Iowa.**

NOTICE OUR OFFER TO SUBSCRIBERS AND PROSPECTIVE SUBSCRIBERS ON PAGE 252.